

# THE GRAND VILLAGE OF THE NATCHEZ REVISITED

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Excavations at the Fatherland Site, Adams County, Mississippi, 1972

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ROBERT S. NEITZEL

Archaeological Report No. 12

Mississippi Department of Archives and History

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## A TRIBUTE TO ROBERT S. NEITZEL (1911 – 1980)

I SHALL NEVER FORGET THE FIRST TIME I met Robert S. Neitzel and can scarcely imagine that anyone could. It was August, 1973, and I was young, green and frightened, having just assumed the directorship of the Department of Archives and History's Division of Historic Sites and Archaeology, a rather diverse group of free-spirited souls (only the name of the division has changed in the ensuing years), who were as bright as they were uncontrollable.

Stu Neitzel, who was even more uncontrollable, walked through the door to my office, probably having forgotten that several weeks earlier Elbert R. Hilliard was promoted from that office to the directorship of the Department. Titles and promotions never meant much to Stu; they were largely folderol or, at best, forgettable occurrences. In any case, he did not appear to be surprised at the office's new incumbent (never having met a stranger), introduced himself, noticed that the junior executive-type chair I sat in was the one he had used as curator of the State Historical Museum in the Old Capitol a decade earlier and remarked that it still squeaked as it always had. We then talked for three hours and Stu told me everything he wanted me to know about himself, including the fact that he lolled around in the bottom of boats a great deal, that he spent an inordinate amount of time talking to groups of people about things he never really understood himself, and that the Department of Archives and History constantly interrupted his sinecure by offering him various odd jobs, which were too good to turn down but were still too much like work. In fact, his disarming candor, smothered as it was under wit and an unconventional brand of charm, made it impossible not to like Stu Neitzel.

Though I already knew Stu through legend tempered with no small amount of infamy, I was brash enough to think that I was a kindred spirit with this most unique man, who had shared so much of himself with me on that August morning seven years ago. And, of course, I was. But all people were kindred spirits with Stu Neitzel to some degree, even if they chose not to admit it, for there was and is a little Neitzel in us all,

just as perhaps there is a little Thoreau in us all. While we generally fall into line, make a half-step, and catch up with the band, it is equally true that on occasion we hear a different, more distant drum beat. Stu Neitzel heard it more than most. To the elitist or the egalitarian, to the stuffy or the free-spirited, to the conformist or the renegade, to the professional archaeologist or the amateur, to the oldtimer or the Johnny-come-lately, there was simply more to like about Stu Neitzel than not. I rather think, aside from that unconventional wit and charm, that it must have been his genuine humility and eagerness to share his knowledge and wisdom, be it about his profession or life in general, that so endeared him to such a large and disparate group of men and women.

In a largely self-oriented world (and I will try not to be maudlin, because he would not approve), Stu Neitzel genuinely cared about people and, as a matter of fact, established true friendships, via telephone and letter, with people whom he never met face to face! Such was the magnetism of the man, who was more paradoxical than most. He espoused no philosophy of life (the overused and largely-undefined term existentialism may indeed apply here), yet at the same time he cared about all of us who came within his realm. He lived for the day and for himself in his own way and gave little quarter to conformity; yet, again, he cared about us all. On second thought, Stu Neitzel was not a paradox but a mystery to be savored.

It was for this reason that he was universally described in extremes: Renaissance man, brilliant, a great wit, delightfully eccentric or lazy, devil-may-care, and even crazy. What greater compliment can be paid to this man than to say no other person could pigeonhole him. Stu Neitzel never dwelled in limbo—at least in no other mortal's perception of him.

Anyone who ever knew Stu Neitzel has a thousand and one stories and anecdotes which are vintage Neitzel, and when two or more people who knew him get together, there is an inevitable game of "one-upmanship" involving the past antics of the man. Such was his wit that the

stories are universally funny even when they involve serious matters. These stories will go on now more than ever, so there is no need to rehash them here. But two rather uncharacteristic (uncharacteristic in that they are not necessarily funny) stories come to mind, which say something to me about Neitzel the man and Neitzel the philosopher, though we have already established that he professed no traditional philosophy.

Once, when I was still young and green but now unfrightened (approximately a year after I met Stu and was frightened), I addressed a group of professional archaeologists working in Mississippi and informed them that they could benefit archaeological preservation by sharing their mysteries (not site locations) with the layman, by terminating their insistence on making too much of a science out of what is to a large extent an art (or at least use a language we can all understand), and by engaging in some good old-fashioned PR. Needless to say, I was attacked by several of their number, which I expected, but was crestfallen to find that Stu Neitzel was one of the attackers, since I not only considered him a friend but had strongly suspected that he would agree with much of what I had to say. After the meeting adjourned he cornered me, told me he agreed with most of what I had said, and informed me that his attack re-

sulted from my arrogant and pompous attitude and the fact that I took myself too seriously. It was a good lesson and well learned.

On another occasion I called Stu at home in Marksville, Louisiana, and asked him what he had been about lately. He responded by saying, not altogether tongue-in-cheek, that he was making daily trips to downtown Marksville to watch the stoplights change, because "they were the only things you could count on, the only things that were permanent in life, and they were permanent because they were changing." Stu Neitzel was a philosopher, after all.

While there are those who knew Stu Neitzel longer than I did, I believe I knew him long enough and well enough to pay him tribute and to identify his legacy to all of us: Never take anything too seriously, particularly yourself, and never concede that there is anything in life, except death, over which one does not have some degree of control. In any case, one thing is as certain as the Marksville stoplights. Robert S. Neitzel was a magnificent anachronism who made, until the end of his days, new magic in a dusty old world. We recognize that we are diminished by his passing and bid him fond farewell.

Jackson, Mississippi  
August 26, 1980

Robert J. Bailey

## PREFACE

THIS MONOGRAPH REPORTS ON THE 1972 excavations at the Fatherland site, the "Grand Village" of the historic Natchez Indians in Mississippi. It is a sequel to Neitzel's earlier report describing his 1962 excavations (*Archeology of the Fatherland Site: The Grand Village of the Natchez*, The American Museum of Natural History, Anthropological Papers, Vol. 51, Part 1, 1965). Together, these monographs form the core of the archaeological literature on the Natchez, one of the most important and interesting Indian tribes of the Lower Mississippi Valley.

*The Grand Village of the Natchez Revisited*, however, is more than just a sequel in this notable study. It also represents the culmination of Neitzel's long and productive life in Southeastern archaeology. His detailed descriptions of methodology make this a valuable document for the history of archaeological practice. The engagingly informal prose which presents this information also reveals an individualistic brand of archaeology: a deeply humanistic concern for the discipline, a trait rare in the dry, rigorously scientific reports typical of the genre today. This is not to say that this report is lacking in scientific rigor, but that the substance is enhanced by the humorous homilies and anecdotes, above all by the wisdom of a "dirt archaeologist" who has seen it all and can afford to express his own perspective. This is an important report, then, not only because it is an archaeological datum for one of the foremost Indian groups of the Mississippi Valley; but also because it preserves some of the wisdom, humor and humility of that

group's foremost archaeologist.

Sadly, this publication is posthumous. Although the manuscript was essentially completed by 1975, production was delayed and at the time of Neitzel's death in 1980 only copyediting had been completed. In a final effort to see the project through, the Mississippi Department of Archives and History enlisted our aid inasmuch as we have been very closely involved with the research described in the following pages.

Accepting the role of professional consultants to the publication, we have restricted our editing to matters of archaeological substance; matters of style we have left to Neitzel's own hand and the copyediting of Ms. Fortenberry. Generally, our philosophy has been to make as few alterations as possible, and then only to correct or clarify the record. Thus, obvious errors of fact and other details have been corrected in the text, while footnotes have been added where further clarification of a passage was deemed appropriate. Bibliographic references after 1975 that offer perspective and updating of recent developments are also given in the footnotes. We have added Appendix I so that the reader has a handy key for the pottery types and varieties often referred to in the text in abbreviated form. We hope that these changes are beneficial, and yet intrude as little as possible upon the intent and spirit of the author.

Cambridge,  
Massachusetts  
January 10, 1983

Vincas P. Steponaitis  
Jeffrey P. Brain  
Ian W. Brown



## INTRODUCTION

IT WAS WITH MIXED FEELINGS OF SATISFACTION and frustration that the Mississippi Department of Archives and History excavation at the Fatherland Site was brought to a close on August 1, 1962.

The scope of the project as originally planned was modest, and was to serve primarily as a confirmatory exercise in documenting the collection of mortuary artifacts recovered in 1930 by Moreau B. C. Chambers, also excavating for the Department of Archives and History, and stored in the State Museum collections. Our intention was to investigate as thoroughly as possible the three small mounds and the plaza area in order to recover as much supplementary data as possible from what was strongly presumed to be the Grand Village of the Natchez Indians, a site that figured prominently in early eighteenth-century French colonial writings. These data were to be collated with the voluminous ethnographic accounts of the life-styles and events of the last large aboriginal community in the lower Mississippi valley. The Natchez nation had its roots in the fairly well-known cultural prehistory of the region, and owed its demise directly to confrontation with French colonial settlement of the Mississippi River region, a local expression of the general onslaught of the white man in the southeastern United States.

The satisfaction derived from the four months of field work in 1962 stemmed from the detailed stratigraphic information recovered from the three half-buried mounds. These data promised to confirm or deny previous archaeological and historical knowledge in a very satisfactory manner. The frustration arose early as field work progressed, when it was revealed in preliminary deep cuts and subsurface drill cores that the lower halves of the mounds and the plaza surface upon which they stood were buried under a blanket of sterile, reworked loess soil ranging from six to ten feet thick. Hopes of exposing the aboriginal plaza surface were dashed completely. The vast accumulation of what is now known to be colluvial loess necessarily limited excavation to the exposed platform mounds, which had suddenly doubled in size. This was a

superficial sampling, to say the least, of what we had hoped to find. The casual glimpses of the ancient buried plaza surface revealed in deep coordinate mound trenches and a grid of bore holes served only to tantalize the imagination.

By the early 1970s, various emphases in both state and national level preservation programs were accelerated and expanded, affording a wide range of opportunities for furthering extensive projects in archaeological and historical investigation and preservation. This process has continued to the present time, and far exceeds any expectations provincial practitioners of ten or twenty years ago could have foreseen.

It was in this developmental vein that the Mississippi Department of Archives and History under the direction of Dr. R. A. McLemore established a Division of Historic Sites and Archaeology, a state counterpart to the federal model established by the National Park Service. Elbert Hilliard was designated Director of the Mississippi Division and it was through his office that I was first contacted in 1971 to consider returning to the Fatherland site to complete the work regretfully abandoned nearly ten years before. Funding was to be a combination affair between the National Park Service and the State of Mississippi. The monies allotted through the federal agency were matched by administrative and technical contributions by the State. The latter included the very considerable cooperation of the Adams County Board of Supervisors and many and varied contributions through and by the City of Natchez. The state's match was also augmented by the value of the Grand Village property that was donated to the Department of Archives and History by Mrs. Grace M. S. MacNeil.

Many property and landscape changes occurred during the interval between 1962 and 1972. The densely wooded area surrounding the site along St. Catherine Creek had succumbed to paved streets, a substantial housing development, and a marginal zone of business establishments.

Mrs. MacNeil, a staunch and able ally of all the archaeological projects involved, still owned

the north half of the site, including Mounds A and B. A real estate development organization had acquired the old Schuchardt and McKittrick south half, including Mound C. The entire area had originally been zoned commercial as part of a planning venture, but emphases had changed with the growth of the housing development. Through the cooperative effort of a consortium of Natchez business leaders the entire area was consolidated with Mrs. MacNeil's donated acreage, and title passed to the State for the development and administration of a historical park area under the Department of Archives and History.

There are many individuals due much credit for their cooperative effort in promulgating the project effort leading up to the 1972 investigations and ultimately the museum and park development at the site. In 1971, the Lower Mississippi Survey of Harvard's Peabody Museum launched an extensive and intensive archaeological survey of the loess hills terrain along the river between Vicksburg on the north and the Homochitto River near the Mississippi-Louisiana border to the south. The survey was to encompass all archaeologically known cultural history as represented by sites discovered, but emphasis was placed on chronology and special interests in the identification of protohistoric and historic locations that might be collated with the written historical records. Mayor Tony Byrne of Natchez supported this project in many ways, including the bolstering of research funds by providing housing and laboratory facilities for the survey staff of which I was a member.

This program carried over into 1972. Between the 1971 and 1972 summer field seasons I contracted with the Department of Archives and History to return to the Fatherland site with funding and the necessary mechanical facilities for removing the sterile overburden, intending to conduct a conventional archaeological investigation of the machine-exposed plaza surface. The city of Natchez, through Mayor Byrne again, furnished joint living and laboratory facilities for the Harvard survey party and the Fatherland project staff. Many other courtesies, such as provision of watchmen for the newly reopened site, were also contributed by the city.

This effort was accompanied by many courtesies and assistance from the Adams County Board of Supervisors and most of the very active civic clubs and organizations, as well as numerous private citizens.

The single most crucial contribution, without which no significant archaeology could have been accomplished, was the fleet of bulldozers, pan wagons, loaders and graders made available by the Board of Supervisors. This juggernaut of earthmoving equipment was skillfully managed by Mr. Jim Marlow, and was responsible for the very deft removal of some 50,000 cubic yards of sterile colluvium from the original plaza surface and mound foundation without scratching the fragile cultural stratum that was sought.

Mr. Leicester McGehee of the Natchez-Emerald Mound community gave unstintingly of his judgment in handling minor local administrative crises, finding promising candidates for field work, serving as chief of foraging, and providing moral support to both the Peabody and the Archives and History field parties.

Cindy Stringer of the Jordan, Kaiser and Sessions engineering firm was especially helpful in providing topographical and other engineering data. Dr. Robert T. Saucier, geologist with the U. S. Army Corps of Engineers, Waterways Experiment Station at Vicksburg, contributed valuable time and knowledge in helping to untangle the complicated physiography of the site. A group of NASA technicians from the Mississippi Test Facility conducted a series of experimental flights over the site area, using infrared photography to detect subterranean soil features.

John Penman, who furnished the faunal report appendix, also drafted all of the line drawings and arranged and prepared all of the plate photography while serving as Survey Archaeologist for the Department of Archives and History. Mrs. Mary Harleston Mingee, of the Department of Archives and History staff, transcribed my tattered and decrepit manuscript of the project report. Copyediting was capably performed by Cheryl Diane Fortenberry. Any members of the field party staff who contributed special features are mentioned in appropriate parts of the text.

## PHYSIOGRAPHY

THE GEOMORPHOLOGY PERTINENT TO THE Grand Village and its environs (Figure 1) has been briefly reviewed in an earlier archaeological report (Neitzel 1965:7-12). The limited data available then, in combination with my own credulous attitude, led to some rather confident assertions which I currently know to be in error. Now that new and more accurate data have been acquired, the necessary corrections can be made.

The inferences drawn from bore hole readings and the 1962 excavations in the mounds were adequate to set the stage for the extensive earth removal program accomplished in 1972 during the first phase of the Grand Village Restoration and Development Project (Plates IIB; IIIa, b; IVa, b). The soil profiles exposed during this procedure permitted a thorough examination of some complex factors of deposition not previously suspected and provided the basis for a revised geological interpretation. The foregone inferences based on the earlier, imperfect mound tests and bore hole samples have proved to be either partially obsolete or erroneous. The geological processes revealed are of a much greater magnitude than originally imagined.

The heavy investment of the site with a sterile, sandy-silt overburden was, of course, affirmed. Its precise condition was subsequently studied, and the principal errors in the previous reasoning are now disclosed through the newly discovered facts. The thick sediments blanketing the site, and indeed all of the lowlands in the watershed, cannot be ascribed to overflow alluvium from St. Catherine Creek (Figure 2), as was originally asserted.

Heavy earthmoving machinery enabled me to make the necessary observations with facility. These data were supplemented by detailed observations of the cross-sections of deep sewerline cuts and other excavations in the area, especially that of a large municipal sewage disposal plant. I was able, therefore, to examine soil profiles from three to twenty-five feet deep in a variety of locations in the flats of the St. Catherine Creek drainage.

This knowledge, acquired piecemeal and coupled with what I first learned from a detailed study of the initial 200-foot-long bulldozer trench across the site proper (Plate IVb), convinced me that I was confronted with a problem of enormous scope, and probably one beyond my competence. The difficulties lay not only in the practical aspects of contending with the tons of dirt overlay but also involved the delicate matter of adjusting and reconciling the large-scale effort to the demands of conventional archaeology.

Without the use of the aforementioned sophisticated machinery, I could not have progressed beyond the limits imposed by the same misunderstood geological circumstances in 1962. When confronted with the removal of approximately fifteen acres of dirt no less than five feet thick, extraordinary measures are in order. Eventually some 40,000 cubic yards or 26,000 tons of soil were removed from the surface of the historic site. I shall demonstrate below some curious arithmetic, pointing up environmental and temporal factors that are significant to the history of the site and region.

The initial trench, as previously stated, gave me my first clue as to how to proceed. It was directed across the site from east to west, after the path was cleared of trees and brush, at what might be called the midpoint of the long axis of the site (Plates IIB, IVb). One and often two bulldozers were available for this beginning work, and trees and dirt were removed by the simple expedient of shoving the debris off the edge of the plaza terrace into the stream flats twenty or more feet below. As this guide trench progressed, other machinery gradually became available (Plate IIIa), and a massive clearing, which eventually exposed the sought-for plaza surface as it appeared in the 1730s, was undertaken (Plate Va). As this operation was being carried out, four other guide trenches were begun at various strategic locations on the site. Two trenches were set east-to-west across the north plaza between Mounds A and B. A parallel cut was begun midway between Mounds B and C across the eastern edge of the south plaza,

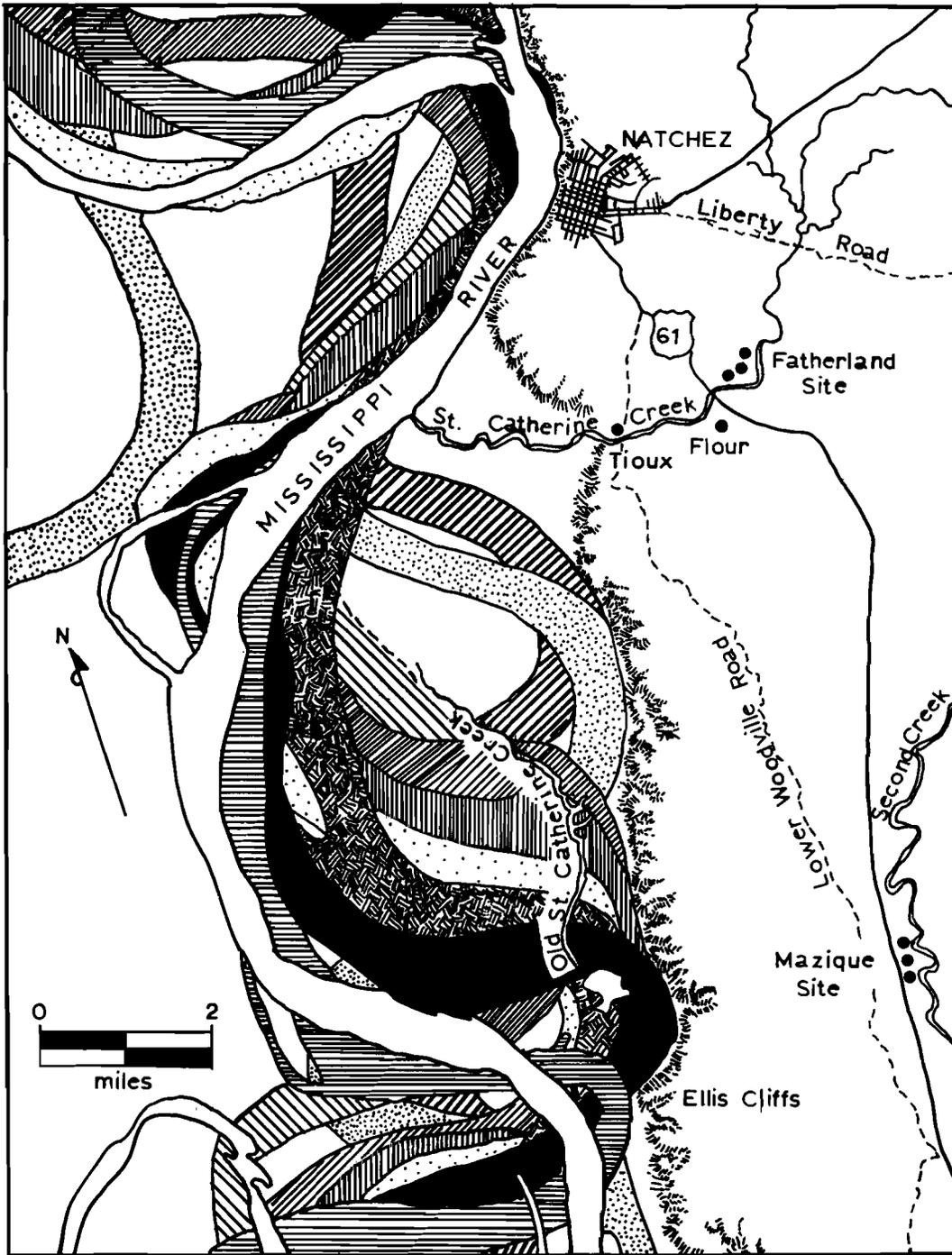


FIGURE 1. Map of Natchez vicinity: Fatherland site, Mazique site, probable Tioux and Flour historic villages, and Mississippi River Meander Stages 11–19 relative to modern course (after Fisk 1944).

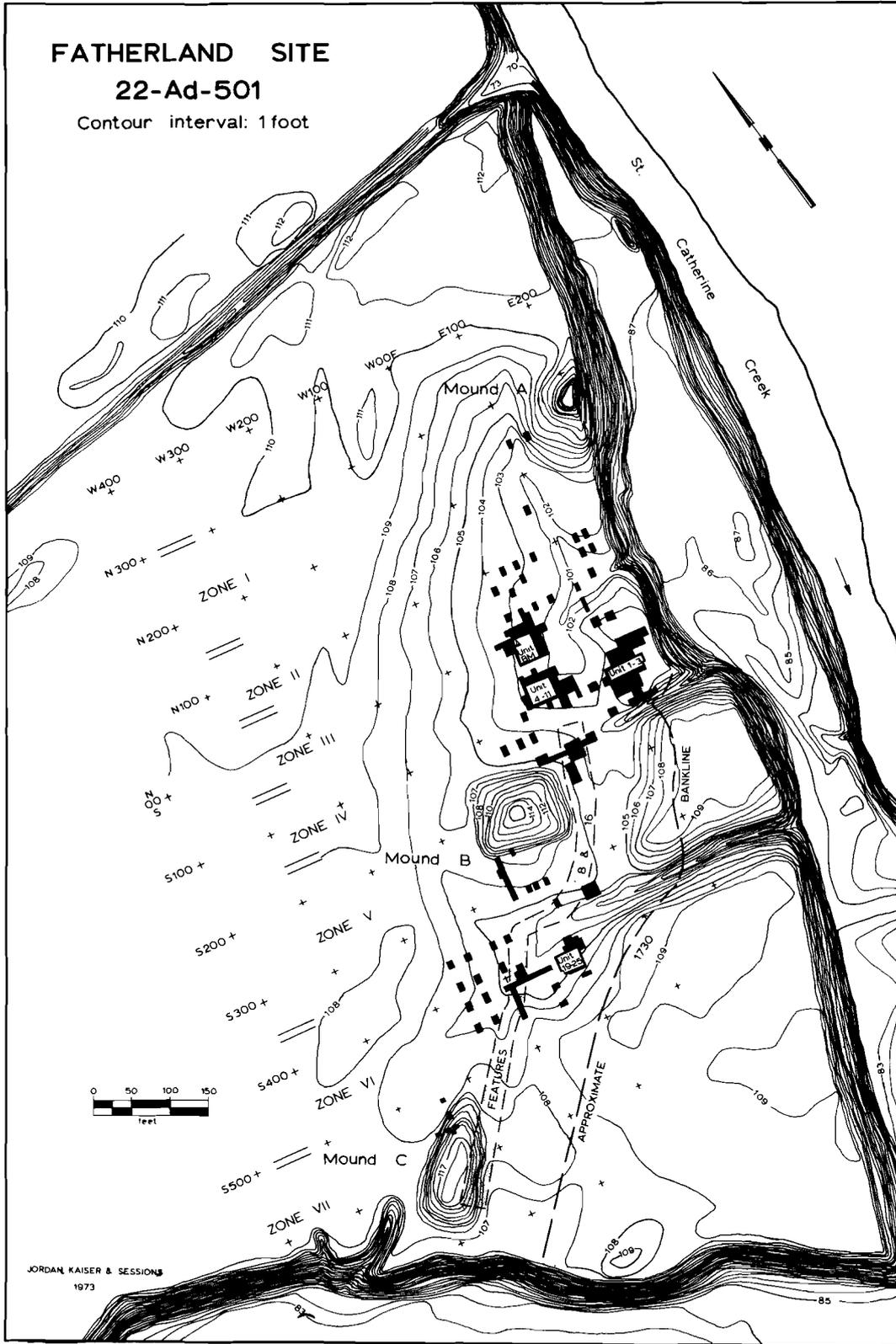


FIGURE 2. Site map showing excavation limits, house units, arbitrary zones, and 1730 stream bankline.

and another was begun east of Mound C to extend southward to the plaza escarpment. The dirt from each trench was pushed over the edge of the site terrace, covering the tangle of trees and brush that had been previously removed (Plate IVa).

The profiles afforded by these trenches were studied carefully, enabling me to correct two major errors that were promulgated in my previous report on the Grand Village. The first and most troublesome revelation lay in the inescapable fact that the sediments were not derived from former creek overflow. The second development was that in aboriginal times the course of the creek, now buried beneath the deposits on the site terrace (Figure 2), ran diagonally from northeast to southwest across the present site grid. This course, though not determined exactly at all points, parallels the long axis of the site and is close to the mounds themselves.

I have mentioned my suspicions elsewhere (Neitzel 1965: 15, 64) and repeat them in passing, that possibly the creek was undercutting Mound A in 1730. From here, it curved southwesterly to within 100 feet east of Mound B, and continued in the same direction to within a short distance east of Mound C. Beyond this point south of the escarpment, the buried channel has disappeared along with the plaza surface. The course, or at least the bankline, is established as far south as checkpoint S400,

W100. The deep machine-dug trench east of Mound C exposed no basic clay or other evidence of ancient aboriginal land surface; only crossbedded sands and silts could be seen in the fifteen-foot-deep excavation.

Mound B, by chance, serves as an approximate halfway marker dividing the sediments into two areas, each having a special and distinctive composition (Plate IIIb). The north half, encompassing arbitrary Zones I through IV and the north edge of Zone V, exhibited sterile banded sediments averaging six feet thick, standing directly upon the old occupation surface (Figures 3 and 5). The deposition over the south half, covering Zones V through VII, was equally thick, but the composition or stratification was entirely different for the central plaza (Plate Vb; Figure 4). The upper three feet lay directly upon the surface of the historic plaza between Mounds B and C. Slightly more than one foot below, beneath a band of sterile silt, was a second plaza or occupation surface. Another 1.5 feet beneath this second sterile layer was the original plaza surface developed on the basic clay subsoil. This earliest surface predated both Mounds B and C. Its average elevation was 102.5 feet, slightly lower than the original surface of the north plaza between Mounds A and B.

The three separate surfaces sandwiched between sterile banded sediment were labeled

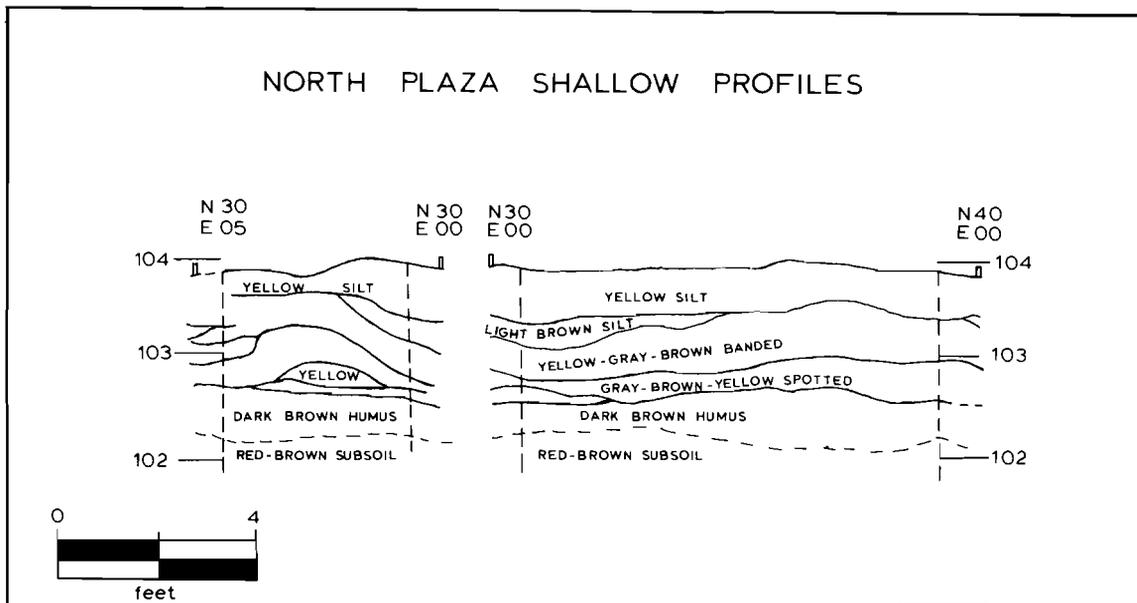


FIGURE 3. North plaza shallow profiles (vertical scale exaggerated by a factor of two).

Plazas 1, 2, and 3 from top to bottom. Stratigraphic-cultural significance, it will be seen, is to be imputed to these three superimposed levels. As identified in cross-section, the two uppermost levels appear to be little more than thin ribbons of compacted, laminated clay containing some cultural staining.

The individual surfaces (Figure 5) were fairly even, barring old erosional inequalities that had developed in them at some former time. There was a declivity and westerly slope to

the basic clay surface west of Mound B. This resembled an old slough or shallow trough that paralleled the long axis of the site. Portions of it were later detected with a resistivity meter, suggesting that it was an anomaly continuous with the peaty, depressed area beneath the western side of Mound C (Neitzel 1965:37; Figure 11), the whole affording a shallow drainage feature for the plaza during its earliest occupation. The more recent sediments lay perfectly level over this depression, a situation which accounts

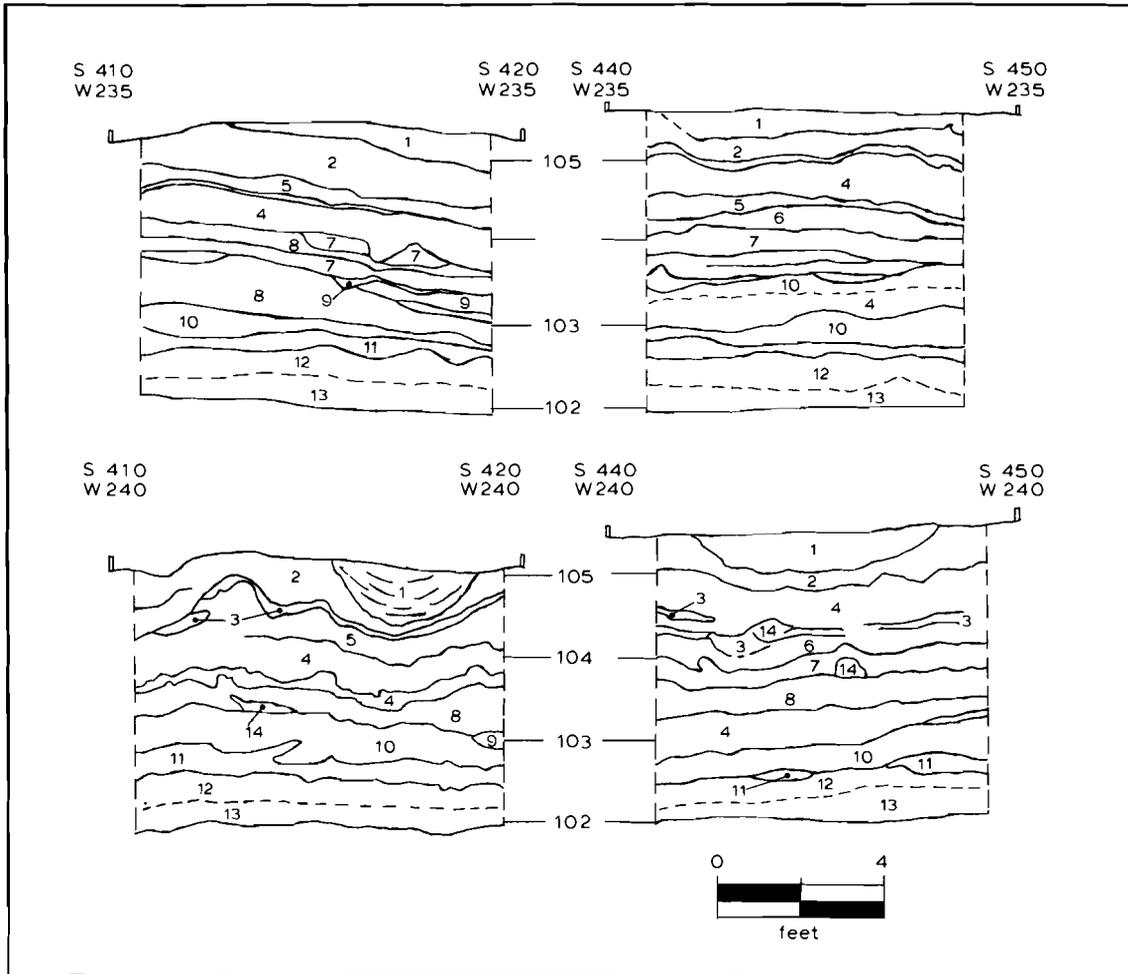


FIGURE 4. South plaza deep profiles, showing the P-1, P-2, and P-3 surfaces. (Key: 1, yellow-tan colluvium with yellow spotting; 2, fairly homogenous yellow-tan colluvium; 3, Plaza 1 level: medium light brown mottled, with burned clay and charcoal; 4, yellow-banded sandy silt and orange spotting, with gray clay lumps; 5, medium brown compact with mottled gray clay lumps; 6, light brown compact with orange mottling, gray clay lumps; 7, gray-brown banded, ferruginous and manganese concretions; 8, medium brown banded, ferruginous and manganese concretions; 9, Plaza 2 level: same content as Plaza 1 level; 10, light gray clay, ferruginous and manganese concretions; 11, gray-brown clay, possibly erosional product of Plaza 3; 12, Plaza 3 level: dark brown-black compact with high clay content, charcoal and burned clay flecks; 13, reddish-brown clay subsoil; 14, gray clay.)

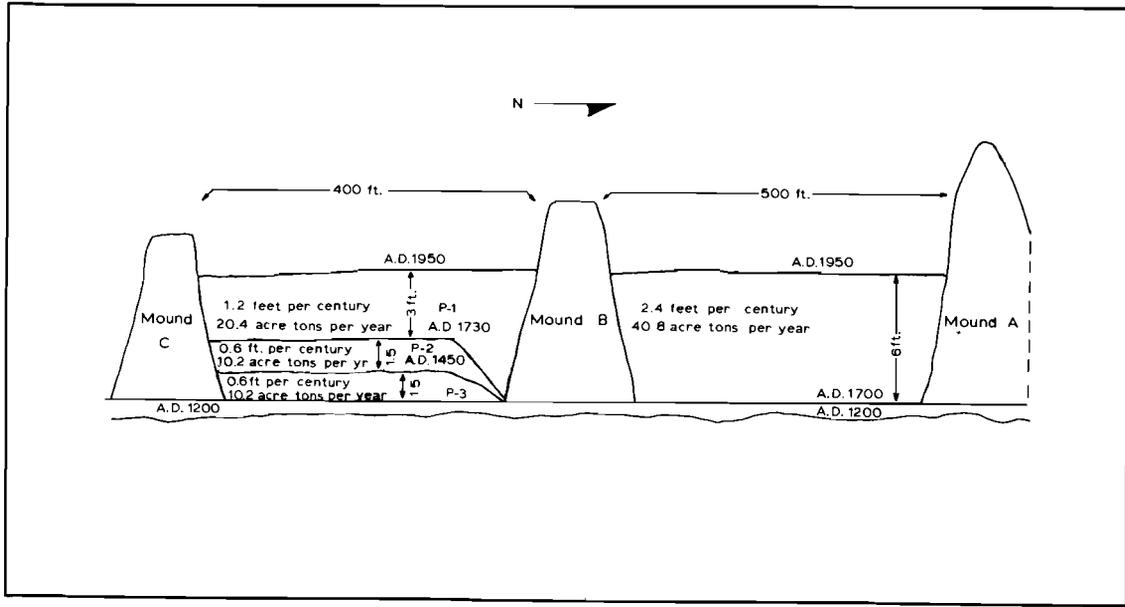


FIGURE 5. Idealized diagram of colluvial stratification on plaza surfaces.

for their greater thickness on the western side of the site as compared to their depth along the center line of the site axis. The extent of the three-plaza superimposition on the west is unknown.

As I have remarked above, all of these banded crossbedded deposits, as exposed in the profiles, were much more intricate than I could have imagined from the evidence of the 1962 bore-hole logs. For example, during the 1962 study the presence of an occupation was usually inferred from the existence of burned clay or charcoal seen at given depths in the bore samples. More adequate exposure revealed that these residues were often from deep root holes or burned-out tree stumps that had smoldered underground after some long-ago fire. The intricacies of the complicated layering and pocketing seen so clearly in the initial machine-cut profiles could not possibly have been so detected in the cores (Plate VIa).

The north plaza subsoil, upon which the occupation surface and its cultural inclusions developed, must have served throughout the lifetime of the site. Six feet of uniform sediment covered the plaza subsoil, with no man-made interspersions at any level. The south plaza, as has been noted, was filled in unequal intervals, separated by thin occupational surfaces. The last

three feet had accumulated after 1730, so that the final surface of the south plaza matched that of the north plaza. This level bottomland, the terminal surface, became the fields of Fatherland Plantation as they have been known historically from the nineteenth century to the present. A knowledge of the history of the envelopment of the entire site by the sterile soil blanket clears up several questions formerly asked as to why the surface of this conspicuous site yielded no broken pottery or other cultural refuse. Such materials lay buried, as were the lower flanks of the mounds, beneath sheets of encroaching soil. Only the upper halves, or even less, of the pyramidal structures emerged from the silt.

After some reflection on the hydrography and skimpy history of St. Catherine Creek it became obvious, as it should have long ago, that this small, almost intermittent stream could not possibly have supplied the masses of deposits bordering its banks. Its flow was much less radical in aboriginal times prior to the channel cutoff made in the nineteenth century, so it became all the more necessary to reexamine the ill-founded assumptions that considered only alluvial causes for the creek floodplain deposits.

The stream emerges in a dendritic pattern from the uplands several miles to the north and

east of the site and proceeds southwesterly, encircling the mound-plaza complex in its course. Eventually it issues from the confining bluff hills to discharge over the alluvial floodplain of the Mississippi River. Originally it joined the river several miles downstream, following what is now the course of Old St. Catherine Creek (Figure 1).

I have proposed a reconstruction of the history of the course and movement of the stream for the years from 1700 until shortly after the Civil War (Neitzel 1965:10-11). Heavy alluviation worthy of the Mississippi River itself was predicated on this mistaken notion. The active depositional phase was supposed to have terminated with the shortening of the lower stream course, after which the rejuvenated stream became a local nuisance as a consequence of the radically lowered gradient. All of the tributary creek watersheds of Adams County were adversely affected as the stream continued to degrade its channel.

In order to appreciate the presumed pastoral flavor of St. Catherine Creek from aboriginal times until the artificial rejuvenation was induced, we can hardly do better than to summon up one of the first eyewitnesses, the French inhabitant Penicaut, who wrote informatively of affairs in the Louisiana country early in the eighteenth century. His idyllic account contradicts my earlier assumption that the creek was subject to periodic sediment-laden overflows. It implies also that the stream was in no way the barrier to opposite parts of the site that it is now. Having read his description many times in the past, I should have paid it more heed. Penicaut wrote:

The village [either the Natchez villages collectively or the Great Village] of the Natchez is the most beautiful one can find in Louisiana. It is situated one league from the shore of the Mississippi. . . . Many little rivulets of very clear water come from under a mountain, which appears at two leagues from these prairies, and after having watered very many places, they unite into two great rivulets, which pass around, at the end of which they join, to form a little river [St. Catherine Creek], which runs over a fine gravel and passes through three villages which are half a league apart. . . .(quoted in Swanton 1911:46).

Numerous upstream tributaries, such as Kittering and Languedoc Creeks and several nameless intermittent ones, are consonant with Penicaut's "many little rivulets." Recently, at least

two Natchez sites (Emerald phase) have been found on the upper main course of St. Catherine Creek below the juncture of the feeder streams named above. Two similar village plots, one of which has historic associations, have been pinpointed downstream from the Grand Village (Brain and Neitzel, field notes, 1972; Brown 1973). These are on the south side, and no sediment had encroached on either. Broken pottery and refuse are found on the plow-disturbed surfaces at both sites.

The creek was described also in a volume of early historic reminiscences published in 1948 by Pierce Butler, a lifelong resident of the Natchez district. He spoke graphically of the pristine condition of the stream and the radical changes incurred by shortening its course (Neitzel 1965:11-12). He describes the stream bed, barely thirty yards wide, as being fordable except during temporary heavy run-offs. After the course was shortened (*ca.* 1870) to improve drainage, bridge spans of ever increasing lengths were required at the principal crossings.

Based on this condition of bed rejuvenation, my previous reasoning had been that since the stream no longer overflowed its bordering flats, these had gradually developed into second bottoms or terraces concurrent with the progressive creek intrenchment. This implied that the aboriginal surface had been sealed off by the continuous overflow deposits from 1730, when the Indians had evacuated their center, until nearly 1870. As detailed above, the evidence revealed by the test trenches compelled me to seek some factor other than alluviation to account for the sediment-drowned bottomlands. The United States Department of Agriculture Soil Conservation Service has published extensively and in detail the composition of the various series of soils in the Mississippi area. The small alluvial floodplains are referred to therein as such, although the soils have been deposited by other means (Cole and Carter 1964:3). The SCS description of the mottled layered and bedded silts and loams agrees precisely with what was seen in the Grand Village site profiles. The deposit is referable to the Adler series of the loess bluff region.

Despite these aids, there was still some confusion about ultimate sources and processes. As previously stated, I was fortunate enough to have ample opportunity to examine several excavations for sewer lines and other similar

projects, while the more measurable evidence slowly unfolded at the site proper. Some of the construction work was being conducted within one-half mile or so to the west and northwest. Major construction was underway nearby, across the level land extending west to U. S. Highway 61 South. The toe of the bluff line begins here, beyond which the hills ascend gradually. The site is actually surrounded by these highlands, some beginning immediately to the east of the modern intersecting creek channel. More gentle slopes extending several hundred feet to the northwest have been modified by an extensive housing development and shopping center. The contours vary from 120 feet to 140 feet at the base, rising to 260 feet generally. Peaks in excess of 300 feet are more remote.

The main range of bluffs aligned to the north and the south of the city of Natchez maintain these heights consistently, manifesting a highly dissected pattern. Judging from topographical maps and an aerial mosaic available to me, the range appears to be slightly lower, on the average, within the area of the city limits. Rightfully or not, I have taken this to mean that there has been more erosion or general planing down of the elevations within the immediate environs of the town than is commonly understood.

St. Catherine Creek, bordered by its one-half mile terrace, drops from east to west through this ragged gap in the range. A narrow fragment of perhaps three acres of this terrace persists immediately to the east and across the creek from the mound-plaza complex (Neitzel 1965: 12). The hills rise abruptly to 250 feet or more behind this, extending a few miles to the east. This terrace was tested in 1962 and was found to be a part of the same deposit that covered the mound-group plaza. Cultural indications were recorded at depths of from five to ten feet below the surface. An erosional remnant of this terrace in the form of a conical mound nearly ten feet high and fifty feet long is still to be seen at the water's edge 150 feet northeast of Mound A, midway between the plaza and the eastern fragment. The stream formerly flowed to the west of this mound in the streambed flat. It is located at what would be N450, E400 if the site grid extended that far (Figure 2). Because of the dense foliage it was not seen by me in either 1956 or 1962. It had been continuous with the eastern terrace fragment in 1956, before the creek switched its course to isolate the remnant. The civil engineers located it in 1971 while making

a detailed contour map of the terrain, and the bulldozer operators found it again while clearing a dump area east of Mound A in 1972. The stream channel had cut the base of the bluff slope of Mound A in 1956, but is now nearly 200 feet east of this point. These observations merely document the mobility of the creek channel.

Each of the commercial excavations seen by me, or those which I discussed with the engineering and construction personnel concerned, indicated that the composition of the level terraces adjacent to St. Catherine Creek was the same in every instance and identical to the archaeological profiles at the Grand Village site. Some such exposures were seen more than two miles away on both the upper and lower stream courses.

Faced with a technical geological problem beyond my competence, and one encompassing an area far greater than the primary site exposure, I sought professional advice from Roger T. Saucier, geologist with the United States Army Corps of Engineers, Waterways Experiment Station, at Vicksburg, Mississippi. He generously contributed his valuable time and broad knowledge to extricate me from my difficulties, visiting the workings at Natchez and studying the situation which was now so well exposed and demonstrated in the field. The conditions, as imposed, lacked most of the necessary elements that competent investigation required, but at least there was an abundance of new and unexpected evidence to be observed and evaluated.

It should become evident from the following discussion that Dr. Saucier's thesis is important enough to warrant a thorough, competent geomorphological study of the St. Catherine watershed.<sup>1</sup> There are probably many kindred conditions to be found in the similar streams and terrain within the 800-mile-long range of loess hills. Aside from the important implications pertaining to prehistoric studies, there is the immediate and pressing impact that such environmental information might have on everyday practical situations. No competent interpretation is possible without a correct physiographic solution, but within certain limits a working hypothesis can be offered.

Dr. Saucier examined all of the new field data that I was able to provide and, drawing upon his plenary professional knowledge of geology and local history, was able to suggest a sensible explanation for the deposition of sediment over the

site. Essentially, his concept requires a reorganization of thinking about the movement and lodgment of loess soil masses. The magic word is "colluvial" rather than "alluvial" as heretofore expressed by myself, in soil maps, and in other bibliographic references. The notion is not entirely new in explaining certain aspects of the drift propensity of loess soils. It has been recognized in another context (Russell 1944); however, it is somewhat difficult for me to adjust to, since it is different from the traditional flood-plain theory of erosion and deposition.

In the first decade or so of the nineteenth century, the American settlement at Natchez was an isolated frontier outpost. The more or less self-supporting community barely maintained enough outside trade connections to supply the necessities that its plantation economy could not furnish. After 1811, increasing steamboat transportation made an efficient market chain possible, and the community expanded and flourished. Concomitant developments that fostered this large-scale market economy were the invention of the cotton gin and an array of plantation products, including slaves. The local, necessity-based exchange was subsequently relegated to the hinterlands (Sydnor 1970), while Natchez became a key center of wealth and trade despite lingering geographic isolation.

As early as 1840, timber became a prime produce. The heavily forested pine and hardwood ranges and the nearby cypress and hardwood swamps furnished an insatiable market demand. This lumbering activity, though somewhat forgotten now, paralleled other wealth-producing phases of contemporary agriculture. The bluff hills were systematically and destructively stripped right down into the valleys, suppressing any modest clearing assumed to have been done by the earlier aboriginal and French settlers (Petersen 1971:231-238). The latter took their toll in wood for house construction and firewood, the extent of which can only be estimated from a few crude sketch maps made by the French (Plate Ia, b). There can be little doubt that considerable expanses of the already highly dissected uplands were exposed to the elements, and these prairies, often mentioned in French manuscripts, were undoubtedly converted immediately into fields for the primitive, yet lucrative agriculture of aboriginal and provincial times.

Relying upon geological authorities, I recently undertook an ill-advised comment on the

pedology of loess, emphasizing the instability of the finely-divided, sandy loam soil (Neitzel 1965:10). I have learned since that there are a great many other physical data, such as shape of grains, percentage of compaction with resultant percentage of retained absorption, and many other interesting features which may or may not affect the conditions with which one must contend. Saucier (1974) has introduced significant new data which, to my mind, clarify the old burning question of the ultimate origins of this cap deposit, and which presumably will serve to quiet earlier divided geological opinions concerning its derivation. Snowden *et al.* (1968) have reviewed the various hypotheses and substantiate Dr. Saucier. Briefly, Saucier has said that the fine-grained, wind-carried material is firmly cemented by, among other things, its high lime content. Its cohesion is lost when the composition is subjected to leaching and weathering in one form or another. Removal of vegetative cover and agricultural disturbance were probably the principal factors in loss of cohesion and in generating the colluvial process, which starts with cross-grade rill and sheet erosion after the initial deforestation of the area.

Avoiding the details of the history of lumbering operations, it is known that the industry had gained headway by 1840. Presumably, the complex dissection and gullying process already in effect proceeded apace, simultaneously with the colluvial wastage that took place after the removal of the virgin forest. Once set in motion, colluvial movement persists even after surface vegetation is partially restored. With each rainfall, the extremely pervious soil of the highlands was gullied, eroded, and subjected to the pressure of plastic creep of the surface materials wherever gravity was sufficient to break the strength of the soil masses.

Heavy stands of brush and vines, then mixed pines and hardwoods, have long since recovered most of the slopes, including some of the little prairies first described by the French colonials, as well as larger tracts opened up for nineteenth century plantations. Some small tracts, used mostly for pastures, remain open yet.

The areal soil wastage from hill erosion gradually infiltrated and choked the stream valleys. If the condition of St. Catherine Creek is a typical example, the streams must have had to intrench themselves moderately into the encroaching soil creep. However, the exaggerated

condition of rejuvenation of St. Catherine Creek, resulting from the artificial shortening of its lower channel, was not typical of other streams unless they were part of its tributary system (Neitzel 1965:10–11). A similar choked condition is evident in the channels of several other major streams in the southern part of Mississippi, although the soil composition, gradient, and other factors vary from the condition seen in the Natchez district (Rickels 1956:169–197). The Pearl, Big Black, Bayou Pierre, and Homochitto Rivers, as well as lesser streams, exhibit similar channel obstruction from silt, ultimately attributable to former clearing activities in their respective watersheds.

Knowing the general trend of the history of the region as outlined above, Dr. Saucier submitted the suggestion that it serve as a crude analog. Thus, on a reduced scale, the conditions involving the native and early French settlements in the lower St. Catherine watershed were comparable to those resulting from nineteenth century commercial logging elsewhere. As additional data have become manifest, I have rashly projected his thesis further and in as much detail as possible to qualify and substantiate the mechanics of hydrogeology mentioned above. At the very least, it explains some of the bothersome sedimentary problems surrounding the mounds at the Grand Village Site.

It has been said that there is a distinct difference between the composition of the deposits on the north half of the site and those on the south half (Figure 5). In general, the six feet or more of sediment on the plaza between Mounds B and C was lodged there both during and subsequent to the times of native occupation. Only the upper two to three feet were laid down after both the Indians and the French had departed. The six feet or more on the north half (Mound B sits on the dividing line) were lodged there after the site was abandoned by both natives and French interlopers. I am not prepared to debate the fine points of this proposition, but it seems to point to a source for the colluvial overrun and will evoke some soil arithmetic below. Since the dirt had to come from somewhere by natural agency, I suggest that it must have been from a nearby tract, logically a slope area to the west, probably within one-half mile. Since no such slope exists now within that distance, it must have existed at one time and has now dissipated

onto the site itself. There is a slope of modest pretensions nearby, in a suburban tract to the north and west. Part of its degradation, of course, is the result of bulldozing during recent construction. The slope under the shopping center was at an elevation of 150 feet or more, and a thin Indian occupation layer, culturally unidentified, was present. It was a much more dissected terrain and therefore higher in 1962 before the development modified the surface. Thus, I assume that the main hill slopes were originally considerably higher and their eastern edge much nearer to the site.

Radiocarbon dates, though suspected by some (Neitzel 1965:86; Griffin 1973:379), indicate that a substantial agricultural community was established at the site as early as the thirteenth century and continued uninterrupted until at least 1730.<sup>2</sup> The farming activities of these people required nearby cultivatable fields, which may have been located partially on the vanished slopes referred to above. I presume that this primary denudation released the first soil masses which spread down-grade over the stream flats, and which were especially observable at the site proper. It is reasonable to assume, since it has been documented archaeologically, that the scattered hamlet-type community exploited other lands, probably in the direction of the Mississippi River and adjacent to the creek downstream from the mound-plaza complex. If this were true, much of the now-level land marginal to the original creek borders may have been low hill slopes moving farther down their grades. As they were reduced, they were filled in turn by material moving from yet higher slopes which were being planed down, possibly from as far away as the present city limits. This would explain in an indefinite way why there are comparatively lower absolute and average elevations within the present-day Natchez environs than in the ranges on either side. It would also partially account for the three- to four-mile-wide gap in the range of hills, apparent on topographic sheets. The colluvial movement apparently began shortly after the aboriginal mound-plaza complex was established. Sheets of the sterile drift encroached upon and buried the flanks of the early stages of Mounds B and C. As stated previously, they also covered the original surface and the two succeeding cultural horizons on the plaza between Mounds B and C. I have intimated that this flow may have been derived

from localized aboriginal plots to the west, south, and east of the site. Apparently, the slopes to the north and northwest of the site were not disturbed to any degree during this early period, since there was no intrusion of creep soil onto the north plaza between Mounds A and B. In fact, remnants of the slopes within a few hundred feet of the plaza are still partially intact. Occupation persisted on the north plaza base surface without interruption and with no accretion until after its abandonment in *ca.* 1730. An average of six feet of sterile overlay accumulated after this time.

At this point, I am stimulated to inject some simple arithmetic as promised above. This, coupled with the schematic cross-section diagram (Figure 5), is instructive in chronological and cultural matters, even if it does not explain everything I should want to know about the sources of the colluvium.

A recent letter distributed by the Wildlife Management Institute (May 3, 1974) described conditions on 9.5 million acres of land newly opened to cultivation in 1974. By their calculations, a large segment of this acreage would lose three to four tons of soil for each acre released from grass and forest cover. It should be informative to compare this modern "acceptable" soil loss with the conditions of several centuries past at the Grand Village.

Figure 5 is a schematic cross-section of the site stratification. The quantities of dirt represented are capable of being measured fairly precisely, and chronological inferences can be obtained from these measurements. Using previous radiocarbon dates that seem to be valid, I have assigned a date of A.D. 1200 to the basic site surface labeled Plaza 3; A.D. 1700 to the historical plaza (P-1); and since I am dealing with round numbers, 1950 for the uppermost modern surface. The date A.D. 1450 assigned to the P-2 surface is necessarily a guess date at halfway between P-1 and P-3. It has indirect validity as projected from radiocarbon readings from phases of Mound B. Unfortunately, the same congruity is not true for the Mound C Phase III ramp (A.D. 1240-1285) and P-2 (Figure 6). The idealized diagram thus separates four cultural surfaces, including the 1950 level, into 250-year intervals for the south plaza. The north plaza deposits have their history from A.D. 1200 to 1700 telescoped into approximately one foot of midden; the interval

1700 to 1950 spreads uninterrupted by cultural interspersions through six feet of banded sterile silt.

The three cultural surfaces of the south plaza are coeval with and merge into the single north plaza layer (Figure 5). The average colluvial accumulation of 1.5 feet between P-3 and P-2 indicates a rate of accretion of 0.6 foot per century after the initial establishment of this agricultural community. Dirt in general weighs 1700 tons per acre foot, which means that 10.2 acre tons were deposited on the south plaza for each year between A.D. 1200 and 1450. The same rate was maintained for the centuries 1450 to 1700. Compare this removal, presumably caused by agricultural activities, with the modern "allowable" soil loss of four tons annually as rated by the United States Soil Conservation Service appraisals.

Aboriginal agricultural activity may be presumed to have ceased shortly after 1700 with the evacuation of the Grand Village. It can be seen that the rate of deposition above the P-1 and P-2 surfaces had accelerated to nearly twice the proportions for the next 250 years between 1700 and 1950. Some of this soil dislodgment is probably attributable to terminal aboriginal disturbance, but the late French occupation of the eighteenth century and the plantation agriculture of the nineteenth century, followed by all subsequent disturbance attributable to agricultural deforestation and planting, must bear the responsibility for the increase of deposition to the rate of 1.2 feet per century or 20.4 acre tons per year.

Estimates for the north half of the site are even more remarkable for delineating soil dissipation. Although the accretion began after 1700, and early white settlers in the district are partly responsible, I suspect that most of the movement followed the large-scale lumbering cuts that were begun as early as 1830. The Indians would appear to be completely exonerated from blame for the movement of a staggering 2.4 feet per century, or 40.8 tons per acre annually. This quantity had to be displaced from somewhere and, judging from its widespread disposition, a lot of land disappeared in the process. I have estimated that 40,000 cubic yards or 26,000 tons of sediment were removed from the fifteen-acre study area during the site clearing work for the archaeological project. When one considers the extent and range of similar stream

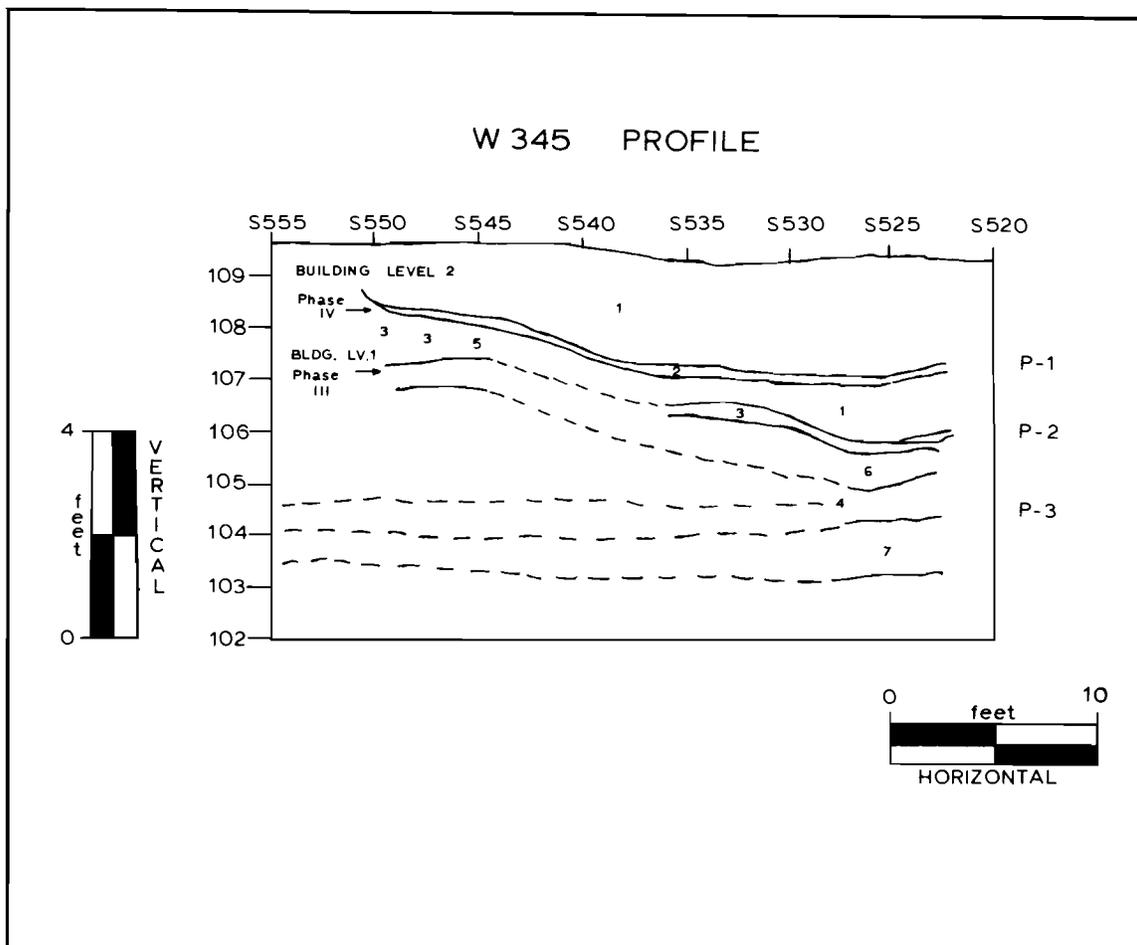


FIGURE 6. Longitudinal section profiles of Mound C ramps, showing the P-1, P-2, and P-3 surfaces. (Key: 1, mottled dull gray colluvium; 2, compacted gray clay; 3, sand; 4, dark midden; 5, light gray midden; 6, gray midden; 7, gray-brown leached.)

valley deposition in the region, there is just cause for amazement.

The above evidence could have been corroborated somewhat through an artifact found in 1962, if the circumstances of its deposition and the profile description had been more definitive. A large green glass wine bottle was found three feet below the surface in lunate sandy-silt deposits on the immediate east edge of Mound C between the W350-360 lines at S650 (Neitzel 1965:51; pl. 15a). This was above the mound base, but because of the laminated fill of this sector and the obvious absence of mound context, it can only be said now that the bottle was deeply imbedded in waterlaid deposits which were interpreted at the time as a filled gully that

had defaced the eastern edge of the mound. From the recent work, it has become obvious that the "gully" was really the side trench of the French contravallation which had truncated the eastern edge of Mound C (see pp. 47-50). The depth of three feet corresponds well to the other plaza depths of the fortified trench. What is not known now is how much of the fill above the bottle was waterlaid trench fill, and how much had been contributed superficially by colluvial deposition on top of the trench slump. All of these deposits, it will be remembered, were attributed to stream alluvial sedimentation in my earlier report. Now, I suspect that some two feet had accumulated in the trench from local slump fill before the bottle was deposited. Any part of

the remaining three-foot overlay could have been part of the same or succeeding colluvial layers. The bottle has been dated at no earlier than 1810–1860.

There are many uncertain archaeological factors involved for such a minor circumstance. The dating of the bottle is assured, so it could not have been discarded by a refreshed French sapper. It must have been cast away at a time when perhaps one foot of surface soil had washed into the siege trench. Subsequently, more such fill accumulated until the entire surface was leveled off by colluvial material. Because we are dealing with a unique anomaly, it is impossible to say how the rate of fill of the trench compared with that of the level plaza, nor is it possible to say what relative proportions of the trench fill were washed-in surface soil and/or colluvial sediment. The profile cut across this trench in 1972 (Feature 16) indicated clearly that the bottom of the trench was well filled before significant amounts of colluvial material capped it. I suspect that the final three feet of plaza fill, which also leveled off the siege trench, occurred after the beginning of the nineteenth century and would thus be consonant with the dating of the bottle.<sup>3</sup>

There are certainly a few lessons to be learned from this demonstration despite the simplistic and rounded quality of the arithmetic. Though we are often cautioned about man's perilous balance with nature, the present case would seem to be a particularly emphatic and measurable example enabling us to see the changes in the land for which we should be responsible. The native hunters, farmers, and gatherers had no such gauge and little time to ponder it. Only after measurable depletion, resulting from the deer-skin and beaver trade and other commercial projects, became obvious, did the aboriginals pause to think. By then it was too late, because suddenly the land was gone too.

At Natchez, land greed was not a prime contention at first. There seems to have been little difficulty in moving into the natives' holdings and acquiring what tracts were needed.<sup>4</sup> The Indians, lured by the diplomatic advantages of trade for European baubles, apparently welcomed this condition. Strictures were not long in developing, however, and the conflict of native and European concepts of landed property led to the final debacle. The blame has usually been laid at the door of the insatiable French

greed for land, triggered by inept French politicians. There is probably much truth in such an economic explanation, since leaders such as Iberville and Bienville and their merchant friends are known to have been culpable. It might be an interesting and rewarding project for a student of comparative ethnology to see how many of the causes, elements, and other factors involved in the problems of the late nineteenth-century Ghost Dance of the Plains Indians might be identified in the processes of the decline and attendant disorders of the waning Natchez and other Lower Valley chiefdoms.

Having been permitted this reflective interlude, it is proper to resume quotable history. A few French settlers lingered in the Natchez area for years after the 1729 massacre at Fort Rosalie. There are numerous references to administrative correspondence in the ensuing years, after which, in 1763, the territory was ceded to England.<sup>5</sup> Spain subsequently captured the area during the American Revolution and maintained control until 1798, when the Mississippi Territory of the United States was established. During the Territorial Period, substantial numbers of American settlers arrived.

Presumably, the valuable cleared White Earth and St. Catherine Concessions, each lying a few miles to either side of the Grand Village, continued operating at least minimally under French management following the Fort Rosalie massacre. Despite the threat of Indian attacks in lower Louisiana for some years, many settlers remained on their holdings.

Accounts of these affairs and other transactions exist in bureaucratic letters to and from the capital at New Orleans, so perhaps the White Earth and St. Catherine Concessions served as nuclei for the exploitation of new neighboring tracts. Abandoned Indian holdings such as the Grand Village were possibly included, although the archaeological record on these historic activities is not clear, nor has it been adequately examined. I began to look for reasonably secure evidence that there was probably intensive and certainly protracted agricultural disturbance of one kind or another in the Natchez area after the massacre. Unable to wait for the time when there may be adequate historical documentation, I found it instructive to examine the general topography of the eastern slope of the bluff hills. The terrain is accurately reproduced on 7.5- and 15-minute topographical quadrangle sheets

which furnish a perspective impossible to achieve on the ground. I also made use of a large aerial mosaic, available in the Prehistoric Indian Museum at Marksville, Louisiana, for an impressionistic prospect that could be measured more accurately on the contour maps.

The slope shapes in the Natchez gap area merge gradually with the flats in rounded, lobate patterns that blur the relief of the many ravines. This sort of pattern is considered a distinguishing characteristic of a mudflow topography. It would seem that the colluvial movement, yielding to gravity as it spread out over a gently graded expanse, would be comparable to a true mudflow. In the bluff ranges to the north and the south of this immediate area, the hills are laced and indented with steep, deeply dissected ravines. Comparing the reliefs of these adjacent parts of the same formation, it seems obvious that there is a disparity in the weathering process between the two that must be attributable to the relative ages of local erosion. That manifested in the Natchez city vicinity may be the result of earlier surface disturbances connected with agricultural operations in the vicinity of the Grand Village, succeeded by French farming activity over the same general area.

French cartographers produced land use maps of the Natchez district when Fort Rosalie was the center. Plates Ia and Ib are two sketches made in the 1730 period which may be compared to two maps previously published (Neitzel 1965:Plates 1c, 2c). Plate IIa is a French military map drawn in New Orleans some time after the dispersal of the Natchez from their home capital. Considerable attention should be devoted to it, although I had formerly completely disavowed its usefulness (Neitzel 1965:62). As happened quite often, such maps were drawn or copied at a later date, perhaps from old field notes, and the cardinal directions were often confused. I have oriented this one correctly with the proper north designation at the top of the page. The French north compass indicator actually points west; that is, modern north is east on the map. This is only one of the minor but confusing pitfalls involved in the use of these valuable early maps. Often the major terrain features and an assortment of details are proportionately correct, but then an item particularly vital to the student may be placed completely awry.

All of these maps do give a good idea of the

amount of open land, interspersed with wooded strips, in use in the early 1700s. Undoubtedly, many of the clearings had been usurped from the original Indian homesteads. The Concession of Terre Blanche, or White Earth, seems to have been part of an earlier Indian village, according to archaeological tests made there (Brain and Neitzel, field notes, 1972; Brown 1973). It is possible that the St. Catherine Concession was part of a similar native community, although the archaeological evidence is not satisfactory. The slope weathering process appears to be old and advanced in that vicinity; perhaps the surface evidence is buried as at the Grand Village.

Dr. Saucier and I have not been able to discuss thoroughly many aspects of the problems involved in the foregoing account. As a result, I am diffident to insist overmuch on the presence of the major erosion features which I claim to see in the bluff topography, though the massive depositional factors are obvious. Dr. Saucier did review a summary account of the situation submitted to the Mississippi Department of Archives and History as a portion of the preliminary report on this project. His general criticism at that time was that I should make more emphatic the massiveness of the colluvial process and the disclosure of the manner in which it had choked drainage courses. He cannot be held responsible for any extraneous statements I have made. In true amateur fashion, I have siezed upon and colligated every scattered geological item even remotely pertinent to the problem. Competent investigation may reveal that much of what I have said is naive, if not actually wrong. Any sins, however, may be charged to serendipity and are the result of a serious need to comprehend an abstruse and untested situation. This need arises from the primary concern of this study—the problems of the human history involved. They have become intricately interwoven with the special physical geology.

Not constrained by any overriding grace to allow the foregoing chips to lie where they have fallen, I offer some personal observations of a recurring experience at the site itself, a small-scale demonstration of how the colluvial process works. I have remarked that in removing the overburden from the plaza it was necessary to maintain a sloped working surface, so that rain-water would flow from the site without undue

erosion. As removal neared completion a protective coat of silt, the lowermost facies of the colluvium, was allowed to remain upon the actual cultural layer. Throughout the showery season of August 1972, it was possible to study the wasting process in miniature. Each morning saw the previous day's excavation partially drowned. The lighter falls usually percolated away, and work could be resumed with a minimum of cleanup; but heavier falls filled the works, and it was necessary to open up alternative squares to maintain work schedules and to avoid traffic on the wet, sensitive excavation floors. The revolving procedure thus established left completed and partially excavated squares open at intervals across the site. Besides the normal slumping of some of these slots, other persistent changes developed as the season wore on.

Tiny rivulets formed at the upper (west) side of the expanse and drained across to the east carrying miniscule loads of sediment, which were dropped wherever a high spot or obstacle intruded. Collectively, these rivulets ran their dendritic courses demonstrating all the textbook features of decapitation, braiding, and the like. Eventually they led into a deeper rill at a point where the underlying occupation surface was exposed and an occasional artifact could be seen. Downstream from the heads of these courses the process altered, as with slackening velocity the miniature currents deposited their loads. This was a slow and evanescent process, but one capable of being measured. After a week or so the down-slope excavation trenches began to fill, and some disappeared entirely, blending into the surrounding surface. As general erosion of the slope slowed down, the marked rivulet pattern became blurred. Up-slope surface elevations consistently lost 0.2 to 0.4 foot from previous recordings, and down-slope checkpoints gained correspondingly. A thin, scrubby vegetation sprang up and afforded some initial cover to the bare surface by the time the season ended. This slowed surface attrition, as I observed when visiting the site several months later. Excavations had filled with sandy silt and had become individually indistinguishable. Gully cutting, beginning at the bottoms of the drain concourses,

advanced up-slope, many times following ancient drainage patterns that had existed on the plaza surface in aboriginal times.

While walking over the plazas some two years later I was especially struck at how the gutted surface resembled an aerial view of the loess hills themselves. The down-cutting was confined to the protective layer of silt allowed to remain on the up-slope side, and the surface was very difficult to walk, or rather, leap over. The scene was a small-scale model of the loess bluff range. The extensive down-slope excavations had become almost obliterated and had begun to acquire an almost unbelievable smoothness.

These observations may or may not reinforce Dr. Saucier's general concept of the colluvial weathering process leading to alluvial redeposition, but until complete hydrogeological studies are able to provide competent data, I must rely heuristically on what can be seen. Aside from the physical forces observed above, there is also some small evidence that St. Catherine Creek had overflowed its banks occasionally. The Grand Village site sits on a modest natural levee that parallels the ancient creek bankline. The upper few inches of this one- to two-foot crest has a meager sand content but consists primarily of clay. Organic cultural content has leached out basally in the normal manner of horizon weathering. What I have taken for bands of overflow material are seen mainly on the slightly lower south half of the site. The thin streaks indicate that the flooding was light and temporary.

The back-slope surface west of the long axis of the site was principally clay, containing imbedded organic, peaty remains, twigs, and rootlets. This depressed, organically developed surface, containing no cultural material, was also detected with the resistivity meter (see Appendix V). I have seen the same layer clearly in the limited excavations at the base of Mound C (Neitzel 1965:36-37). I thought at the time that perhaps Mound C had been constructed on the peaty surface of a shallow slough or depression, which now seems to be part of some such drainage feature extending along the western side of the plaza.

## EXCAVATION

PRELIMINARY INVESTIGATIONS FOR THE Grand Village Archaeological Research Project were begun early in March, 1972. One of the prime concerns at this time was coordinating engineering and archaeological needs with the bulk dirt removal carried out by a fleet of heavy machinery furnished by the Adams County Board of Supervisors.

The site had become densely overgrown with saplings and saw briars since it had been partially cleared during the 1962 excavations (Neitzel 1965:12-15). Large trees had been left undisturbed in 1962 unless they interfered with the limited areas of the mound excavations. A high pressure gas line, three feet beneath the surface and running some 1000 feet along the western side of the site from S700, W600 to N300, W200, presented an obvious hazard to excavation in that area. Extreme caution was required in manipulating the heavy equipment in its vicinity, which accounts for the minimal dirt removal on the western edge of the two plazas. The working surface was sloped to the east from this high contour.

The work plan for the 1972 project called for the removal of all trees and brush (Plate IIa), except where they could be determined to be marginal, in order that the site might be returned as nearly as possible to its *ca.* 1729 appearance. Thus, several large pecan trees to the west of Mound C and the south plaza, and approximately 1600 square feet of forest growth in the southeastern corner of the site terrace were not removed. This undisturbed area has subsequently been incorporated into the park landscape. Once the machines were set in motion, work progressed rapidly. The massive earth removal phase of the project was completed by the middle of May (Plates IIIa; IVa, b; Va, b; VIa, b). Grid coordinates were reestablished on a bare expanse of site surface, which was trimmed down to a level just above the old occupation surface.

In 1962, the one-mile or more expanse of level land between the site and U. S. Highway 61 South was so heavily forested that it was necessary to cut a road through the overgrowth with

a bulldozer. At that time, only a small garden and meadow in the vicinity of Mound C were open. Since the 1962 excavations, virtually all of the forested area has succumbed to a rapidly developing residential and commercial subdivision, leaving only a wooded fringe in the vicinity of the Mississippi Valley Gas pipeline and a 20-foot easement held by International Paper Company for a beltline railroad, to intervene between civilization and the projected interpretative area. Much of this, of course, is undesirable in a planned park area, but affairs have taken their course and there is no practical way at this point to retract such legal commitments. Through the commendable concern and diligence of Mrs. Grace M. S. MacNeil, Fatherland Site, Inc., the Mississippi Department of Archives and History, and the Mississippi Legislature, approximately seventy-eight acres have been acquired for state ownership. At one stage, the entire site and marginal areas were destined to become a housing development, with the possibility of a split-level home being constructed upon the site of the Natchez temple. Appropriately enough, the four-lane avenue that began as a bulldozer blaze in 1962 now crosses access streets such as Sun Court and turns into Temple Drive, an asphalt street that points directly to the temple mound.

For the purposes of this report, I have elected to confine the archaeological interests to the arbitrary divisions designated as Zones I through VII (Figure 2). I have superimposed the archaeological features upon the base topographical map prepared for the site development by the civil engineering firm of Jordan, Kaiser and Sessions, since it is more recent and supersedes the map prepared and drawn during the excavation phase of the project.

Despite civilization's encroachment on all sides, a formidable remnant of wild and unkempt forest growth had reclaimed the major portion of the site by 1972. So impenetrable were the vines and saplings that preliminary surveying was delayed until the bulldozers arrived. A year earlier, I had intrepidly volunteered to guide Jeffrey Brain and his Lower

Mississippi Survey staff to the famous Grand Village. At that time, I strode into the woods a few yards, noting a few ten-year old landmarks with aplomb, then promptly became lost. Nearly one-half hour later, we stumbled into the restored Mound B; from this, I was able to find the brass-capped datum point which James Ford and I had set in 1962, thus enabling me to recover an increment of lost face.

Enough hand clearing was accomplished before the bulldozers arrived to establish parts of the main axes of the grid based on the original datum. Constant adjustment of checkpoints was required as the machinery removed layers of dirt from the plaza surfaces. The magnetic declination had altered some two degrees from that registered in 1962 and was computed from available United States Coast and Geodetic data at 5 degrees, 32 minutes. The transit was offset accordingly and used in this way throughout the season. At Duncan Park in Natchez there is also an established target line, which engineers occasionally use to correct declinations. Dr. Anthony Aveni, professor of astronomy at Colgate University, visited the Grand Village with me in the spring of 1974 and determined the declination to be 5 degrees, 7 minutes as determined from sun shots. At this time, he suggested that perhaps archaeologists would be well-advised to be more particular about their engineering techniques in the field. Correct feature orientation and other data may be important in future research for other than the gross plotting of the physical features of a given site.

As the axis lines were established, additional bore holes were dug to supplement data acquired previously. At the same time, the S600 line was extended westward to relocate the buried excavation of the 1962 Mound C grid, since alterations to the land during the interim had effectively eradicated all landmarks. For example, it was found that an access road had been cut from the top of the terrace bluff directly through the mound to reach the low-lying stream flats below.

The best clue to the location of the old site was a large pecan tree which had marked the corner of Mound C and had been identified in a photograph of Chambers' 1930 excavations (Neitzel 1965:38; Figure 12). Though the tree had been a hindrance in 1962, it was allowed to stand; excavation was carried out around and through the roots and the pits were eventually filled with no undue damage to the tree.

After ten years' absence from the site, identifying this pecan tree among several in the open meadow proved to be confusing, but it was finally pinpointed with the help of a photograph taken at Mound C in 1962 in which a peculiar cherry tree was also pictured. This enabled me to define roughly the limits of the Mound C excavation, boundaries which were to be determined exactly by survey. All of this illustrates the extent of the alterations to the landscape which had occurred.

I have proffered a veiled remark above about the value of engineering accuracy in archaeology. It now becomes necessary for me to seek absolution for two cardinal sins of engineering committed innocuously at the inception of the 1962 project. Clarification is necessary for those who would make close comparisons with the engineering in this report and that published in 1965, just as I found it necessary to correlate Chambers' early work at the Grand Village with mine.

As in all work of this magnitude, there was considerable initial confusion in both 1962 and 1972, divided among hiring and training inexperienced laborers, directing the machine clearing, and confronting other distractions. The original grid axes were established with a view toward using a suitable USGS benchmark, rather than the customary arbitrary elevation of 100 feet. None was convenient, but field crews for civil engineering projects in the area assured me that a certain galvanized nail in South Pole No. 22, 500 feet east of U. S. Highway 61, had been set by them for a handy reference. The directions were specific enough, and the pole was to one side of the rough trail leading to the site. The nail was documented at 104.88 feet msl. A narrative in my field notes of 1962 and backsights taken at that time established the site datum at 105.45. These readings have been checked, and the computation was correct.

Since that time, the aforementioned large subdivision has been developed over the area with attendant water and sewage lines. The firm which did the basic design for the housing development established three permanent benchmarks on fire hydrants within 100 yards of the Grand Village. These were presumably established from some reference point other than the galvanized nail.

Jordan, Kaiser and Sessions, as previously stated, prepared a development map for the Grand Village project similar to that in Figure

2, which sets the elevation of the brass cap datum at 110.01, rather than the 105.46 determined previously, or 4.55 feet higher than the 1962 datum (Neitzel 1965:Figure 2). As has been said, these matters are all relative, since quite often arbitrary elevations are used to delineate sites, and true correlations can always be established later. I submit this discussion only to reduce the confusion that might be entailed in using the 1965 Fatherland report in conjunction with this one. For all practical purposes, the elevations recorded in the early report are five feet too high. As a matter of historical concern, I sought for and found the offending galvanized nail, now slightly bent, on Pole No. 22. Future workers in the area are advised to avoid it and its promise of easy benefits.

The second and much more grievous error was committed at the same time in 1962, but was not discovered until I tried to relocate Mound C in the altered landscape ten years later. According to the map (Neitzel 1965:Figure 2) and field notes, I should have been able to relocate the northeast corner of the earlier excavations by measuring 250 feet west along the S600 line. This was done quickly, but I was disconcerted to see that the point was exactly 100 feet short of the location marked by the pecan and wild cherry trees identified in the photograph. In disbelief, I put down a bore test at W250, but logged only bands of sand and silt, not the mixed soils which had been present in the eastern edge of the mound excavation. Moving 100 feet to the west on the S600 line, the appropriately mixed soils appeared in the cores. The 1962 limit of excavation had been incorrectly designated at W250 on the 1962 grid system instead of the correct W350. Somehow, in the confusion of laying out the basic grid amid the attendant disorder on the new location, we had dropped 100 feet on the chain measuring west from the main axis. The site map in the 1965 report (Figure 2) was made with an alidade and a plane table as a cooperative effort by Messrs. Ford, Redfield, Hulsey, and Fasano, who were in the vicinity and donated their services as a field exercise in mapping. Their rendition is essentially accurate. I superimposed the Mound C grid on this base chart, not realizing that we had failed to mark the link stakes accurately. The Mound C grid of the earlier report is accurate within its own limits, and the same is true of both Mounds A and B. The error is sig-

nificant in relating the Mound C unit metrically to the rest of the physical features on the site, but not within the unit itself. I sincerely hope that the error, however it may have occurred, now stands corrected. The entire matter is much more difficult to explain than it is to contend with. Mrs. Laverne Stringer of Jordan, Kaiser and Sessions, who drafted the 1971 topographical map by that firm, was well versed in the Fatherland terrain and hesitantly suggested to me two or three times that there seemed to be a discrepancy between their professional production and that which I had published. I waved this contention aside airily as some sort of irrelevant casuistry.

The present grid system is now numbered correctly. Those who need to refer to the ground plans in the 1965 report should merely substitute line W350 for W250 on the Mound C grid, as I have done in my copy, and correlate the archaeological features accordingly.

While the above adjustments were being made, two bulldozers arrived and worked intermittently throughout the month of March clearing initial lines of sight and cutting the guide trenches which were so essential in controlling the removal of the overburden.

The Mound C area was relatively clear, so the first-hand excavations were initiated to discover the previous limit of excavations at the north side of Mound C and to tie this into the plaza area tests. I hoped to define the feather edges of the Phase III ramp and determine its exact relationship to the Phase IV ramp remnant and the buried historic plaza, since these had not been completely explored in 1962.

Alternate five-foot-square test pits were sunk at W340-345 from S520-555 and two lateral tests were conducted twenty feet to the west. The toes of the superimposed ramps for Phase III and IV were detected in the S520-525 square. The latter ramp was at an elevation of 107 feet, approximately three feet beneath the surface of the sterile silt; the Phase III ramp lay approximately one foot deeper (Figure 6). Both surfaces consisted of a 0.1-foot-thick layer of compacted clay and silt that capped mixed lensed soils. The two deltaic fans did not merge downward as I expected, but remained separated by silt as they extended into the level plaza area. It was subsequently discovered that the Phase IV ramp joined and became one with the 1730 surface designated as Plaza I; the ramp was some

fifteen feet wide at the juncture. The Phase III ramp followed directly under that of Phase IV and joined with the Plaza 2 surface. Beneath this was Plaza 3 or the basic occupation layer extending under Mound C. This level was more than one foot higher in the S520-525 face than it was beneath Mound C, a point which will be commented upon later. From the broken pottery, stone, and bone scraps found, it is obvious that it had supported occupation at a pre-mound level.

A few insignificant European articles—beads, a nail, glass, and lead shot—were found while tracing the Phase IV ramp to its juncture with the P-1 surface. None of these artifacts were found beneath the ramp plate or the surface of Plaza 1. This points to a question which will be subsequently discussed regarding the relative stratigraphic ages of the separate plaza levels. The intermediate plaza (P-2) appears to be protohistoric.

One of the bulldozers began to probe the north plaza silts from east to west along the S100 line (Plate IVb) while these exploratory cuts were being made in the W340-345 section, as well as in squares S550-555, W345-350; S545-550, W350-355; and S545-550, W365-370. Depths of nearly seven feet below the surface were reached before I was able to identify a brownish clay subsoil bearing sporadic patches of midden and artifact material. This eastern section, at approximately the range of Mound B, was covered uniformly with the typical crossbedded sandy silts. There were no interspersed cultural levels such as we had found on the south plaza. The slope of the machine cut was graded gently toward the terrace edge to the east to provide drainage into the creek bed.

A second guide cut was made at this time to run from south to north along the W250 line. It was intended to test the bore data in the S700 area bordering the southern edge of the site terrace. The bore tests had revealed no basic subsoil or old surface. The machine cut trench reached fifteen feet in depth, exposing only bedded sands and silts. At S600, W350, or 100 feet to the west, the old surface was found at a depth of seven feet. This disconformity indicated a surface decline continuous with the creek bank, which I have aligned with the other checkpoints to the north and east (Figure 2). Where clearly observed, it was always a gentle break in the none-too-level plaza surface, and thus incapable

of being mapped exactly without considerably more cross-section data. For the present, I am assuming that the coarser, practically bottomless drift materials east of the bankline in the south-east quadrant of the terrace are channel deposits enveloped by colluvium, which have accumulated in the 1730 stream bed.

After the S100-130 strip east of Mound B had been cut to expose the old surface satisfactorily, the area was staked out for hand excavation, and a parallel machine cut was begun in the S400 section. It was later, as more equipment became available, that the intervening colluvium here and over the entire plaza area was removed.

Perhaps a few remarks about the use of heavy earthmoving equipment in this kind of work are appropriate here. Much was learned in these introductory stages that was extremely useful later when the full contingent of graders, bottom loading pans, and a variety of accessory tractors became available.

The first potsherd was uncovered at S100, E100 a little over five feet below the surface. The machine blade proceeded carefully in this cut until the exact condition of the subsoil could be established. In this instance, as it subsequently proved to be with all of the heavy equipment operators, the driver was very perceptive and quick to learn the objectives of the project. The men had never been required to gauge their work on the basis of suspicious soil discolorations, changes, or rock and bone contents before, but had always been alert to and conscious of some soil differentiation. Once the routine was established, it was remarkable how delicately and sensitively the heavy tools could be maneuvered. Each small cut made by machine was equal to many tedious hours of hand labor.

Among many such problems involved with the unmasking of the site was a major one concerned with the physical qualities of the soil itself. At this early spring season the normal water table of the area was high. As the Mississippi River fell with the advent of summer the water level receded, and it was possible to dig to depths of ten feet or more without encountering ground water. Once the river stage at Natchez falls to thirty-eight feet or below on the official gauge, the water table lowers. All effluent streams such as St. Catherine Creek drain freely, and soil saturation ceases to be a problem. The sandy soil remained so saturated with

moisture in April and May, however, that after a tractor had removed one to two feet of soil without actually striking ground water, the treads sank hopelessly into the spongy base. We soon learned not to struggle with nature, but simply moved the machine to a dry location and began a new cut. Within twenty-four hours the first cut was found to be dry and solid enough to take the weight of the tractor, and another foot or so of soil could be cut away. This same technique was eventually adapted to the tactics of complete removal when all of the machines were put into operation. Except for the loss of control of the wheels and treads, the spongy condition was not of great concern while removing upper portions of the colluvium. However, once the machines neared the critical depths just above the old surface, blade and traction control were vital. Fortunately, the danger was obviated by the stability achieved through overnight drying, coupled with the gradual recession of the water table. Tracts of the freshly exposed colluvium trembled visibly under the weight of one person, and water was literally squeezed out of the upper slopes of the site to be collected in excavations farther downhill.

The first area to be cleared satisfactorily down to the old occupation surface was the S100-130 section east from Mound B. A grid of ten-foot squares was established at this point from E50-150. It was here that the first potsherd had been discovered in patches of dark midden soil which also contained scraps of animal bone. The cut had intercepted a shallow indentation or embayment in the gently descending creek bankline. A small gully fed into this, draining parts of the plaza near Mound B. Parts of three burials, European articles, pottery, animal bone, and quantities of stone cobbles and chips were catalogued from this midden as the excavation widened. The gully bordered a small knoll which was traced to the north and subsequently determined to have been a house site (Features 1 and 3) (Figure 7; Plate VIb). Another somewhat twisted and washed-out gully encircled the northern edge of the knoll, and stray cultural material, banked leaves, and stream debris were lodged against sandy drift bars in the bottom of the drain, presumed to date to 1730. The surface to the west of the head of this course in the S50-100 section was not explored thoroughly, but it may have been related to the gullies mentioned in connection with Mound B in 1962

(Neitzel 1965:23; Figure 6). The extensive soil derangement caused by the French fortification excavations, including the cow carcass burial in the S160, E10 area, obscures the details of plaza drain courses in this vicinity. Elsewhere, the contrasting light-colored sandy colluvium, lying unconformably over the brown clay subsurface, graphically demonstrated the veined condition of the old surface where the rivulets emerged to form the gullies (Plate VIIa).

Eventually twelve fragmentary burials or parcels of human bones were found in the area of the south part of the knoll, the embayment, and the ravine south of the house location. Quantities of midden materials, European and native, were lodged here also. The burials and catalogued specimens will be discussed below.

As the small labor crew continued to clear and expose elements of the house structures and related pit features in the S100-130 section, the two to three bulldozers allotted at this time began to open up other control cuts across the plaza and completed the not inconsiderable task of removing all trees and brush from approximately fifteen acres considered to be central to the archaeology of the site. In addition, necessary clearing in the Mound C vicinity was carried out preparatory to machine stripping of the south plaza and rebuilding of the mound. I have conjectured (Neitzel 1965:70) that the buried bank of the stream was close to the mound, as cited by Du Pratz (Swanton 1911: 161-163), although I have not been able to demonstrate the exact bankline at more than five points visible in deep cuts in the section to the east of the W250 line where the terrace escarpment has been probed.

One of these cuts, made along the S400 line and subsequently used as a drain concourse, angled slightly northeastward into the S300-350 section of Zone V. The water table was falling slowly at this juncture, so that it was possible to cut seven or eight feet below the surface along the E50 line of this section to reach the brown clay subsoil. An additional foot or so was removed by hand, and auger holes were spaced eastward to test the clay deposit. A cow bone (Find 611) was recovered from the edge of the hand-cut trench as it began to fill with seep water. The elevation was recorded as 103.2 feet, indicating a surface sloping eastward toward the creek channel. Two years later I was able to examine and verify these profiles again in these

and related tracts. Drainage structures prepared with a backhoe preparatory to site restoration and development provided excellent cross-sections.

Although satisfactory information concerning the site hydrogeology is lacking, it is possible to visualize and describe in part the landscape of the 1730 Grand Village plaza that was subsequently sculpted from the sedimentary matrix.

Iberville's impression of the locality has been recorded before (Neitzel 1965:58). It is exact and precise, even to emphasizing important points about the qualities of the soil, which have been noted in the chapter on physiography. He remarked that soil color changed as one left the Fort Rosalie hills and approached the level grounds "within a cannon shot" of the chief's house. This is an apt observation about the grayish prairie surface which I have come to believe is the colluvial mass that moved south and east to suffuse the creek bottom, especially the south plaza. These color characteristics could scarcely have been noted at that time unless the earth were laid bare, possibly through cultivation. Early maps and route descriptions (Plates Ia, b) indicate that the road to the village left the eastern sloping hills and entered the plaza near the chief's mound. The temple was to the right of this path. This road probably followed Pine and Homochitto Streets to join U. S. Highway 84, then U. S. Highway 61 south, turning east just before reaching the creek and following much the same subdivision road (Jefferson Davis Boulevard) that is now used to drive to the site. I have submitted this and several other historical suggestions about the 1730 geography in a previous account (Neitzel 1965:58-63).

The newest information on the buried terrain may now be used to supplement the postulations I advanced above with some emphasis on intra-site details of mound placement, houses, etc. (Neitzel 1965:62-68). Since only a remnant of Mound A remains and very little specific information about its function is forthcoming, I have relegated it to a sort of suspended oblivion for the same reasons as given in the previous account (Neitzel 1965:7, 15-16, 63-64). It seems very possible now that Mound A may have been partially cut away by stream action shortly after 1730. All indications point to the sloping bank of the shallow stream lying along the E200 to E150 lines in Zones I through V. At the S350 line, it bends southwesterly following

a line roughly demarcated by the S400, W100; S500, W100; S600, W200; and S700, W300 coordinates. The exact limits of the bankline and details of its undulating, irregular surface must await more extensive excavation than has been deemed feasible under the present project.

It is pertinent to these details to redirect attention to a discussion in the earlier Grand Village report (Neitzel 1965:70) concerning the abrupt effacement of the east side of Mound C near the S600, W300 stake. At that time, I attributed this to an encroaching gully that led off the nearby escarpment. I had assumed the gully fed into the creek, since Du Pratz (Swanton 1911:161-163) was explicit in saying that the temple mound rose above the creek bank and that the side toward the water was steep. I interpreted this to mean that the creek flowed along the south side of the mound and bounded the plaza on that side. From recent evidence, I now believe that the creek angled across the plaza at some little distance southeast of the mound. Possibly, by contrast, the less obvious slope of the ramp descending to the plaza surface heightened the illusion of steepness on the creek side. The truncated condition of the east side of the mound can now almost certainly be attributed to man-made circumstances and will be discussed more fully below. It can be said, however, that the deformation of both Mounds B and C and the intervening plaza is to be blamed upon activities associated with the French military occupation which forced the Indians to abandon their sacred grounds and relocate in temporary forts downstream from the village following the massacre at Fort Rosalie in November, 1729 (Plate IIa).

A fringe benefit for postulating the creek position as stated above is that we avoided the necessity of removing the entire accumulation of sediment from the southeast quarter of the site, since it bears no historical relationship to the 1730 landscape. The area south of the S500 and east of the W100 lines was left untouched except for removal of underbrush. Thus some 200,000 square feet of this part of the site terrace was roughly landscaped to conform to the ultimate design of the entire 78-acre tract in its development as an Official State Historic Site with natural features preserved. The expanse was rechecked with auger borings up to depths of ten feet, turning up nothing other than colluvial and possibly some waterlaid materials at the

deepest levels, which I have taken to represent channel fill. Most of this expanse probably lay east of the creek bed in aboriginal times. Based on what I have already learned (Neitzel 1965: 9-12), the history of St. Catherine Creek is now fairly secure for the period between 1870 and the present; but that for the aboriginal period, as suggested above, is subject to limitations.

While the localized exploration and preparations described above were being accomplished, a contingent of machinery was released by the Adams County Board of Supervisors. This consisted of three D7 tractors, three large bottom loading pan wagons, known by various trade names and capable of digging and carrying some fifteen cubic yards of dirt at once, a front end loader, and a motor grader. These machines were assigned the task of removing the overburden, with the initial trenches across critical sections of the site serving as guides. The area around Mound C and the S100, E100 areas were cleared so that hand work could begin immediately, while the machine operators managed their own specific problems in cutting down the remainder of the site. At this time, more labor was added to the archaeological crew, and Ms. Dottie Gibbens, a graduate student at Louisiana State University with advanced training and experience, was placed in charge of the field operations. The crew of ten equipment operators and swamper was directed by a wonderfully competent "dirt man," Mr. Jim Marlow, a veteran of countless road and grading battles with the recalcitrant Adams County terrain. As stated above, the various problems of soil instability, dirt disposal, and constant vigilance to protect cultural exposures were all readily solved by Mr. Marlow and the expertise of the operators in directing their cumbersome charges (Plates IIIa, IVa). As the project swung into high gear, a field laboratory was set up to process the quantities of material which began to accumulate from the modest preliminary digging. This temporary facility was later moved to a large old Victorian house in Natchez, on a high bluff overlooking the river. This house became the joint living and laboratory quarters of the Grand Village Archaeological Research Project and the Harvard Lower Mississippi Survey. The latter was activated on June 1 by Dr. Jeffrey Brain and both units continued separate but parallel work courses throughout the summer.

A systematic, balanced plan of excavation was developed as the machines opened ever wider areas down to the critical occupation level. It became commonplace to hear one of the big blades pull to a stop with a hail from the operator. The situation would be immediately examined to determine if the case was crucial or merely some superficial stain from a stump or other intrusion. Usually the operators had hit "pay dirt" before and recognized it as such on their own judgment. Such areas were flagged, and arrangements were made to work around them so that as much superficial dirt as possible could be removed mechanically. The western side of the site, as I have indicated above, was left higher and consequently with more cover over the occupation midden. This was necessary to protect the high pressure gas line three feet below the surface and to provide slope drainage across the site to accommodate the frequent showers which could be expected to set in through July and August. The thick, sterile cover gave erosion protection but entailed much tedious hand labor whenever it was necessary to penetrate it to put down new tests or enlarge those where features were found.

The crew strength became stabilized at ten to twelve people under Gibbens' supervision, and a very skilled unit was maintained throughout the summer. A sociological observation about the labor conditions of the present day compared or, more aptly, contrasted with those at the Grand Village or on other countless digs in previous years is worth mentioning. In the past, recruitment was personal and local, or through some agency such as the government employment offices. Older men were uppermost on the list, and women were rarely considered except for pottery washing, cataloguing, or similar light duties. The minimum age for crew members was around thirty. During the 1972 excavations no older people were available from official rolls; and more significantly, no personal applications were received. College students or high school graduates of that age group, none over twenty-five, comprised the majority of the excavation team. All were literate, and no employment blanks were signed with an "X." A number of women applied and were hired for both field and laboratory work. Everyone employed was young, knowledgeable, and capable of undertaking responsibility in matters of engineering and field processing. Three or four

were graduate students in anthropology, and there was one experienced and highly competent photographer.

The level of organization in terms of strict eight-hour-day schedules and the puritan ethic, which has always been one of my few sustaining graces, became as ragged as some of the working costumes that turned up throughout the season. Field work in southwest Mississippi in the summer is hot, hard, and tedious. As physical problems took their toll, I contrived a practical method of evaluating the mathematical functions of crew attrition, namely the "Fatherland Law." It states that the longer the hair and the less secure or durable the working costume, the more certain I could be of the competence and staying qualities of the worker. In addition, there is probably a corollary that varies inversely with the volume or area of beard. Viewed from a distance, the scene resembled a movie set with Apache Indian extras, or even a replay of the natives at home in the 1720s, going about their affairs on the plaza.

I have remarked that it was necessary to skip from test to test over the site to accommodate the machine work, unstable surfaces, rain, and other temporary emergencies. There was a constant need for flexibility in managing the excavation work in order to maintain a fairly efficient schedule. It is not necessary to lead the reader step by step through each change of pace, since such details are contained in the narrative field notes and maps. For simplicity, I have elected to describe the work in an order determined by dividing the site area into arbitrary zones numbered I through VII from north to south, on N300-N700. The tract encompasses the rather narrow 100- to 300-foot-wide band containing cultural remains, which follows the crest of the natural levee extending from the vicinity of Mound A southwestward to Mound C.

A scatter pattern of  $5 \times 10$ -foot test trenches was set over the entire grid system (Plate Va; Figure 2). These initial tests were usually spaced in rows at twenty-foot intervals to examine all archaeological aspects of the site. Whenever features were encountered, the test slots were expanded or joined to expose the remains completely. Artifact material was recovered in conventional 0.25-foot levels or by direct reference to features. Mesh screens were used during the early phases of work and selectively on other occasions, but the process proved tedious and

usually little more productive than the close observation attendant upon the customary thin-slicing technique. Dry screening and water screening were subsequently concentrated in areas where specific conditions warranted.

Removal of the silt offered the first opportunity since the eighteenth century for anyone to examine and assess the plaza surface. We naturally anticipated an embarrassment of personalized good things, and the actual quantitative and qualitative yield is accounted for in the body of this report. For the present, I can proffer a general appraisal as follows: The area around Mound A was comparatively sterile of artifacts and features. This barrenness should not be a surprise, considering the thoughts I previously had concerning this structure (Neitzel 1965: 63-64), which were that if Mound A were some sort of abandoned temple then the debris on the surrounding plaza should be sparse. I can explain this situation no better now than before. An outlying test north of Mound A gave no indication of midden accumulations in that direction, in distinct contrast to the conditions south of the mound.

It was soon determined that there was a concentration of cultural remains extending in an arc for some 100 feet north of Mound B (Plates Va, VIIb; Figures 7, 8). No less than five house patterns and associated pits and refuse dumps were found here. The black organic humus or occupational layer, ranging from 0.3 to sometimes more than one foot thick, contained a variety of cultural debris. Additional tests to the west beneath the shield of colluvium showed conclusively that cultural content dwindled, although the layer retained its black organic substance. The subsurface fell away also to the west where peaty accumulations of leaf mold and twigs were preserved in the rich organic matrix. Zones III through VI, including the aforementioned house patterns, contained the most abundant occupational remains, although there were localized concentrations of equal interest in the Plaza 3 level around and beneath Mound C.

Having selected the zonal plan for describing specific excavations and results, I shall begin with the northernmost arbitrary division.

#### ZONE I (N150-300)

This zone includes the ruin of Mound A and the area bounded by coordinates N150-300, E00-200 (Figure 2). Three  $5 \times 10$ -foot cuts

were dug in the unexplored area immediately north, west, and south of the mound. The N150-160, E85-90 trench, some forty feet to the southwest of the mound, yielded three or four sherds (Find 1151) and some stone in the thin, poorly defined humus layer. Two other cuts to the north at N240-250, E100-115 and E115-120 were virtually barren. One flint flake (Find 526) was recovered in the first test. The characteristic clay subsoil was recognizable just beneath the slightly mixed old surface; the trenches were only a few inches deep. The cursory investigation reported for Mound A (Neitzel 1965: 15-16) had revealed a developed occupational layer beneath the 3-phase mound ruin. This was fairly substantial so far as it was explored, although artifacts and pottery were scant. Forty-three sherds were found beneath the mound, 123 in Phases I and II, and 119 in Phase III (Neitzel 1965: Figure 13). The outwash slope on the toe of the mound was organically stained and merged laterally with the underlying pre-mound level. A spatulate flint scraper, a clay elbow pipe, an iron knife blade, a musket ball, and the metal tip of a scabbard were found in this outwash (Neitzel 1965: 47, 48, 50; Plates 12k, 13d, l, and y). From this evidence, it might be concluded that the mound was formerly larger or more intact, and that the vicinity supported at least occasional occupation during the historic period.

#### ZONE II (N50-150)

Ten 5 × 10-foot test trenches were spaced over this area between E00 to E145. The coordinates were at N90-100, E20-25; E40-45; E65-70; E125-130; E140-145; then at N70-80, E30-35; E40-45; E125-130; E140-145; and finally at N60-70, E20-25. Sixty-seven sherds, six chips, seven stone cobbles, and three pieces of daub were catalogued from these tests, three of which yielded no artifacts. The average thickness of the black deposit was 0.6 foot. The easternmost squares were on the surface sloping gently toward the creek. This tract was drained by a gully that led into Zone III to the south. The heaviest concentration of pottery, primarily Addis Plain, *var. Addis*, came from the four western squares near the north-south axis. These were mingled with a few of the cobbles or water-worn stones which have been found by the hundreds throughout the site. Some of these are broken,

and all have probably been used casually for some unknown purpose. They are found naturally in the creek bed, and the battering they have received in the bar deposits there is difficult to distinguish from that resulting from human use. No postholes or other features were found in this extreme northern one-third of the plaza between Mounds A and B.

It was in this zone that we observed an interesting example of the aforementioned spongy, saturated condition of the soil. The rather complicated traffic pattern of the cumbersome earth-moving machines was directed south to north, so that dirt scraped up and loaded could be discharged over the bank north of Mound A (Plate IIIa). After penetrating through some three feet of sediment parallel to the site axis, we noted that the water was being literally squeezed from the higher courses into the lower slopes (Plates VIa, b). Test trenches that were being opened in the lower area soon became filled with clear seep water which had been pressed out farther upslope. Traffic was halted, and twenty-four hours later all surfaces were stable enough for resumption of machine work.

#### ZONE III (N50-S50, W30-E130)

The span of this tier was restricted because it gave initial promise of heavy concentrations of cultural refuse. The S50 line was designated as the southern border so that incipient structural evidence seen in Zone IV would not be intersected by the arbitrary zone division. Initially fifteen squares, 5 × 10 and 10 × 10 feet, were staked out across the 100-foot-wide span from the W30 to E130 lines (Plate Va). This test showed that the six easternmost squares toward the creek yielded little artifactual material and no evidence of structure. Squares N30-40, E100-105; N10-20, E100-105; and N40-50, E125-130 were entirely devoid of cultural material. These were within twenty to thirty feet of the presumed 1730 bankline (Figure 2). A small, sharply defined gully twisted from the S100 line northeastward through the E50 to E150 lines and emptied into the creek at the N00 axis. Pockets of waterlaid sand, leafmold, and some cultural detritus were lodged in the bottom of this drainage feature. This is enlightening to the extent that it demonstrates the degree of former erosion that had altered the surface and over which the level colluvium lay unconformably.

The sixty-foot-square area surrounding the central datum point proved to be very rich in artifacts. The brass-capped monument had been reset here at 103.68 feet msl. This was a reduction from 110.01 feet, where it stood at the beginning of the project. The initial 5 × 10-foot squares were consolidated to take in a rectangular area from N20-S30, W20-E40. Several offsets were extended from this space in anticipation of exposing posts or structural features. The surface midden was usually about one foot thick here and contained quantities of artifacts, especially European articles.

Only two distinct pits (Features 9 and 10) and fourteen scattered postholes were found in this area where there was every indication that a substantial structure existed. The pits are especially interesting in that they are almost identical to seven other features that occur on both plazas. Feature 10 was shallower and less well-defined than Feature 9 and contained much less cultural material (Plate VIIIa). It was approximately twenty-five feet to the northwest of Feature 9, but in the same area of cultural activity. The pits, to describe them generally, and Feature 9 specifically, are three to four feet in diameter at the level just beneath the midden layer where they are sharply defined, and from 0.6 to 1.35 feet deep. They are bowl-shaped and symmetrical; and, although I cannot determine what it is or how it was done, they seem to have been lined with a yellowish clay wash. Other pits in which this detail was not always clear will be noted below. The fill was rich, black, organically stained soil in which I fully expected to find coprolites. The characteristic black soil extends upward and is lost in the surrounding midden layer beneath which the pits lie. The impression is that the contents overflowed the circular confines of the pits.

Artifacts were scarce in the squares surrounding Features 9 and 10, and cultural content dwindled as excavations were extended eastward toward the previously tested area south of Mound A. Feature 9 was extremely rich and varied in cultural content, with some twenty to twenty-five catalogue categories being found in the fill and approximately 100 numbers assigned to such categories from the four surrounding 10-foot squares. It is this characteristic that gives the impression of overflow from the pit confines. Subsequent examination revealed that there were a large number of Euro-

pean artifacts among the abundant bone, stone, and pottery refuse, and that many of the items were probably military accouterments. Chicken and cow bones were also identified among the remains.

The S00-10, E10-20 square in this area was chosen for a precise scatter distribution study. Artifacts were located by coordinates in exact 0.25-foot levels, so that this method of spatial analysis could be compared with the conventional method being used in the surrounding squares. The midden was one foot thick here and offered some promise of stratigraphic differentiation or perhaps cultural change. As remarked below, the technique was unsuccessful, but this does not obviate its being used at some future time if undisturbed and promising areas can be located. The work progressed satisfactorily as a thin film of protective colluvium was stripped away. Each cultural fragment was plotted and catalogued by precise coordinates, so that an accurate distribution record could be made available for study and comparison. As the work penetrated into Level B at 0.5 foot below the surface, we encountered a curious backlash from the spongy soil condition and the heavy machinery.

Each of the loaded wagons weighed approximately 100,000 pounds, and the broad-tired wheels had mashed deep grooves into the surface of the ground. The distortion extended down into the midden layer, so that it appeared to have been kneaded into alternate furrows and humps (Plate VIa). The artifact material had also been displaced in similar fashion, so that the plotted pattern of catalogued objects assumed precise parallel strips. The time-consuming experiment was soon abandoned, since the main purpose had been to plot the natural scatter pattern and not the machine displacement factor.

At a later time, NASA technicians from the Mississippi Test Facility used infrared photography in flights over the terrain.<sup>6</sup> This was an experimental effort for them as well as for me, but it was hoped that subterranean soil features could be discovered which would facilitate the standard excavation techniques. Upon examining the film at the Test Facility laboratories, we were all somewhat excited to note lineal regularities just west of the test squares discussed above. The broad strip pattern was measured and found to conform almost exactly to the over-

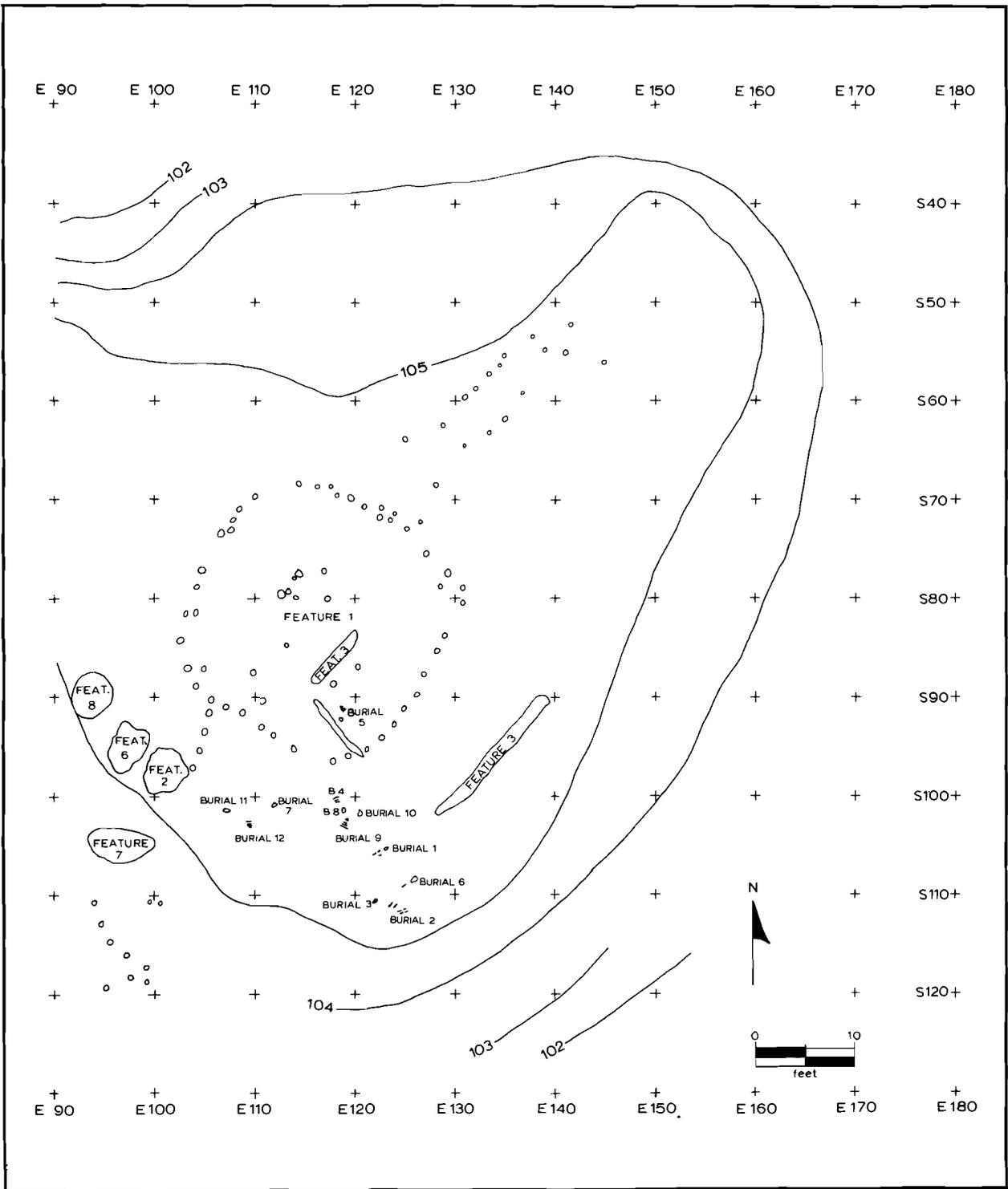


FIGURE 7. Ground plan: Features 1, 2, 3, 6, 7, 8 and Burials 1-2.

lapping wheel tracks of the machine. Although shielded by nearly one foot of colluvium, the pattern was perfectly obvious to the heat-sensitive camera. Any similar north-south striations which may be discovered at the site must remain suspect as aboriginal cultural details.

At the same time, other vaguely rectilinear shadows were noted near Feature 19 as well as in the vicinity of the datum. These were investigated with both a resistivity meter and by conventional excavation methods and were found to be ancient gully systems or sensitive spots of midden just barely shielded by colluvium.

#### ZONE IV (S50-150)

The first concrete evidence of plaza architecture was seen here at the S100, E100 coordinate early in the season. The first bulldozer cut to penetrate to the 1730 surface crossed this tract. Gradually the house patterns (Features 1 and 3) were exposed on a knoll on the creek bank (Plate VIb; Figure 7). Four of the specialized bowl-shaped pits (Features 2, 6, 7, and 8) were near the house on the southwest, and all twelve of the fragmentary burials discovered in 1972 were deposited here. They seem to have been very careless interments placed in midden accumulations in the small ravine and bank embayment.

Once the conformation of the old surface and the cultural features on it could be ascertained, the area was staked out, and excavations were initiated using conventional methods. The 0.25-foot levels were maintained despite the frustration of finding that the midden layer was hardly 0.75 foot thick. The various features which appeared in the brownish-gray subsoil could not be seen clearly or traced until the mixed layer had been removed. There is some small argument favoring Feature 1 as being precedent to Feature 3. The pattern of the latter is partial, and the sequence suggested is entirely circumstantial. Although Feature 3 is small and unpretentious in comparison with Feature 1, their co-location signifies that this was a favored residential site on the plaza. It is not difficult to imagine the tract as an official or important hereditary house location. In view of the large amount of architectural information extant about Natchez buildings, Feature 1 with its individual post wall construction must have had a special history or some significant ceremonial meaning in the Natchez culture. At the very

least, it is an aberrant and late introduction in building design. It is possible to find similar structures in other cultural complexes in the lower Mississippi Valley. Similar buildings have been reconstructed at Chucalissa, a Mississippian site near Memphis.

The arrangement and extent of Feature 1 became manifest as the midden layer was removed. It was not difficult to trace out a rectangular pattern of postmolds set without benefit of a wall trench for alignment or placement. The sides of the building were twenty-four feet long straightaway, leading into rounded corners. The structure had been oriented between twenty-seven and thirty degrees east of north in what has been recognized as the norm for the temple (Neitzel 1965: Figures 10, 12) and other rectangular buildings in Zone IV (Plate VIIb; Figure 8). I mention this factor to emphasize the point that three to five successive structures associated with Feature 19, and all of the structures excavated in Mound B, the Chief's mound, were oriented square with the cardinal directions (Figure 13; see Neitzel 1965: Figures 3, 5, 6, 7, 8). A small oblong pattern (Feature 29) adjacent to the Feature 19 complex on the north, and apparently contemporaneous, was set at the twenty-seven to thirty degree angle. There is some rather circumstantial sociological information which I shall introduce below that may explain this variation in orientation.

The architecture of Feature 1, with posts set in individually dug holes, is a new departure in house construction at the site, as has been previously stated. All other major structures except Feature 4 (Figure 8) utilized wall trenches to set the wall posts, and these posts were generally smaller in diameter than those set in individual holes. The latter ranged from 0.4 to 0.8 foot in diameter, with a few examples in the interior space running slightly over one foot in diameter. They were spaced two feet apart, and the parts which could be traced in the subsoil were 0.6 to 0.8 foot deep. No specific floor surface could be detected, since it had been lost in the amorphous midden layer. Rivulets cut across the surface of this deposit (Plate VIIa), indicating that there had been surface attrition prior to the time that colluvium had sealed it off. There were some fourteen interior posts, usually larger than those in the walls and, for the most part, randomly placed. There is a cluster just to

the north of the center that might be a clue for suggesting that a crib-type construction was used.

There are two exterior post patterns which can be described, but not interpreted. Four large posts, 0.7 foot in diameter, form a line projecting six feet southwesterly from near the western corner of the building. This line may have been a screen or barrier associated with an entrance similar to those described for Building Level 3 on Mound B (Neitzel 1965: 19; Figure 5). Another slightly irregular double row of small posts, 0.4 to 0.6 foot in diameter, extends sixteen feet northeasterly from the middle of the northeast wall. It is not possible to assert that this structure was attached to the house, since there is a space between it and the wall. It may have been a tunnel-like entryway or a separate structure. There is no definite doorway in the house pattern, but there are significant gaps, three to four feet wide, at the north and south corners.

One skull fragment found within the house may be construed as a burial (Burial 5). It was imbedded in the bottom portion of the midden layer and may be an accidental inclusion, as most of the burials appeared to be. There were no identifiable hearths as recorded for Feature 19 or the structures in Mound B. The construction of Feature 1 must have differed from the method described by Du Pratz (Swanton 1911: 59), wherein the wall posts were saplings that were joined at their tops to form a peaked roof. The posts were considerably larger than those used for the much greater structures recorded on Mounds B and C.

I should like to insert a comment here, not alone for the interest it may elicit, but also to improve the quality of the historical thread that I like to think is tying loose archaeological factual data together. This point may be elaborated upon later, though the possibility of the discovery of new positive or definitive data is remote. One of the primary objectives of the 1972 project was to corroborate historical accounts that told of four to eight cabins having been situated on the square at different times.<sup>7</sup> Of these, the house of the Tattooed Serpent, war chief and favorite blood brother of the Chief with powers almost equal to that of the Great Sun, is mentioned most prominently and in some detail. In the funeral description of the Tattooed Serpent, who died in 1725, there are details of the gath-

ering of sacrificial retainers in his house, where he lay in state. It is also stated positively that the house was to be burned at his interment. Presumably this structure was larger and more elaborate than those described for ordinary Natchez citizens at the Grand Village. It also occupied a prominent location on the square, and one gathers from the discussions between various persons during his death rites that it was close to the Chief's cabin on Mound B. I might even stretch a point to suggest that the location of the house, like the office of Tattooed Serpent or War Chief, was hereditary at the sufferance of the Great Chief. It will be recalled that under the Natchez social system of matrilineal descent, the first son of the White Woman, or princess of the royal house, becomes the future Great Sun and is so designated at birth. His younger brother was usually the one to become the War Chief, though under the descent rules it would seem possible that the mother's brother could also be selected, since he too is of the Sun family, uncle of the Sun himself, and thus royal or elite. His offspring, as well as those of the Sun, descend one grade in rank and become nobles, and may no longer figure in the genealogy of the Sun family. Offspring of female Suns maintain the collateral royal lines.

Under such a rigid system of rule and order it would seem reasonable to assume that the official residence (as well as office) of the Tattooed Serpent, like that of his brother the Sun, would occupy a specified ceremonial location from generation to generation. This is the least that might be expected to symbolize the permanence of the important office. Other officials, hereditary and appointed, had residences on the plaza; and so far as the archaeology is known, these locations seem restricted and concentrated. There would hardly seem to be enough contemporaneous building remains present to serve the necessary number of miscellaneous officials, such as pipe bearers, masters of ceremony, and temple attendants required to administer the pomp and ceremony involved in affairs of state and religion. The historical accounts tell us that the number of cabins on the square varied from time to time, and this may account for the appointive positions; i.e., a fixed number was not maintained. There is also the point that certain prestige offices were filled by chiefs or personages from other villages, who lived elsewhere in their own towns but served at the Grand Vil-

lage. There are occasional references to a Chief of the Flour Village occupying some post.

If the War Chief's hereditary position demanded a residence appropriate to his exalted post, we should expect something larger and possibly more ornate than the rather ordinary structures described by historical witnesses and reflected in the generally meager archaeology of Natchez architecture. Feature 1 has the style and location of a distinctive and unusual structure. Its individual post pattern is unique on the site and, as I have said, suggests a cribbed wall and roof design. The posts were sunk rather shallowly, though it is certain that the tops of the molds have been truncated, and must have formerly been equal in depth to those of Feature 19 or the small structure beneath Mound B (Neitzel 1965:Figure 8).

It is known that the chiefs' houses for the protohistoric period were at least fifty feet square (Neitzel 1965:Figure 5). The temple, though of comparable size, was compound, consisting of two rooms. The anteroom was flanked by carved portal posts, and the roof supported carved wooden birds. Though considerably smaller, Feature 1 is nearer in size to the two mound structures than any other plaza building pattern. The twenty-four-foot-square pattern is larger than many full-fledged temples or chiefs' lodges seen in late Mississippian sites such as the Dallas culture of East Tennessee or similar examples nearer to the Natchez chiefdom.

In visualizing what would be expected in the soil record for a semipermanent dwelling site such as the Tattooed Serpent's house, I would expect a series of superimposed, standardized patterns similar to what was found in Feature 19. The record there reflects protracted occupation interrupted by destruction and rebuilding. By contrast, there were vestiges of only two structures at Features 1 and 3 in the S100, E100 location. Moreover, the buildings were completely dissimilar, regardless of their order in time. Judging from associations, both were within the historic phase of occupation. As will be demonstrated more satisfactorily below, Feature 19 components were used only in the protohistoric period; there is absolutely no solid evidence that the structure was used during the historic phase. Obviously, it could not have served for the War Chief, who has been documented for 1725 and earlier.

The war chiefs of the terminal Natchez re-

gime must have occupied at least parts of Units 1-3 or 4-11 (Figure 2); Feature 1, therefore, must become the reasonable choice, since it can be distinguished on the basis of size and location and, to a certain extent, associated cultural features such as the carelessly disposed burials, bowl-shaped pits, and perhaps some artifact distinctions. The evidence is certainly not overpoweringly conclusive, but then most of us have become accustomed to this circumstance where archaeology is concerned.

The Tattooed Serpent's house had been burned at his death; and, although intentional and accidental house burning is common in most cultures, it is important to note any evidence of fire at Feature 1. Very little charcoal or soil stains from burning were seen, although 200 pieces of burned daub, including mud daubers' nests, were found scattered throughout the area of the feature. This compares with some 218 pieces from the area of Features 4, 5, and 11, and more than 700 from Feature 19. It is said that the Chief's house on his mound was also burned intentionally, and quantities of daub have been recovered from the slope accumulations around the base of Mound B. The Feature 19 complex represents a succession of a number of buildings at one location, thus I would expect to find more daub there, regardless of what social function the buildings served. There are other sociological considerations bearing on the Feature 19 complex that make for an interesting theoretical discussion of why this may have been a traditional home of the Tattooed Serpent; but it was not so in historic times, the era that I am trying to document. This conclusion will be developed in a subsequent section of this report.

Feature 3, possibly a structure superimposed on Feature 1, was revealed incidentally while tracing out the latter. The question of antecedence cannot be settled definitely; but, upon the assumption that it was later than Feature 1, it must also be assumed that there was considerable superficial attrition after the abandonment of the location and the site. The reasoning works in reverse too, by postulating that disturbance connected with the construction of Feature 1 destroyed the soil remains of Feature 3. Be that as it may, there are a few archaeological facts to be judged. One more or less complete wall trench defined the southeast side of the building. Two shorter segments indicated the southwest and northwest sides of a rectangular structure some-

what in excess of fifteen feet square. These remnant trenches were carefully exposed, and cross-sections indicated that perhaps 0.6 foot of the bottoms was still present in the base of level B, which was 0.5 foot below the top of the midden layer. This could occasionally be seen to be at least 0.3 foot higher than the tops of posts associated with Feature 1. The size of this house, as projected, is not very impressive, but it does compare with a portion of a similar structure exposed in the old surface beneath Mound B (Neitzel 1965:25; Figure 8). Postholes were seen clearly in the latter and were found to be 1.5 feet in interior depth, in contrast to the lesser measurements for those of Feature 3. I reiterate that the structures associated with Mound B were oriented square with the cardinal directions, and Feature 1, despite its similarity in size and circumstance to the Mound B constructions, was skewed twenty-seven to thirty degrees east of north as was the pattern for Feature 3.

The four distinctive trash pits referred to above (Features 2, 6, 7, and 8) seem to have a spatial relationship to the various house structures found in occupational concentrations. They were grouped a few feet to the southwest of the house patterns (Features 1 and 3) on the edge of the knoll (Figure 7). Like the others in the north plaza (Features 9, 10, 14, and 15; Plates VIIa, b; IXa), these were first discerned as large ragged midden areas extending below the surface midden layer into subsoil.

Feature 15 (Plate IXa) appeared as a bowl-shaped basin in the same manner, but failed to materialize, and Feature 14 (Plate VIIIb) had a small, countersunk central pit that was unlike the others. As described generally above, the sharp circular outline manifested itself as the midden was planed down. Three to four feet across and a few inches to over a foot in interior depth was the range for all except the two features mentioned above. Feature 15, like the others, contained a quantity of artifact material but appeared to be a small midden pile on the subsoil surface. A group of postholes appeared after the midden was peeled away, all of which may have had some relation to Feature 11. The whole simply disappeared as the surface was peeled away. The others were at first considered to be indiscriminate piles of debris too, until the characteristic shape was revealed for each.

Feature 2 (Plates VIIa, IXb) was a regularly

shaped bowl from which the contents were removed in arbitrary levels. Since the pit was only 0.5 foot deep and four feet in diameter, the stratigraphic results were not significant. There were five plain sherds of Addis Plain, *var. Addis*, five unretouched chert chips, three animal bone fragments, and a stone cobble in the fill. European scrap came from the vicinity, but at a higher level, so that the pit may antedate European contact. Water-screen samples were taken from the fill material, but the results were negative. The thin yellowish clay lining of indeterminate composition was the same as described for most of these bowls.

Feature 6 was a foot or so to the northwest of Feature 2 and, with Feature 8, formed a row of these basins. It was examined in the same manner as the others and found to be almost identical, though of slightly less diameter and nearly one foot deep. Seventeen find numbers were assigned to it which included broken pottery, European items, animal bone, chips, and a radiocarbon sample. One well-preserved ethnobotanical specimen appears to have been a corn tassel. The clay lining of the pit was examined minutely, and rootlets or organic intrusions into the walls were excised to determine the details of construction. This accounts for the worm-eaten appearance in the photograph (Plate IXb).

Feature 7 was more irregular than the other three features and lay some five feet to the southwest of the line. It was 0.8 foot deep and contained some ash lenses near the western edge. Ten find numbers for native and European artifacts and a radiocarbon sample were catalogued from it. Water-screen samples yielded no concrete animal or vegetal remains. Feature 8 was almost identical in size, shape, and construction to the other two features in the row. Four find numbers were assigned to its meager contents.

Of the nine such features excavated, only numbers 9 and 10 were not associated with a definite house structure. These two were in an area well supplied with cultural debris, but the explanation for the concentration is not clear. It is from this area that a chicken bone and cow bone fragments are recorded (Appendix II), and numerous broken articles that appear to have been military gear.

Although they are not consistently styled, uniform, or comparable in size, similar pits have been noted by Quimby (1957:110-114;

Figure 34) at the Bayou Goula site, and by Webb (1952:62; Figures 22, 28, 29) at the Jonathan Creek site on the lower Tennessee River in western Kentucky. None of these pits have the standardized form of those at the Grand Village, but they do have a connection with building structures, by proximity at least. A suggestion has been timidly proffered that such shallow, usually rounded excavations may have been primitive mortar boxes, in which mud and vegetal fiber were mixed and churned to provide the plaster for the houses and other construction.<sup>8</sup> Afterwards the depressions have obviously become filled with garbage and trash.

Part of the crew was next shifted into an alternate area in Zone IV. Some 5 × 10-foot squares were dug in the W20-E80, S80-140 section, and six more in W30-100 just to the west. The latter yielded very scanty results; few artifacts and no evidence of structures were found. The initial signs in the eastern part, some 100 feet north of Mound B, were promising, but eventually proved disappointing. The midden appeared to have been scoured from the subsoil. The only intrusion was Feature 14, a pit (Plate VIIIb; Figure 8) on the E20 line between S90-100. It first appeared to be like the other basin-shaped features described but was found to be different. It was five feet in diameter but only 0.3 foot deep, except for a countersunk bowl 0.5 foot deep in the center. The bowl was lined with the yellow clay wash. The view above shows clearly how the colluvium rested directly upon the subsoil in this strip. An area here of 250 feet east-west by 50 feet north-south lacked the usual midden layer.

Discontented with the results seen here, we moved to the north in the S40-80, W30-E30 sections, where we were rewarded with very good evidence of structures. The midden layer was very thin or entirely lacking, and the artifact yield was scant, but living activity was represented in the form of house remains and postholes. As the slightly mixed pockets of soil were removed, postholes were seen in the subsoil. These were filled with light-colored sand, marking them plainly. This area was designated as Feature 15, and the surrounding squares were cleared to expose all of the details of Features 4, 5, 11, 12, and 13 (Plates VIIb, IXa; Figure 8). Although weather conditions caused the loss of some evidence, I feel certain that the house patterns and postholes had previously become

somewhat truncated and obliterated. The two partial cross-sections of wall trenches which we were able to record in Features 5 and 11 were 0.8 foot deep, and some of the sandfilled holes were 0.4 foot deep. It was at this point that we were confronted daily with heavy rains and subsequently forced to abandon the area because of the infiltration of water and silt into the easily destroyed features. I returned one year later under more favorable weather conditions to find the excavation completely filled. I reopened the necessary squares to see if more information on Feature 15 and the missing part of Feature 11 could be recovered. No additional data were exposed, and only a small artifact collection was recovered. Despite these difficulties, it is possible to make a fairly complete description of the features, though the interpretation will never be very satisfactory. Some sixty categories of artifacts were assigned to the general area of these features, but specific association was impossible because of the obliteration of the deposits, both in aboriginal times and from excessive rains during excavation.

As the evidence stands now, it can be seen that Feature 4 consists of two separate right angle corners and partial lines of postholes. The northernmost ell seems to be an extension of the wall trench of the Feature 5 house pattern, which was obviously rebuilt or remodeled on the same location. The conditions did not permit any clarification of problems of intrusion or precedence of the structural remains.

The second rectangular posthole alignment is nestled between Feature 5 and the partial wall trench pattern of Feature 11. The missing wall on the southwest side could not be found, but perhaps the scattered postholes in Feature 15 represent part of this house. The complete loss of this wall, along with what I have considered truncation of both postholes and wall trenches, may be attributed to surface attrition after the houses, and probably the site, were abandoned. The posts range from 0.4 to 0.7 foot in diameter, and there was one large post near the northeast wall of Feature 11 that may have had some special cultural significance. It was one foot in diameter, but the depth could not be determined.

The lines of postholes and sides of the buildings are oriented at the same angle as that noted for Features 1 and 3 and the temple structures in Mound C. The size of the wall trench patterns is similar to that of the undamaged structure be-

# FEATURES 4,5,11,12,13,14,and 15

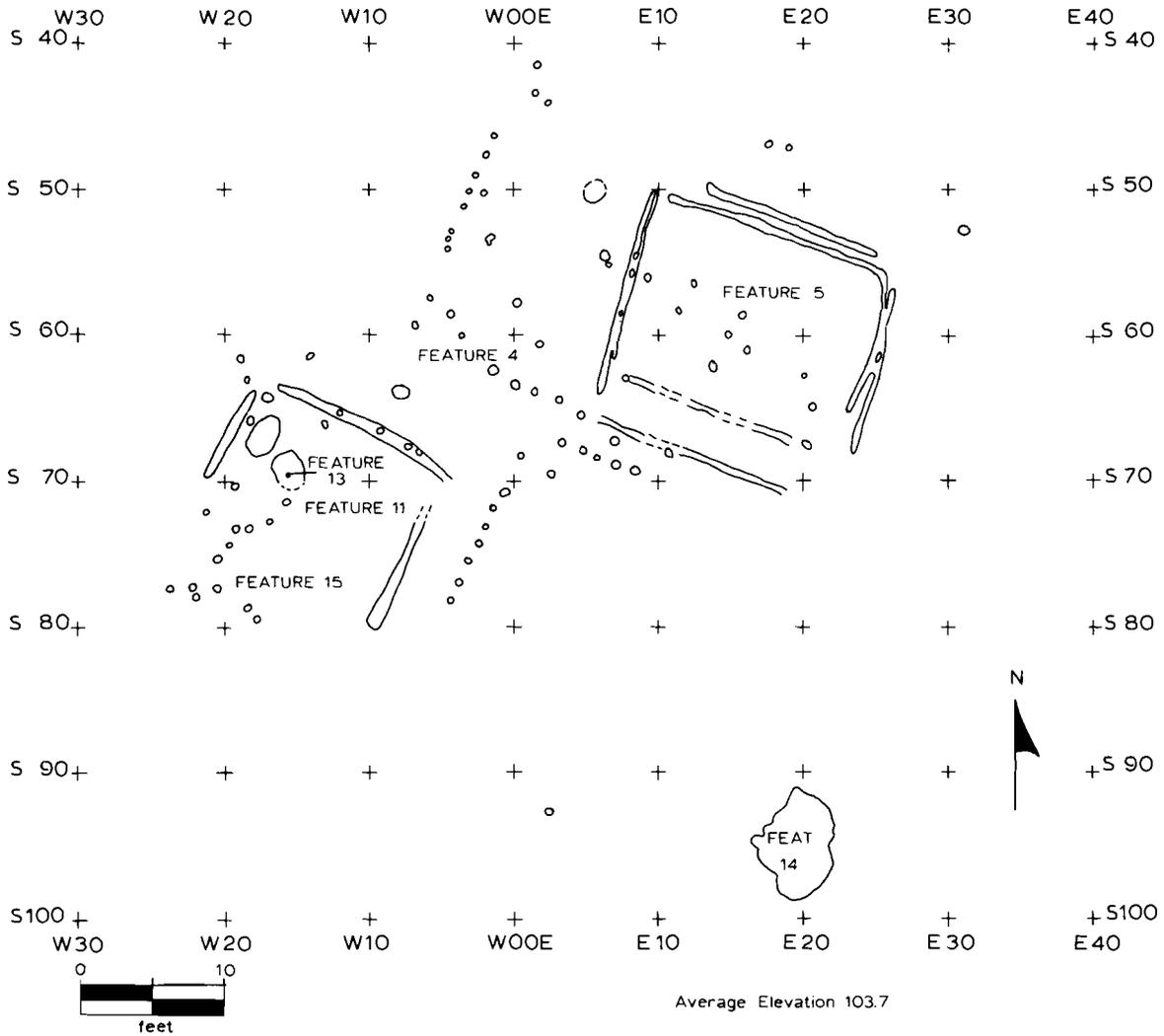


FIGURE 8. Ground plan: Features 4, 5, and 11-15.

neath Mound B (Neitzel 1965:Figure 8). The wall trenches of this building were 1.5 feet deep as compared with the one foot or less depth of those in Features 5 and 11. The wall trench house patterns are comparable in size to the remnant of Feature 3, but considerably smaller than Feature 1 or the numerous remains of Feature 19.

There were twenty-two easily identified Caddoan sherds of the type called Natchitoches Engraved in the midden accumulations around the site datum in Zone III. Similarly, twenty-four such sherds were found in general association with Features 4, 5, and 11. These artifacts provide an uncertain clue as to the relative age of the feature deposits within the site chronological sequence. If they are contemporaneous with the buildings, then a historic date may be assigned to the structures. There are several references in the historic accounts to Caddoan Indians trading at the Grand Village. The trade produce was probably the salt that these people produced in central Louisiana near the Red River. The occurrence of these distinctive sherds in Zones III and IV is especially significant in view of the fact that only four other Caddoan sherds were found in the deposits within the five other site zones, though portions of three vessels were recovered from the Mound B excavations previously (Neitzel 1965:47).

I have earlier discussed this problem of intra-site chronology and have mentioned the Caddoan pottery as a possible supporting point because of a personal preoccupation with relative age or functions of the north and south plaza areas. I risk boredom by repeating here that there is a possibility that the north plaza was older than the south plaza. The reason for finding a scattering of residences in the near center of this 100 × 500-foot expanse must mean that it had regressed from its ceremonial position as a temple mound plaza, possibly yielding to the south plaza or Mound C proscribed area. This may imply that Mound A was no longer functioning. I have suggested elsewhere that this could be either for cultural reasons now unknown, or simply because the creek was cutting away the mound's base (Neitzel 1965:63-64). There is no mention in the French records of a third mound on the site, except for the military map (Plate IIa) which has a third mound, labelled *vieux temple abandonné*, next to one labelled *temple des Natchez*. Allowances must be

made for the erroneous positioning of these mounds, as there are often misplacements on these early maps.

The Mound C or south plaza, by contrast, harbored no structures except for Feature 19, which existed as a protohistoric building and was not in use in historic times. Of course, there was occupation on the south plaza before Mound C was built, but there were no buildings on the two successive plaza levels when the plaza functioned as a ceremonial feature. These are points that are difficult to interpret accurately, and I shall have occasion to raise them in another section.

### BURIALS

All twelve of the burials found during the 1972 season were in Zone IV and were more or less associated with the Feature 1 and 3 structural location. Except for a few isolated human teeth in the deposits in front of Mound C, which were not accorded a burial number, there have now been a total of thirty-eight burials recorded for the Grand Village.

The original twenty-five burials excavated from Mound C in 1930 by Chambers have been reported upon briefly by Ford (1936:63-64), who mistakenly refers to fifty-nine burials. I have analyzed these twenty-five dispositions and their contents in some detail, along with a single interment that I found in Mound C (Neitzel 1965:40-44, 93-95). The osteological material recovered by Chambers, poor as it was, has unfortunately been lost during years of storage. I shall therefore describe only the twelve burials excavated in 1972. I warn the reader to prepare for some sociological conjecture about implications I feel are imbedded in the archaeology of the Grand Village. For now, however, I am concerned only with factual reporting.

By chance, the first cut made by a bulldozer across the eastern edge of the plaza in the S100-130 segment exposed a shallow stream bank embayment which soon was seen to be immediately south of the knoll upon which Features 1 and 3 were situated. A small ravine traversing the old surface led into it, and the first burials, Nos. 1, 2, 3, and 6, were exposed as very careless depositions of human remains along with miscellaneous midden accumulations imbedded in the eroded slope and the bottom of the ravine. The field notes record the uncertainties and misgivings that arose at this time, as the

blade cut ever deeper to expose stretches of brown subsoil alternating with pockets or veins of midden accumulations from 0.2 to 0.9 foot thick. I have always harbored regrets that I could not be present when Chambers exhumed the elite remains in Mound C, and that I was not able to examine the osteological material for the probable personalized details of age, sex, skull deformation, and specific associations to be learned about individuals I have become acquainted with through long historical cogitation. Certainly, those poor lost fragments did not have the anonymity of the few remains near Feature 1.

The burials described below cannot be considered of the same order as the interments in Mound C. Collectively, they are a new element of Natchez culture, and the details of their deposition are important. The historical accounts carry at least twenty-three scattered references to village deaths involving prisoners, culprits, etc., with very casual remarks about the disposition of the remains. Perhaps some of these unfortunate persons are represented in the area of four ten-foot squares close to or within Features 1 and 3. The depth below surface reference is relative to the top of the buried occupation layer, which lay from five to seven feet beneath the 1972 surface.

- BURIAL 1** S100-110, E120-130. Depth below surface, 0.5 foot. Consisted of a skull fragment, tooth caps, parts of humeri, and a femur. The bones may have been interred as an extended burial in the flesh, with the head toward the northeast (Figure 7).
- BURIAL 2** S112, E124.5. Depth below surface, 0.6 foot. Consisted of skull fragments, right and left femora parts, and miscellaneous foot and leg pieces. There were some deciduous tooth fragments. The bones were bundled on the edge of the knoll and were those of a mature male (Figure 7).
- BURIAL 3** S110, E122. Depth below surface, 0.6 foot. Fragmentary long bones in a bundle and possibly commingled with

**BURIAL 4**

**BURIAL 5**

**BURIAL 6**

**BURIAL 7**

Burial 2 a short distance to the southeast (Figure 7).

S100, E118. Depth below surface, 0.5 foot. Bundled fragments of long bones, with long axis east-west. Between Burial 8 and south corner of Feature 1 (Figure 7).

S91.7, E118.8. Depth below surface, 0.3 foot. Skull and mandible fragments imbedded in old occupation layer 0.6 foot inside of southeast wall trench remnant of Feature 3. The placement is also within the confines of the south corner of Feature 1. The specific association with either structure, if any, cannot be established (Figure 7).

S100, E124.5 (pelvis). Depth below surface, 0.4 foot. This was clearly an extended burial in the flesh of an adult, whose sex was undeterminable. The head was to the northeast. Powdery fragments of both arms and legs were traced in the old occupation layer. Plate Xa and Figure 7 show the burial disposition at the bottom of a bulldozer cut in relation to the silt overburden approximately five feet thick. This was the first burial exposed, and it followed shortly on the first exposure of the old midden layer beneath the colluvium. The bones could not be saved, and conditions at the time were not the best for careful excavation and recording. It was later ascertained that the body had been placed rather carelessly on the sloping bank of a small drainage chase along with discarded household refuse which had collected in pockets in the furrowed slope leading into the creek embayment several feet south of Feature 1 (Figure 7).

S100.5, E112. Depth below surface, 0.5 foot. Skull placed

- vertex down exposing the basilar aspect. At least an adult in age, but sex was indeterminate. This burial was some five feet to the southwest of the south corner of Feature 1 where other fragmentary interments were scattered (Plates Xb, XIa; Figure 7).
- BURIAL 8** S102, E119.2. Depth below surface, 0.4 foot. The badly fragmented skull was deposited on the right side, face to the west, vertex north. Burial 9, containing long bones, was within one foot to the south. Both are at least adult in age (Plate XIa; Figure 7).
- BURIAL 9** S102, E118.7. Depth below surface, 0.3 foot. Powdered, mashed bundle burial of skull and long bones. Long axis west-northwest to east-southeast. Possibly included with burial 8. Not removable (Plate XIa; Figure 7).
- BURIAL 10** S101.3, E120.3. Depth below surface, 0.3 foot. Mashed skull, probably buried vertex down. Not removable (Figure 7).
- BURIAL 11** S101, E117. Depth below surface, 0.2 foot. Shattered cranium and powdery long bone outline lying east-west 0.5 foot to the north of the cranium. Maxilla facing west, vertex of skull down (Plate XIb; Figure 7).
- BURIAL 12** S102.5, E109.5. Depth below surface, 0.2 foot. Skull fragments had unerupted permanent teeth; long bones were adolescent or adult. Fragments were bundled; long axis east-west. Not removable.

It is probably best to make some summary remarks here about the patterns of burial at the Grand Village. Satisfactory conclusions are not possible from the sample available, as it is probably not representative of mortuary customs in general nor typical of the practices followed by the scattered populace occupying the widespread

hamlets, of which the Grand Village was the principal capital and the home of the elite royalty of the nation. The burials referred to above at Mound C seem to reflect accurately the class of burials associated with the temple as reported in the various historic accounts.

The twelve burials concentrated near Feature 1 may also have some sort of class status, since they were associated with what was obviously an important structure on the square. I have indicated that there was a certain amount of carelessness manifested in their disposal, since some of them seem to have been deposited in the edge of a small ravine and covered rather indifferently. The shallowness of all the interments may be a result of superficial sheet erosion from the knoll site during and subsequent to the occupation of the residence. Certain rivulet scouring was noticeable prior to blanketing of the site with colluvium.

Two of the burials (1 and 6) may be considered as deliberate extended burials in the flesh, denoting some attention to mortuary considerations. Three are skull burials, which is reminiscent of the ten such types from Mound C (Neitzel 1965:40-44). This may point to accidental or intentional disposal of trophies of the heads of punished persons. The remaining seven placements seem to be rather orderly bundle-type burials, which probably indicates considerably more than casual attention to mortuary procedure. At least the corpses were identified to the extent that they were stripped of flesh and the bones deposited in a favored or specified location, although I would hesitate to call it a cemetery.

The literature is specialized in descriptions of funerals and mortuary practices. Casual mention is made of carrying the bodies of sacrificed retainers at Sun funerals to their own villages for final interment. There is also mention of a generalized Louisiana practice of individual entombment of bodies in the flesh. After desiccation, the bones were cleaned and added to the temple collections. It is presumed that these were people of consequence. There is also some diffident evidence that ordinarily conservative mortuary customs were undergoing change during the historic period (Neitzel 1965:44) with which the mound burials are to be identified. Steponaitis (1974:177) has characterized Anna phase burials by their haphazard disposal. The evidence is very limited.

Throughout the accounts by early observers there are numerous scattered references to casual or informal treatment of bodies or parts thereof which cannot be construed as traditional mortuary procedure. There was a preoccupation with decapitation that was even practiced by the French to dispose of enemies and furnish proof of death, or to punish enemies or classes of criminals. There are approximately nine such references to head taking, or occasionally "breaking of the head." Some of these trophies were presented or displayed; one or two were trampled upon in disdain. There is one reference to a head and body members being cast aside, and there are at least ten instances in which heads and/or bodies were treated with studied indifference. Those subject to this treatment included captives and civil law breakers. There is no mention of the disposal of the remains of victims burned in the *cadre*. I am presuming that this method of burning would not consume flesh and bones completely. The preoccupation with heads is interesting since many of the remains in the temple and midden burials are solitary skulls. Deprecation of some of the carcasses is indicated in references to disposal of the unburied parts by dogs and vultures. The rather extensive sampling of the mound-plaza area has revealed no other burial concentrations than those at Feature 1 and Mound C.

#### ZONE V (S150-350)

This 400-foot-wide band across the axis of the site included Mound B, which was excavated in 1962 (Neitzel 1965:16-27). The mound, which was partially rebuilt after the 1962 excavations, was completely reconstructed in 1972 by utilizing surrounding sterile sediments to raise the summit some nine feet above the 110-foot terrace level. The vaguely rectangular structure was reconstructed square with the cardinal directions, a position indicated by excavation data. This restoration was refurbished and repaired while the 1972 project was in progress. I also considered it advisable to cut a new south coordinate trench into the mound periphery to understand more precisely the vertical relationship of the newly stripped and complex south plaza to the basic mound structure. This W145-150, S250-310 trench penetrated only into recognizable Phase III and Phase IV mound outwash deposits and exposed the Plaza

3 surface extending beneath Mound B. The outwash talus merged into the plaza colluvium that lay directly upon the old P-3 surface as far south as the S310 line. The superimposed P-1 and P-2 surfaces were not manifest at this coordinate. Instead, they first became evident forty feet to the south in the profiles at the S350 line. The fully developed plaza member composite at this coordinate is similar to that in the S410-420 trench (Figure 4).

These three separately developed surfaces are seen to extend northward from Mound C to a range between the S310-350 lines, where they merge gradually into a single plaza surface that in turn extends northward beneath Mound B. This pattern of deposition underlies the reasoning expressed in a previous section suggesting that colluvial filling was in process on the south plaza during its full term of site occupation, and that the filling occurred north of Mound B after the site as a whole had been abandoned.

Concurrent with the abovementioned trench tests on the south plaza, one of the tractors grading off the area east of Mound B nicked an outcrop of mixed midden soil in which a bone concentration was imbedded. This find was at an elevation of 105 feet some fifty feet northeast of Mound B, and perhaps two feet above the basic occupation level we were seeking. A quick examination of this plot with trowels revealed the dorsal processes of some very large vertebrae. The sought for occupation level had not been reached in this area, but after sloping the surface slightly toward the creek for drainage the machine was withdrawn and directed elsewhere.

Stakes were set to bound the E00-40, S150-170 block and investigation of the bones began; it was soon determined that they represented the articulated carcass of a large animal. Considering the size of the exposed members and the length of what were first thought to be cervical spines, I had hopes that the remains were those of a bison. Further exposure revealed that the diagnostic cranium was missing. No caudal vertebrae were present and the pelvis was crushed and deteriorated. Clearing of the surrounding colluvium preparatory to a more complete exposure of the skeleton disclosed an island of mixed soil in which the bones were imbedded (Plate XIIa, b; Figure 9). This appeared at first to be a pit having a high point of origin, leading to misgivings that the carcass might have been intrusive from the modern 110-foot elevation

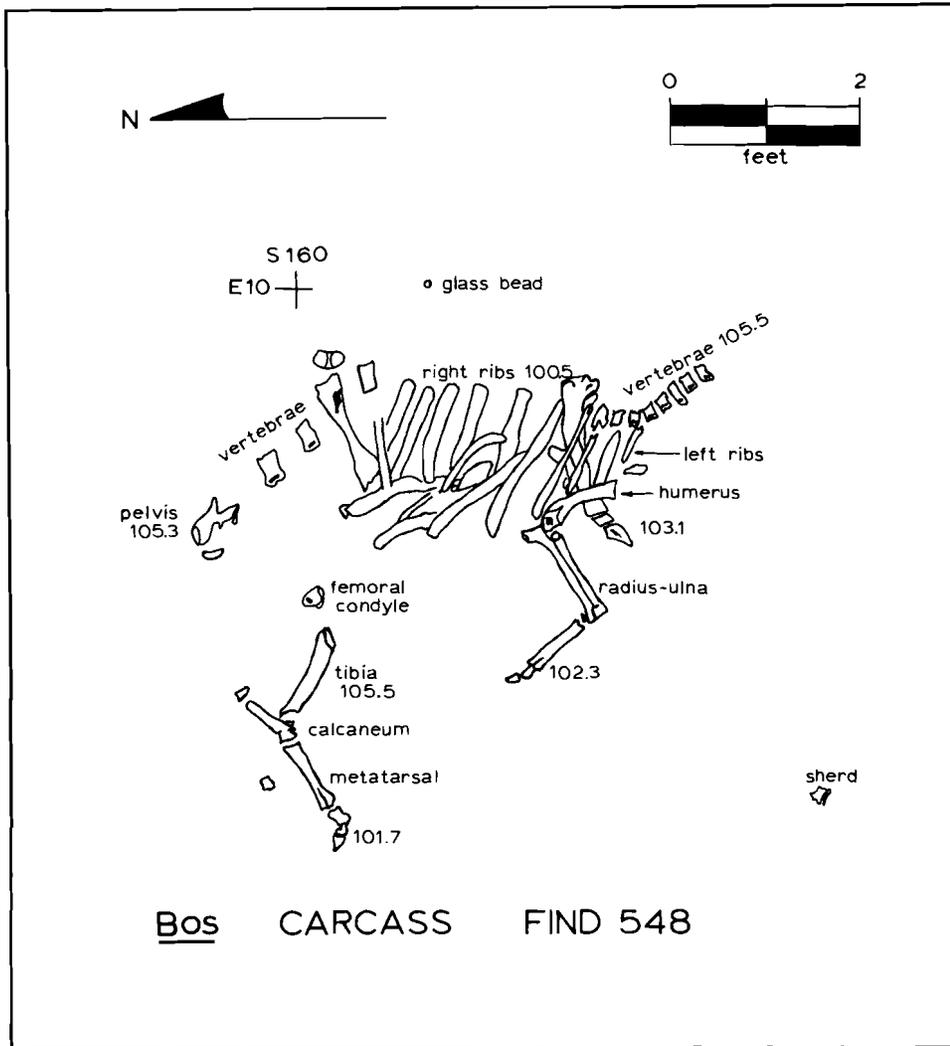


FIGURE 9. Cow carcass (Find 548).

surface five feet above the exposure, or perhaps from some temporary level below that which existed during the gradual accumulation of the colluvium. Reexamination showed that the colluvium had been massed in unbroken layers above the burial, and that evidence of an intrusive pit had not been overlooked in the machine cuts.

As an ever-widening circle of mixed soil was exposed, one or two pot sherds and a glass bead were found in the same matrix containing the bones. A find number (548) was assigned and with some difficulty, attendant upon the anomalous deposit and intermittent rains, a complete

skeletal exposure was accomplished. The carcass had been lodged ventrally, the four legs spraddled out and down for more than two feet, and the thorax leaning to the left side so that the right ribs were uppermost. What had been thought to be cervical spines were protruding left ribs. It was determined later that the feet and lower legs were buried in the mixed soil that now appeared to be extruded from a lower mixed level. There seemed little likelihood that this was an intentional burial, but rather that the remains had been cast onto a dirt pile in an articulated or green condition (Plate XIIb; Figure 9), and covered by additional dirt.

After the bones had been treated and removed, a three-foot-wide trench (S160-163, W20-E30) was cut six to eight feet deep from east to west across the location to learn more exactly the conditions of the deposition. It appeared that the skeleton had been placed (or had fallen) on the edge of a five-foot-high artificial mound consisting of lensed midden soils and gray clays and silts resting directly upon the brown clay subsoil.

The absence of the caudal vertebrae and the head may have indicated a butchering technique used for coping with a large, unwieldy animal. The ventral position was favored in the nineteenth century on the plains for butchering bison. The skin was flayed after being cut along the spine; the tail removed with the hide. The hump was then removed, and the desired internal organs extracted through the thoracic ribs. It could be seen that the right ribs of Find 548 had been dislodged for perhaps the same reason. Since there is little likelihood that the Grand Village was ever reoccupied, even briefly, by Indians, the carcass must have been the responsibility of post-1730 occupants. It will be seen that its stratigraphic position in association with the French military works suggests that it was contemporaneous with the soldiery.

At this point I cannot resist pointing out that an island or localized eminence some two feet high was detected at this locus by means of bore hole interpretation during the 1962 excavation project. This was plotted as centered on the S200 line of the central north-south axis coordinate. The eminence was represented as a subterranean contour (elevation 101 feet) that extended as far north as the S160 coordinate (Neitzel 1965: Figure 2). Accordingly, it was concluded at first that Find 548 had been deposited in the top of a small buried mound, and that the summit had been exposed by the blanket earth removal.

The glow of satisfaction at thus having "caught" and solved a longstanding physical phenomenon in the field has subsided considerably since. As hinted above, a simple and much modified solution to the question will be discussed below. This was not the only instance in which the enlightening data recovered during the 1972 work reduced my *soi-disant* field expertise to a shambles. The skeleton was eventually identified in laboratory study as that of a cow or ox. A complete account appears in the faunal analysis in Appendix II.

Additional correlations of the profile of this "mound" and other buried artificial anomalies exposed in test pits across the site have led me to anticipate the geographical or zonal descriptions somewhat, and to say for now that the carcass site is linked with the long artificial earthworks that traverse the southern half of the site.

Subsequent to the 1729 massacre, the plaza was usurped by a contingent of troops and artillery under the command of the Chevalier de Louboey. They dug extensive siege works and gun emplacements to attack the hastily built forts of the Natchez, who had withdrawn some 1500 feet downstream. The French map (Plate IIa) of this operation shows the disposition of three mounds, the general terrain, camps of Indian allies, and the remarkable earthworks extending some 700 feet from near the mounds south toward the Natchez forts disposed on opposite banks of the creek. The map is the creation of a Lt. de Nine and was drawn 6 April, 1730, in New Orleans. It is not known whether he was actually present at the Grand Village during the French siege attack in the early spring of 1730, or whether the map was produced from the notes or sketches of other observers.

The earthworks were a conventional siege trench, sap, or contravallation that was standard procedure among military engineers of the period. Mantelets, or bullet-proof screens protected the workers while they constructed the sap. The peculiar "fishhook" pattern and the long dogleg in the middle of the course is also probably standard technique for avoiding enfilading fire.

I had attempted to use this map previously (Neitzel 1965:62), but did not recognize its truly excellent qualities. I had allowed a few small but blatant cartographical errors to deceive me, the principal one being directional orientation. The map indicates that north is directly away from a large bend in St. Catherine Creek. This orientation does preserve something of a vague relationship to the actual relative positions of the mounds, but not the lineal axis that is known to exist. The principal contradiction is that the plaza lies to the east of the creek when viewed thus. It was this interpretation that caused me to disregard the map ten years ago, thus denying myself the very valuable information it can provide.

The trick is to view the map as it is in Plate IIa, the top representing north. Although easily done now, it has required much additional spe-

cific excavation and careful ground survey of the surrounding region to bring myself to ignore the French compass points. I have since used several other such charts which were also erroneous as to direction, and I now look at the compass last when comparing an old document with terrain under study. On this military map, the French designation of north is really west in terms of how the land lies. Once one overcomes this mental block, the features fall into place. There is still an error in the placement of the mounds, but the mistake is of the same general nature seen on many early charts that were apparently drawn after a forgetful interval.

To return to the archaeological aspects of the situation, it is now known that the cow carcass was imbedded, probably butchered, in a segment of the artificial earthworks. This is discussed below where the "mound" assumes its rightful place as a part of Feature 16. In archaeological terms, what was important to me in the initial part of the work were the somewhat metaphysical suspicions I had when first studying the profiles along the S160 and S163 lines. The "style" of the loading and the mounding simply did not ring true. This profile was not the kind I was accustomed to looking at in aboriginal works, but I could not express a logical doubt at the time.

As the carcass was fully exposed, the cross-section trench was extended to expose the formation shown in the illustrations (Plate XIIIa; Fig-

ure 10). Other demonstrations in cuts in the south plaza had the same anomalous character (Plate XIIIb; Figure 11) and a tentative summation can be made here. Deep digging had been done into subsoil in two parallel ditches and quantities of dirt thrown inward onto a central pile. Subsequently this exposed structure had weathered to the extent that the deep lateral cuts had become filled with waterlaid outwash from the pile and the adjacent surface on either side. The cross-section trench through the locus of the carcass revealed the bole of a tree replete with branches, which lay on the surface near the works at W30, S160. The butt end was tapered, but was too deteriorated to reveal any tool or cutting marks. Apparently it had been dragged there (see Feature 17 discussion) and allowed to remain, probably for firewood. The details will be discussed below, but the circumstances first encountered here led to a proper scheme of interpretation, and several puzzling clues observed during these investigations and in previous years began to fall into place. Feature 16 will be considered in its entirety in the section concerning Zone VI.

As the work near the cow burial gradually culminated, other tests were begun in the plaza area immediately south of Mound B in order to continue the sampling process across the entire site. These tests correlated with the coordinate trench into the south side of Mound B, and consisted of one 20 × 20-foot and nine 5 × 10-foot

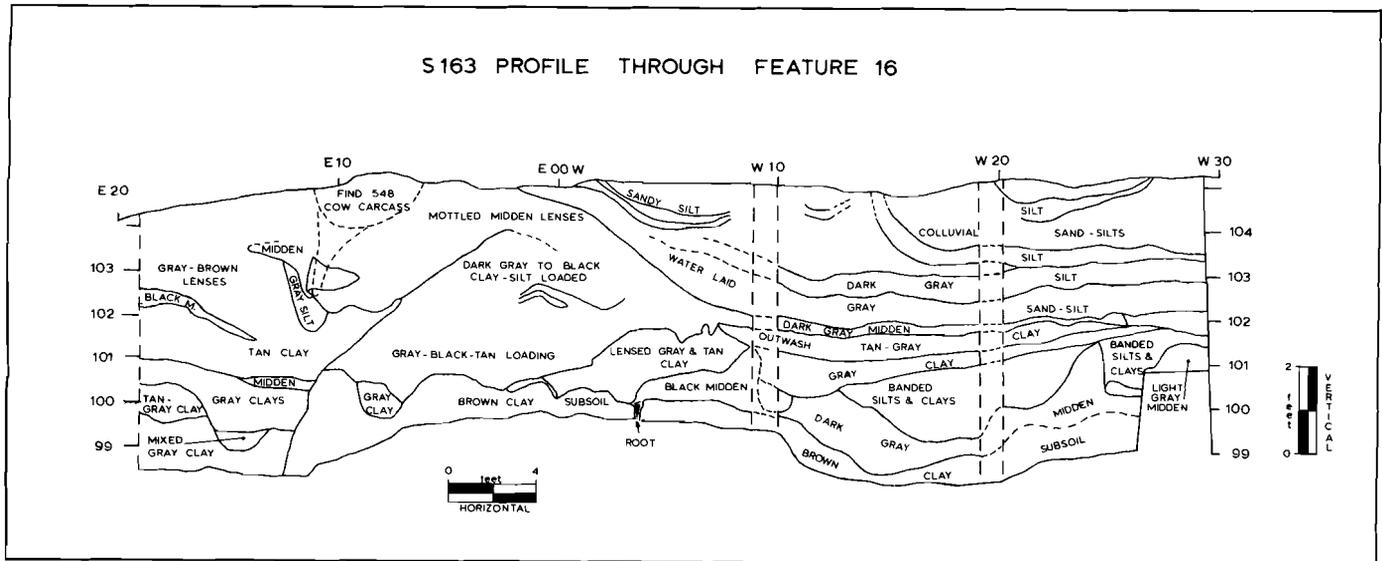


FIGURE 10. S163 profile through Feature 16.

plots (Figure 2) located in a scatter pattern across the south plaza within Zone V. The 20 × 20-foot square at S330–350, W40–60 (Feature 18) was eventually seen to be an exposure of Feature 16. This midden accumulation was extremely shallow and appeared to be an integral part of the P-1 surface. Fish scales, small animal bones, charcoal, and similar rubbish was water screened from the soil recovered here. The deposit simply scraped away to a semi-sterile clay-silt base under the trowels, leaving me with no satisfactory notion of what it might be, although more than 600 sherds, 300 pieces of bone, 203 pieces of daub, and 100 stone cobbles and flakes were recovered. Collections in all of these tests were made by the customary arbitrary levels, though hardly one level was present in this exposure of Feature 18. In it and the collections studied from the vicinity of Find 548, it was noted that an occasional sherd of an inappropriately early period occurred in association with articles of late or historic provenance. This was to be expected as a consequence of the upheaval of lower early levels by the French ditch diggers. After making a resistivity survey of the site and plotting the course of the disrupting siege works (see Appendix V), it has been determined that Feature 18 was also a displaced deep deposit, thrown to the P-1 surface by the military excavation. It is nearly 200 feet south and slightly west of the carcass locus on Feature 16. Features 16 and 18, coupled with other excavated phenomena, are now known to be aspects of the same earth construction.

The remaining nine tests in the northeast quadrant of the southeast plaza were uniformly shallow, rarely extending below Level B, 0.5 foot beneath the P-1 surface. The midden layer here was thin and poorly defined, and no lower plaza levels or floors were present. Cultural material was also scant; some squares yielded nothing, though 101 sherds were recovered from Level A of the S300–310, W95–100 test. Others fell below this, though a smattering of stone and some bone and burned clay were present in nearly all. The three discrete plaza surfaces are combined as Level P-1 in this area and the separation among them is noted as beginning along the north edge of Zone VI or the S350 line. The colluvial masses separating the levels did not reach the southern margin of Zone V. The final three feet, deposited after 1730, did envelop the area encroaching onto the basal

slopes of Mound B, and all levels of colluvium and intervening cultural levels are distinguishable only south of the S350 line.

It is perhaps appropriate to point out that certain submound surface irregularities noted in 1962 in this zone can now be explained more satisfactorily in terms of what has been learned about Feature 16. The profile drawing along the S30 line of the east coordinate trench into Mound B (Neitzel 1965:Figure 9) shows an abrupt drop of the pre-mound surface between the W10 and E10 lines or an area slightly west of the present Feature 18. At the time I explained this as a probable gully draining east from the mound's foundation. The question has not been resolved definitely, but it would seem certain now that the declivity was on the western edge of the then unsuspected French lateral trench, and into which mound outwash had slumped. The point was important in that I now had a clue to the presence of the French works, but failed to extend the S30–40 trench farther to the east to intersect the siege works in its entire width. I suspect, however, that had I dug the extension I should have been just as confused as to what I was seeing then as I have been lately. With appropriate contrition it will be necessary to indicate other archaeological clues, some of them now embarrassingly obvious, that I neglected to heed during the earlier work.

#### ZONE VI (S350–500)

This 150-foot-wide strip encompassed numerous important archaeological features, over which a protective film of sterile silt had been left. Eighteen test trenches usually at least fifteen feet apart were set at regular intervals over the expanse. In these trenches the P-1 surface was first exposed and then arbitrary levels were carried down through the two lower plaza surfaces until the brown subsoil was reached, at an average depth below surface of three to four feet. It was necessary to expand some of these trenches in the W90–100, S400–425 plot in order to excavate the complex structural remains of Features 19 to 30 (Plate XIVa, b; Figure 13). Profile trenches were likewise extended from initial test slots in the W140–205, S390–460 sector to recover all of the information possible about Features 16 and 17. The nature of Feature 16 is now known, but it required a major excavation effort to secure adequate cross-sections. The work here was seriously hindered by heavy

rains, and a succession of caving profiles made it necessary to postpone the investigations several times. When it became feasible to resume, the original test pits were almost entirely filled, so that new excavations were begun. Fortunately, an adequate drawing of fifty-five feet of cross-section along the S415 line between W160 and W215 was obtained before further frustrating damage occurred. Photographs could not be taken.

The other deep plaza tests were completed, with the information secured supplementing the considerable knowledge already obtained in the first tests in front of Mound C. An additional checkpoint on the general course of Feature 16 was obtained in the S450-460 profile (Plates XIIIb, XVa; Figure 12) similar to what had also been seen in the S160 and S415 profiles.

Although the interpretation of the Feature 16 phenomenon is known to the reader at this point, it must be remembered that in the field I was still very much confused by what I was seeing. The complicated plaza formation where I had expected a single, simple layer was confusing in itself, and the intrusive major excavation that disrupted the entire stratigraphy of the plaza compounded the puzzle.

Dr. Jeffrey Brain, directing the Lower Mississippi Survey in the Natchez area at the time, was solicitous of my plight, and armed with an enlargement of the French map that I had disavowed (Plate IIa), came to view the puzzling profiles that we had to offer. Despite the contradictions centering on the cardinal directions, he had cast aside any doubts concerning the drawing and accepted it as a very valuable instrument for interpreting a considerable area of survey terrain. He made the first suggestion that, assuming the map details were true, the profiles which puzzled me were actually the French earthworks. Once he had cured my myopia, some of the smaller, ordinarily negligible bits of evidence began to fall into place to form a firm assumption which resolved the problem. Although it soon became possible to sketch a hypothetical course across the site of the entire 600 feet of works, it was not possible to undertake the extensive deep excavations that would be required to verify the course. Accordingly, I postponed any further immediate investigation and made arrangements to follow up later with John D. Combes and Marshall W. Williams, who had specialized in tracing out troublesome

archaeological features at other locations in the southeast by means of resistivity surveys. The University of South Carolina Institute of Anthropology and Archaeology, directed by Robert L. Stephenson, kindly allowed Dr. Combes to participate, and he was accompanied by Mr. Williams in the fall of 1973. Their complete and highly satisfactory report is contained in Appendix V. Aside from minor and explainable discrepancies, they accurately followed the trail of archaeological clues and developed many details, such as the middle dogleg and the shallow extension north and east of Mound B, which were not suspected but were found to be in complete agreement with the map. In addition, they picked up an unusually straight, deep anomaly just to the west of Mounds B and C along the western plaza edge. At first this was thought to be a palisade, but a trial cross-section indicated that it was the deepest part of a shallow slough that apparently drained the back slope side of the plaza during the occupation of the site. It was in alignment with similar manifestations that had been encountered while digging on the west side of the north plaza. The bottom was a rich, black, peaty deposit, containing little or no cultural material.

Overall, the French siege works are an important archaeological feature in their own right, though somewhat beside the point so far as the immediate objectives of reconstructing the Indian history of the plaza. Its course, however, has been noted with appropriate markings in the restoration of the site. I deal with it in detail here so that others may not have to flounder about as I have when they encounter similar situations in their work.

Feature 16 was first recognized as a hard, reddish-brown clay floor in the S410-415 trench in square W190-200. It was the same level as the P-1 surface, and after troweling was seen to be a twenty-foot-wide band angling toward Mound C. Needless to say, no floor area had been anticipated in the center of the plaza.

The brown clay was interlaced with yellowish lenses, and before too much of the indurated surface was exposed a cross-section was cut into it, and auger tests were made laterally to verify the width and composition. It appeared to be a packed roadway with downward-sloping sides that led southwesterly toward the temple mound. Before exposing any more of the surface to the elements, we deepened the S410-

415 trench between the W180–200 lines, maintaining 0.25-foot levels and collecting artifacts accordingly. Fragments of European metallic scrap and a musket ball were found slightly over two feet beneath the surface, or somewhat below what was supposed to have been the protohistoric P-2 surface. The trench was deepened until the subsoil was reached slightly more than one foot lower. No intervening P-2 surface was in evidence.

The trench was extended to the east and west in order to see an adequate cross-section of the feature. It was necessary to deepen the trench to an overall five feet east of the W185 and west of the W200 lines before subsoil was reached (Figure 11). This cross-section was viewed but could not be recorded because of rains and slumping, but eventually the S415 face was completed and drawn.

The cross-section looks like nothing more than an elevation through a second-rate country road grade. Despite the erosional defacement and the surface distortion from machine wheels, it is clear that an archaeological feature of no mean dimensions existed where it was least to be expected. The profile is more or less self-explanatory and appears to be similar in size and conformation to the earth structures associated with the *Bos* carcass in Plate IIIa, b and Figure 10. There are deep, narrow lateral ditches slop-

ing up centrally to a truncated causeway or surface, a packed clay crown that could be traced by horizontal troweling. The lateral ditches were filled with alternating lunate bands of waterlaid sands and silts until they were more or less even with the crown. The clay surface was identifiable as the same material that is found in the subsoil, so obviously the material from the ditches was thrown up to form the flat-topped central elevation. There is a certain strangeness in the manner of the loading of the causeway as it appears in profile (Figure 12), and I have noted this "feel" in connection with the cross-sections in the S160–163 trench (Figure 10). Whatever the distinctions may be, the lensing is not like that seen in aboriginal mounds and similar constructions.

Feature 16 was intrusive to the 1730 Plaza 1 surface and cut down through the P-2 and P-3 surfaces and the intervening colluvial bedding. Although we can assume that we know what Feature 16 is and where it goes as described in Appendix V, it may be proper to review the history of the identification of this feature, as there are some instructive points that should be of interest to archaeologists and historians in general, and may aid them in avoiding the pitfalls that confused me.

In 1962 when James Ford and his field crew visited me, he charitably proffered their ser-

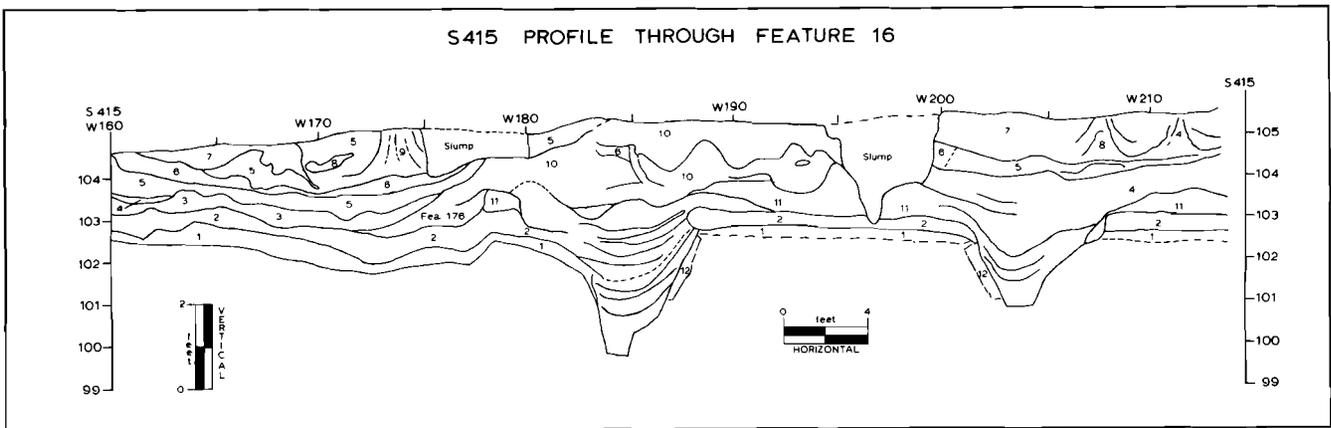


FIGURE 11. S415 profile through Feature 16. (Key: 1, red-brown subsoil; 2, Plaza 3: dark brown old plaza surface, midden content; 3, brown and tan banded clay, analogous to Plaza 2; 4, gray clay with manganese stains and concretions; 5, mixed brown and gray silts; 6, banded gray, brown, and yellow clays and silts; 7, similar to 6 but banding more pronounced; 8, mottled brown, black, and gray clay, roots; 9, vertically banded silts [wheel impressions]; 10, mixed brown, tan, and yellow loading; 11, medium gray with charcoal and burned clay flecks; 12, waterlaid banded brown, yellow, and gray clays.)

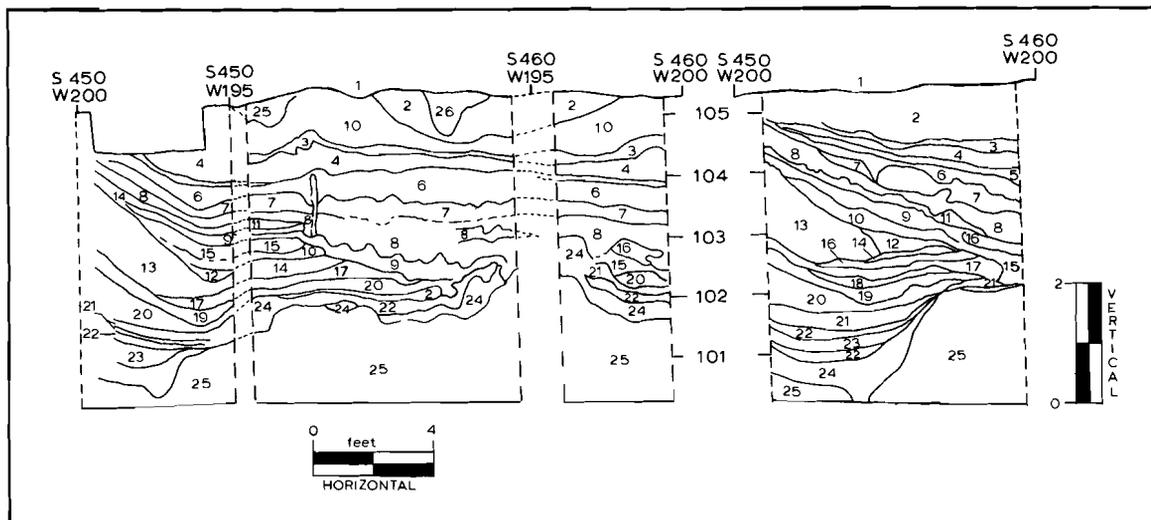


FIGURE 12. W195 and W200 Profiles and S450 and S460 end panels through east lateral trench and embankment of Feature 16 (Key: 1, present surface; 2, medium brown marbled clay [just beneath P-1]; 3, mixed brown clay and tan silt, charcoal flecks [P-2]; 4, light brown-tan banded silt [outwash from embankment?]; 5, medium brown clay with orange spotting [outwash?]; 6, gray-brown mottled clay with orange spotting and yellow silt bands [outwash]; 7, tan-brown banded silt with brown clay lumps and orange spotting [outwash]; 8, tan silts with medium-to-light brown clay included; 9, gray-brown clay with ferruginous and manganese staining; 10, yellow-banded sandy silt [outwash]; 11, same as 9, but more silt and lighter colored [outwash]; 12, medium light brown silt with small bands of clay [outwash]; 13, mixed brown clay and tan silt, with clay loading; 14, loading; 15, mixed gray and brown banded silt and clay; 16, banded gray silt with brown clay streaks and concretion staining; 17, gray-brown banded silt clay and concretion staining; 18, gray-brown bands with high clay content; 19, dark gray silt with orange-yellow banding; 20, gray-tan silt with yellow banding; 21, dark gray with concretions and orange staining [outwash]; 22, light gray clay with silt and orange staining [outwash]; 23, medium gray banded clay; 24, mixed gray clay, brown and tan silts; 25, red-brown subsoil; 26, yellow-tan colluvium.)

vices to make a topographical map of the site as a training exercise. This was no easy matter, as I have intimated above, because of the many irregularities of the ground and the heavy brush and timber. Nevertheless they accomplished their purpose (Neitzel 1965:Figure 2). I have previously pointed out engineering errors that resulted from the confused events of this beginning period, but despite the obstacles Ford's crew detected and mapped a one-foot-high, nearly obliterated ridge that ran diagonally from Mound C toward the northeast, disappearing near the S400 line. After that portion of the site had been cleared of brush the ridge was plainly visible to the naked eye, and since there were and had been a few small fields and gardens in that area, I glibly pronounced it to be a turn row. Presumably, it had been a remnant of plantation agricultural activity carried out long after aboriginal tenure.

In 1971, the engineering firm of Jordan,

Kaiser and Sessions undertook a contract to map the densely overgrown site as a preliminary survey necessary for the acquisition of the area by the State of Mississippi for historical development. The map, though made under extremely adverse conditions, shows that their field crew also detected and measured the ridge. I have mentioned this previously, relative to an error in chaining that was my responsibility.

To gather in one more bit of history that should have been more meaningful to me, I go back to about 1960 during my employment with the Mississippi Department of Archives and History and prior to the inception of the Fatherland Project. I searched through some small notebooks of field notes made by Chambers during the Mound C excavation in 1930. These were accompanied by a map of burial placements and some photographs. Chambers briefly mentioned the ridge, which was also recognizable in one of his pictures. I have not repro-

duced it here because of the age and quality of the negative. This ridge, as shown on all maps prior to 1972, conforms exactly with the resistivity computations and the fragmentary archaeological sections that show the zig-zag course of the sap for no less than 600 feet across the middle of the Fatherland Site.<sup>9</sup>

I have already mentioned the suspicions I now have about the S30 profile in Mound B mentioned above. I need now to recall two other leads available in 1962 that I ignored or misinterpreted. I refer to the condition of Mound C where I noted the truncation of the eastern edge of the mound platform as shown in profile and on the ground plans (Neitzel 1965:10-12). Another unpublished profile was drawn at this same time along the S650 line, which shows the abrupt effacement clearly. As said before, I ascribed this to a deep gully that had developed on the east side of Mound C, into which the mound was slumping before the flats became filled with the protective colluvium. Those observations, added to the circumstances of the high subterranean contour near the cow skeleton as deduced from bore-hole logs, are the more obvious clues that should have been heeded and examined at the time. They could have led to a much earlier discovery of the French siege works.

After reflecting on the results of the resistivity survey, and reevaluating the various archaeological clues already known, I undertook a few new steps toward enlarging the scope of information about the French sap. The first, in 1973, was to cut a cross-section along the S110 line at the north-south axis to verify two deep resistivity readings made there. The same pattern was apparent, a raised central embankment flanked by depressions. The contrast or definition was by no means as clear as in other points farther south; in fact, the entire earthwork construction seems to fade out or end here. An extensive area immediately to the north had been excavated thoroughly without revealing the more superficial disturbance attending the siege trench. The trench on the west or Mound B side was four feet deep, relative to the top of the embankment adjacent to the east. There the works lay beneath two feet of colluvium, most of which was newly accumulated loose dirt from the excavations of the 1972 project.

The other significant, although somewhat circumstantial clue that was available to me in

1962 needs to be evaluated in terms of my newfound faith in the French military map (Plate IIa) and other minor circumstances that I could not conceive to be pertinent then. Regardless of discrepancies in the map and the terrain, one end (the "tail") of the earthworks, as drawn, is near one of the three mounds, a large one upon which two pieces of artillery were mounted. Following the narrative in Swanton (1911: 238-241), the first placement was at 250 fathoms from the principal target, Fort de Valeur, which the Indians had constructed on the near side of St. Catherine Creek. The sequence after this was to move the guns to 280 fathoms or *back* of the first position to make them more effective. This is some 180 feet farther from the target. This also proved to be ineffectual although four guns were mounted there two days later. In what appears to be sheer frustration then, three guns were moved to within 180 fathoms of the Indian fort. This position became untenable because of guerrilla sorties made by the Natchez. The artillery was ineffectual at all locations, and the shifts seem to have been attempts to achieve a bracketing effect for the range of fire. The site of Fort de Valeur cannot be located, apparently having been cut away by stream action, but there is a favorable archaeological location for the Flour fort on the bluff immediately south of the creek and east and southeast of the plaza, which provides an approximate check on the distances given. I am also assuming that the guns were mounted on appropriate siege-type carriages that were shored up in earth embrasures for firing.

The archaeological information that is applicable here concerns the sequence of the location of the guns. Two were placed on a large central mound, *not* the temple substructure. The Chevalier de Louboey, in command, is supposed to have established headquarters on the latter, although by archaeological reckoning it was the position nearest to and most exposed to forays by the Indians, who frequently concealed themselves in the canes along the creek to snipe at the soldiers. The map and archaeology are in agreement that the upper (or northern) end of the siege trench terminated near a large central mound (Plate IIa). Such a terminus was indicated by the resistivity meter at the S110 line near the central north-south axis, barely sixty feet northeast of Mound B. A subsequently excavated cross-section indicated that this was a

correct reading, except that the embankment was lower and the lateral trenches shallower than had been the case in the south plaza cuts. The earthworks were patently diminishing here in a position that was essentially *behind* Mound B and away from the forts and Indian attacks. Extensive excavations have been carried out in the north plaza beyond this point and no evidence of the siege trench was present.

Presumably, the seating of the cannons with appropriate protective earthworks entailed considerable earth moving, which leads me to reconsider the extreme defacement that was noted for the north side of Mound B when it was excavated in 1962. The above data are offered to make the point that the alterations to Mound B were not superficial, despite allowance for the wear and tear of normal agriculture and pitting. A reference to the Fatherland report (Neitzel 1965: 16–26; Figures 3, 4, and 5) shows dramatically that the entire (true) north side of the final Phase IV mantle, and a great part of the Phase III stratum, had been removed. This would be the protected side of a bulwark that was thrown up to seat and protect the guns. The effacement is considerably more than would be expected from ordinary agricultural and erosional attrition, although the blame was previously charged to these agencies. Two pistol barrels were also found in the extreme top of the remnant Phase IV mantle. One of these lay just beneath the sod line, but the other appeared to have been used as a metal stake and was driven butt first into the surface of the mound. Both of these, whether specifically associated with the Natchez or the French, were in the less disturbed southern part of the Phase IV mantle in which remains of a house wall trench could be identified. The W55 profile (Neitzel 1965: Figure 4) illustrates clearly how the north side of the mound had been cut away, allowing damaged, recognizable remnants of the south half to remain. An inset, possibly six feet deep, of Phase III and IV had been removed from the north edge.

If the first position for two guns then was at Mound B, I have chosen the military artifact concentrations and peculiar archaeological context noted for the datum point as the second position by which the guns may have been moved *back* a distance of 180 feet. There is no archaeological evidence of earthworks or embankments here, since the northern extremity of

the earthworks seems to be at or near the S100 line.

The third position for three guns is drawn on the French map, where three emplacements are shown in the middle of the dogleg (Plate IIa). Archaeologically, the middle of this dogleg is at approximately S320, W150 or a hundred feet south-southwest of Mound B, and no excavations were made here.

However close this interpretation may be to the truth, there is obviously more than a coincidental correspondence. The placement of the mounds is puzzling, although understandable if the map was drawn in New Orleans two months later by an officer who could have confused the landscape, or who may never have seen the site. The distances can be explained in the way I have done above, since the term fathom was used for both horizontal and vertical measurements at the time. I have no idea why the guns were withdrawn 180 feet because they were having no effect on the Indian palisades, then moved forward to within 1000 feet, where guerrilla raids put an end to their usefulness. Perhaps there are hidden errors of distance in these positions.

The course of the trench as seen archaeologically does help make the map more usable by straightening up the confusing matter of cardinal directions. There can be no doubt that the French designation of north is actually west.

There are a few other points that may interest a historian seeking his correlations. There are three small rectangular buildings noted on the map (Plate IIa), which by my reckoning are north of Mound B. (By chance, the French cartographer has also labelled this central large mound "B".) Whether the houses are Indian structures or were thrown up by the French is impossible to tell. They are located where I have described a complex of structures (Features 4, 5, 11) as having been exposed. If they are Indian, it is possible that the French usurped them.

I have mentioned a curious mixture of quantities of artifacts and pottery at the datum area. Military equipment and native items are inextricably mixed, although it is reasonable to suppose that the natives were in possession of such European articles while in residence. The shallow deposits yielded a disconcerting mixture of early and late ceramic varieties in proportions not seen in any of the other analysis units (Tables 2 and 3). I have suggested that perhaps this dis-

ruption may have been the result of disturbance from an entrenchment, although there was no physical evidence of such. It hardly seems reasonable to suppose that evidence of such a disturbance had disappeared, since other intrusions have not. Perhaps the region was a French bivouac area, behind Mound B and away from the Natchez. This would be approximately 1200 feet east from the camps of their allies, the Choctaw and Tunica, as indicated on the map.

I have remained frustrated about the three mounds being drawn in a cluster and not linearly along the creek bank. This is obviously an error, although I am appreciative of the fact that the officer did illustrate three whereas the literature never mentions more than two. The cartographer labels two of these as "*temple de Natchez*" and "*vieux temple abandonné*" and indicates that they are surmounted by rectangular buildings. Again I am constrained to reiterate a long held, but unsupportable opinion that two temples were formerly in use at the site (Neitzel 1965:62). For whatever reason, the early one, Mound A, was abandoned, and a new one erected on Mound C.

Finally, there is one other less definite correlation that seems to coincide with the circumstances listed above. At the very least, it supports the accuracy of the map scale for the terrain illustrated. The distance from the *tête de la trèche* to the *Fort de Valeur* is said to be approximately 600 feet; the distance to the Flour fort on the opposite bank of the creek is nearly twice that (Plate IIa). The latter is represented as occupying a high bluff. The site of the Valeur fort no longer exists, having succumbed to stream erosion or housing developments. The distance shown to the Flour fort southeast from the plaza corresponds very closely to the scaled distance on a modern quadrangle map from Mound C, the present terminal of the sap, to an historic site location (26-K-23 in Lower Mississippi Survey numbering, 22-Ad-591 in the state site file) that Dr. Brain surveyed in 1971 and considered a logical position for the extinct fort. Although there are many scattered fragments of late pottery and trade goods from several bluff locations across the creek from the plaza, this one, although not excavated, lies in the proper direction and at an appropriate distance. I suspect that a southern extension of the sap to the south of Mound C has disappeared along with the site terrace there. As with the Valeur fort, stream erosion seems to have taken its toll.

This proximity of the French sap to Mound C seems to agree with the point made in the literature (Swanton 1911:239) that the French commander, the Chevalier de Louboey, set up his quarters in the temple, against which the Indians executed a sortie.

Since the primary objective in the work at the Grand Village Project was to emphasize the aboriginal aspects, there has been no additional concerted effort to follow up on details of the white colonial occupation, except where it is vital to overall interpretation. I now accept the 1730 map production without any qualms, and believe it to serve excellently in correlating history and archaeology.

Historic findings, whether by way of the written word or archaeological reconstruction, are essentially subjective, necessitating that truth or certainty be only approximate at best. Some small claim for objective verification may occasionally be found in archaeology, but no amount of philosophical conjecturing will serve to smooth out the differences between the two lines of evidence. The two will probably continue to be used as the basis for many kinds of data processing, despite the obvious discrepancies.

There was one other feature in the Zone VI area under discussion, a fire hearth (Feature 17) which I now believe to be attributable to French activity rather than to the Indians. It was centered 2.2 feet west and 0.6 foot south of the S410, W180 stake at a depth below the surface of 2.1 feet or an elevation of 103 (Figure 11). It was in a yellowish-gray silt vein just above the P-3 surface, on the east edge of the east lateral ditch of the French sap. A radiocarbon sample was taken, but was not analyzed, because of the possibility of pollution as explained in Appendix IV.

The most productive part of the south plaza in Zone VI was explored last. It was necessary to terminate the project before we could learn all that might be desired. If the weather had cooperated, the schedule might have been fulfilled. As it turned out, the rains persisted for two weeks after closing down, and I chose to return one year later in the dry fall season to work out incomplete details of the Feature 19 complex (Plates XIVa, b, and XVb; Figures 13 and 14). This is an opportunity usually denied an investigator. I can think of no other occasion where I have been permitted to return to the scene of my initial crime, after having had a year for writing

# FEATURES 19,20,22,23,26,27,28,29, and 30

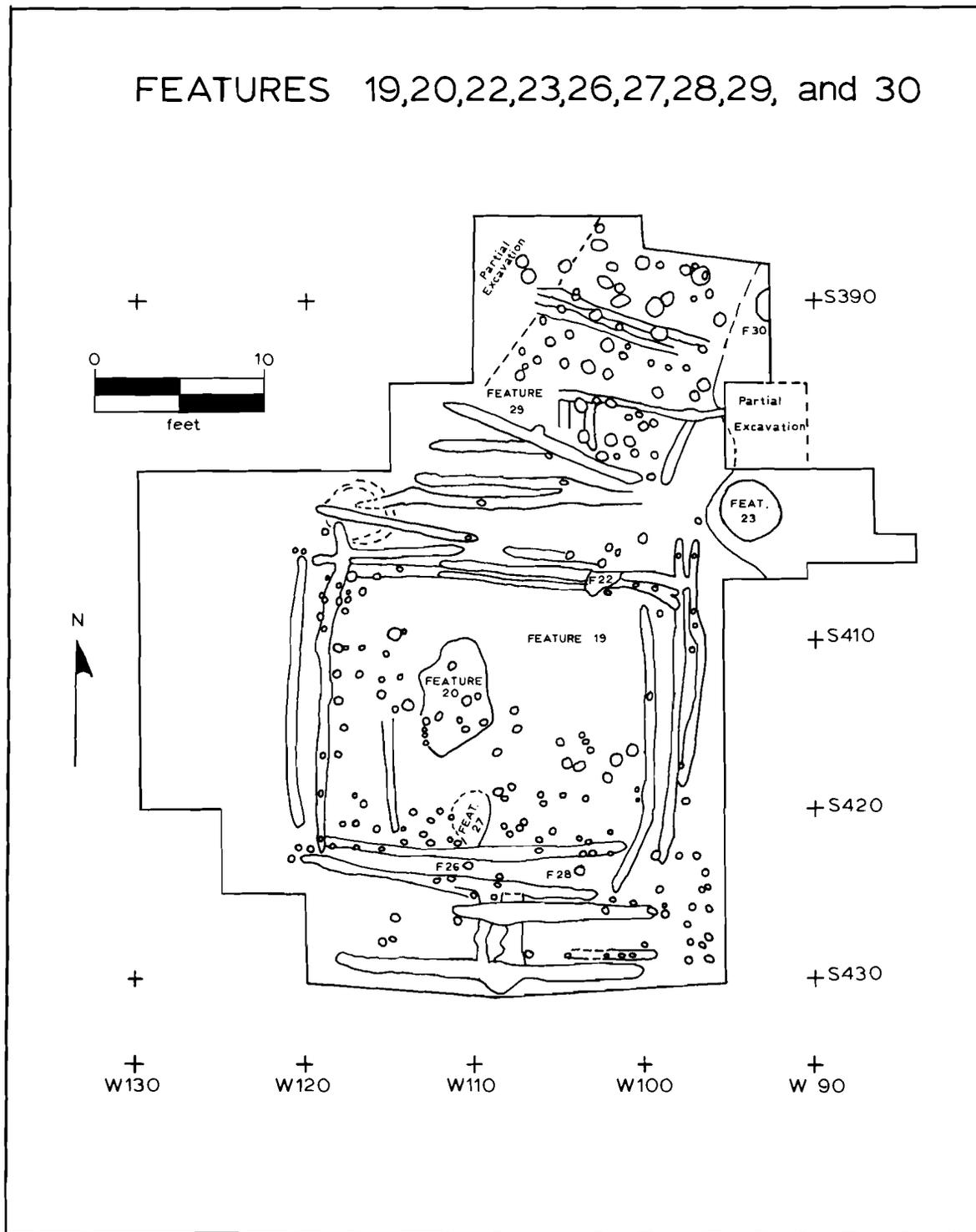


FIGURE 13. Ground plan: Features 19, 20, 22, 23, and 26-30.

and reflecting upon the earlier sins of omission and commission, with a view toward correcting them. I was able to obtain much more structural data, clarify the stratification of the unit, collect several thousand additional sherds, animal bones, and artifacts, and thus sustain my optimism for canonical remission. The two separate excavations have now been combined, the analysis collated and reported as though it were a single continuous operation.

The first test trenches in Feature 19 in the W100, S400 area were made on the basis of a judgment of the plaza position and geography (Figure 2). Nearly one foot of colluvium had been left on the surface here for protection, so there was no visual artifact evidence. The initial tests exposed a thin distorted midden layer that had been mashed by the machine wheels. The natural stratification, eventually discovered in the S420–430 squares, was not apparent in the north margin of the maze where the wall trenches and postholes were exposed in the subsoil.

The tests were extended rapidly to expose a rectangular area between the W83–130, S385–430 lines. The one-foot-thick protective silt was removed to reveal a grayish-black midden layer, initially excavated in 0.25-foot arbitrary levels. This proved to be a mantle or cap (Feature 24) nearly one foot thick in the central portion of the squares, but dwindling in thickness toward the margins. It was difficult to distinguish between this mantle and the underlying black midden (Feature 25) while slicing horizontally, but they were easily separated in a vertical aspect. The outlines of the trenches, postholes, and pits were clearly visible in the brown clay subsoil beneath Feature 25 (Plate XIVa, b; Figure 13).

It has been reasoned that all of these traceable intrusions had their origins in the undifferentiated former floor levels of the various houses that were consolidated within the one-foot-thick Feature 25 stratum. It is not possible to distinguish visually or statistically the separate floor surfaces within Feature 25. Feature 24 appears to have been an accumulation, either natural or artificial, that blanketed the underlying subsoil midden. This midden is not restricted to the area of structural patterns, but appears to extend southward into an unexcavated area. It also extends northward, which area was excavated although the cap thinned considerably. One small house pattern (Feature 29) and a bowl-shaped pit were exposed and mapped here. Feature 25

also extended eastward over the creek bank, overlying another bowl-shaped pit (Feature 23), an exceptionally rich deposit from which thousands of sherds, animal bones, and stone were collected by carefully controlled levels or natural strata. Most of these collections were made from deposits ranging from two to four feet deep, extending over the sloping creek bank. Feature 23 lay beneath the strata but undoubtedly contributed a large amount of the midden artifacts to them. Similar to the pattern of these bowl-shaped pits seen elsewhere on the site, Feature 23 seemed to be associated specifically with the Feature 19 complex. From the ground plan (Figure 13), Feature 30 seems to have a similar relationship to Feature 29.

A casual glance at the ground plan of Feature 19 (Figure 13) is as bewildering now as it was when seen during excavation. All of the wall lines and accessories were plainly seen, but there was not positive visual evidence of the order of succession. Merging trenches did occur, but the intrusion of one into another could not be discerned. It will be seen below that I undertook to diagnose the order in which the various buildings and walls had been constructed by comparing the interior depths of wall trenches. In general, the results were not very satisfactory.

Feature 22, a small irregular patch of burned clay, probably a hearth, was intrusive to two wall trenches on the north side. It probably represents a floor level late in the sequence, but it is not central to any of the possible rectilinear plans. Feature 20 (Plate XVb) was a shallow, basin-like burned surface. It was 0.2 foot thick and seven feet long north to south by five feet east to west. It is more or less centrally located in relation to most of the wall remnants, as one would expect a hearth to be. The miscellaneous postholes within its confines were precedent to it, since they were discovered after the burned clay surface was removed. It undoubtedly represents a specific floor level that is no longer identifiable within the 0.9-foot-thick midden layer, Feature 25. The elevation of the top of the latter feature is slightly higher on the creek bank (106.2) than it is at the west edge of the excavation (105.2). This difference is probably the result of the east side's being higher originally, while some erosion possibly reduced the west side.

The reader may take his choice as to how to align or correlate the various wall lines into their respective building units. There is ob-

viously a succession of structures occupying this favored spot. Some of the wall vestiges are undoubtedly localized repairs. The grouping of some of these walls into possible contemporaneous units, based upon their interior depths, will be discussed below.

The two midden strata were especially rich northeast of the northeast corner of the trench maze. Feature 24 was somewhat less than one foot thick, but the underlying Feature 25 increased in depth, tending to slope downward to the east. This was seen later to be the break in the bank of the creek.

Beneath this rich black midden was Feature 23, a bowl-shaped pit similar to others in association with house structures on the site. It will be discussed in detail below, but its overflowing contents and the adjoining midden over the house patterns yielded some 10,000 potsherds, thousands of animal bones, stone cobbles and chips, and burned clay daub.

The smaller skewed structure to the north of Feature 19 (Figure 13) was found while clearing some of the seemingly related northern members of the larger house pattern. Feature 29 may or may not have been coexistent with one or all of the Feature 19 series of houses, but it originated in the attenuated Feature 25 layer. The two building sites cannot be separated in vertical context, but parts of Feature 19 overlap the skewed pattern, so I believe that the two are contemporaneous to the degree that they are both protohistoric. The thin cap of Feature 24 lay over the Feature 29 pattern, but it had been severely damaged by wheel tracks, and it is not possible to say that Feature 29 was sealed off as effectively from historic contacts as was Feature 19.

Feature 30, a small bowl-shaped pit, seems to be associated with the Feature 29 house pattern. It was not completely excavated because of a lack of time. Its close position to the east of the house is similar to that noted for other such structures on the site.

Most of Feature 19 was excavated in  $5 \times 10$ -foot squares skimmed off in 0.25-foot levels. This enabled me to distinguish collections from the interior and exterior areas of the wall trenches. Although this is a rather crude segregation, it seemed necessary for purposes of analysis. The level control was conventional, but since no specific floor levels were distinguished it served its purpose in restricting the provenience of catalogued collections in the event that

cultural differences or change might be discovered in related midden depths. This control appeared adequate for the conditions though it is not equal to dimensional analysis of variance or nearest-neighbor analysis (Whallon 1973, 1974) in discovering detailed distributional meanings, but rather permits a flexibility for analysis that is at least equal to the conditions governing the disposal of the cultural debris.

Some twenty catalogue series of sherds, bone, stone, cobbles, chips, and burned clay were collected either by the arbitrary levels within the coordinate units or, where defined, by the natural levels designated as Features 24 and 25. At least five of the  $5 \times 10$ -foot units were from outside the west walls and yielded scant returns. The remainder were on the interior and to the north and east; these yielded scanty material from Feature 24 and profuse material imbedded in Feature 25 within the confines of the walls.

A few European articles, possibly twenty, were included within Feature 24. These were glass, beads, nails, iron, and a pearl-handled penknife (Find 148; Plate XXXIIc). These appear to have been haphazard inclusions in this layer, and there were none in Feature 25.

Sherds, stone, and bone were distributed uniformly through the deposits of the excavated area, except for the southwest corner of the wall patterns. The S420-430, W110-120 square yielded significantly less material of all kinds, probably because the midden layer was much thinner here. Feature 24 was no more than 0.5 foot thick. Seven special finds, both native and European, were concentrated in the center above Feature 20, a fire basin (Plate XVb).

The vertical distribution of materials, exclusive of European objects that have been seen to be confined to Feature 24, appeared to be more significant. The house area within the level of Feature 24 was analyzed as Unit 19-24, and the lower midden as Unit 25. I did include material from outside the wall area in the latter unit in order to provide larger samples for type-variety separation. Table 2 compares the relationship of nearly sixty ceramic varieties classified for the entire site as they occur in logical, but rather arbitrarily chosen analysis units. The cultural significance of these types and varieties is discussed in considerable detail in the ceramic section, where it will be seen that Phillips' classification (1970) has undergone considerable revision since I began this paper.

I may be able to show what Phillips has fore-

told (1970:949), i.e., that there actually was fluctuation and change in pottery types and to some extent significant marker frequencies during the span of occupation. The cultural *stasis* that I pragmatically insinuated from the study of the mound collections does not exist (Neitzel 1965:86).

Impressive quantities of animal bone, stone cobbles, and chips were recovered from Units 19–24 and 25, and are summarized in Tables 2 and 3. The high incidence of food bones is probably due to the lower level's having been exposed to continuous occupational use for a considerable length of time. This seems obvious in view of the extensive rebuilding that occurred here. The creek bank must also have been a popular disposal area here and at other places on the site. One wonders whose household trash this might be, deposited as it was on the extreme eastern edge of the ceremonial plaza between the chief's mound and the temple. It may be significant that all of the very selective pottery, Addis Plain, *var. Junkin*, was found in the Feature 25 level in the northeast corner of the plot of combined house patterns. Possibly isolated pieces of this distinctive ware may have occurred elsewhere (Neitzel 1965:Plate 11ii), but its occurrence was as restricted as it was found to be in the excavations by the Lower Mississippi Survey at the Emerald and Foster sites, where the variety was first named (Steponaitis 1974:119–120).

There were more than 2500 stone cobbles, many of them broken but not obvious tools, in the Unit 19–24 layer. The 644 counted in Feature 25 are exclusive of the 3000–4000 buried in an oval pit (Feature 27) that was excavated in the subsoil, within the wall lines (Figure 13). The point of origin of Feature 27 was lost in the amorphous midden of Features 24 and 25, but it was undoubtedly associated with one of the floors of the successive houses.

Though not as numerous as the ubiquitous cobbles, chunks, and pebbles, flint chips are found everywhere throughout the site. Attempts to distinguish special concentrations have not been convincing, but there were five times more of these in Unit 19–24 than in Unit 25. Their presence would seem to indicate that bifacial tools were being manufactured in the community, but stone tools of any kind have been practically nonexistent in the collections obtained from all sources at the site. Some of the flakes were undoubtedly utilized for temporary cut-

ting or scraping tasks as their edges testify, but this usage was limited and often difficult to recognize.

It should be noted here that similar quantities of stone, used and unused, were also recovered during the mound excavations, but through an oversight were not listed in the published report (Neitzel 1965:48).

At each of the house locations as well as in the general excavations, a careful accounting of the occurrence of burned clay or daub was made. Four times as many fragments, including some mud daubers' nests, occurred in Feature 24 than in Feature 25 or the other analyses of Units 1–3 and BM. The smallest quantity (twelve pieces) was found in the vicinity of Units 4–11 where at least three house occupations were recognized. The amount of daub, as an indicator of fire destruction, accidental or intentional, could have significance in judging the degree or length of time of occupation.

According to Du Pratz (Swanton 1911:149), the house of the Tattooed Serpent on the square was burned ritually at his death. I had hoped that this circumstance might be recorded conspicuously in the archaeological record, and thus offer a clue as to which of the three building plots may have been that of the 1725 War Chief. I am doubtful now if the evidence from daub can be selectively useful. The large quantity of such plaster and some other features inclined me to believe Feature 19 was a favorable choice, but since it has been determined that the location was used in a protohistoric context, it can hardly be associated with the full historic period. That there was a great quantity of daub in the Feature 24 level is encouraging, except that there is no indication of posts or walls in the grayish midden cap of this layer. It is just possible that this was once more substantial stratum, either natural or artificial, and that postholes and the like were present. This would imply a small mound-like structure of not inconsiderable thickness.

Depending upon which combination of wall trenches one chooses to combine into a structural outline, there seem to have been at least four or five structures more or less centered in the construction area of Feature 19. The norm was a rectangular building approximately twenty feet square. The central Feature 20 fire hearth, which must identify a floor surface, either served for the succession of buildings erected, or survives the terminal structure and indicates

its living level. The postholes discovered beneath the hearth indicate that construction preceded its existence.

The Feature 19 wall trenches are generally irregular in construction. Little of the precision and neatness shown in those for the mound structures is to be seen. The walls, averaging 0.5 foot thick, are intersected, curved, and carelessly designed. Some short or forked sections indicate accessory construction or perhaps loss of detail due to disturbance occasioned by a succession of trench digging in a confined area. It is obvious that the area opened by excavation provides only a glimpse of more widespread construction in this favored locality (Figure 13). This should be a challenge to future investigators.

Postholes were rarely detected within the confines of the wall trenches. The ones which were seen were distinct, which leads me to believe there was some sort of removal process that obliterated their outlines, preparatory to successive construction.<sup>10</sup> Two such individual holes between two southern wall trenches deserve comment. They were numbered as Features 26 and 28 and were in the S420-430, W105-110 square. They were 0.5 and 0.6 foot in diameter respectively and 0.5 foot deep from the top of the brown subsoil; both were packed full of broken pieces of cane-impressed daub.

Feature 27 was a similar oddity. It was an oval pit first seen in the subsoil at the S420, W110 stake. It was 3.4 feet long north to south, 2.2 feet east to west, and 1.3 feet deep. The upper edge was somewhat obscure, as though the pit had been dug raggedly. It contained three to four thousand pebbles and cobbles, whole and broken, a flint flake, three sherds, and a broken, stemmed archaic-type projectile point. I am at a loss to explain the hoarding of these indiscriminate, usually reddish granular stones and pebbles. They rarely show indications of having been subjected to heat or used as hammerstones, and I have indicated above that they were profuse at all levels throughout the site. Counts were made for each square and analysis unit, and their general distribution over the site plotted (Table 3). It is evident that the density is greatest where plaza habitations were located. The counts from the mound excavations are not included in the zone counts. The figures show approximately 4500 stones and pebbles for the vicinity of Feature 19 in Zone VI. This is exclusive of the thousands contained in the

cache, Feature 27. I hesitantly suggest that since there is a high incidence of grit included in the ceramic paste, perhaps these friable gravels were pulverized especially for this purpose.<sup>11</sup> At the present time the deeply entrenched condition of St. Catherine Creek exposes the Citronelle gravels, and rocks may be picked up freely in the bed at low water stages. Whether these stones were as readily available during aboriginal times is debatable, since it has been hypothesized that the bed of the creek at the site proper was many feet higher prior to the artificial shortening of the lower course in the nineteenth century. Gravel exposures were available, but probably were not general as they are now.

One of the problems connected with the numerous wall trenches of Feature 19 was how to determine their relative sequence. There were no satisfactory instances of intrusion to indicate an order of sequence, so I resorted to ascertaining the interior depths of the individual wall trenches to establish a basis of comparison. Although the evidence is not conclusive, there seems to be a tendency for the interior depths to cluster into three arbitrarily designated measurements or ranges of depth (Figure 14). On the basic assumption that such wall lines were dug originally to a standard depth in order to contain the wall supports, the relative depths should reflect the level of the point of origin. The reasoning then may be expressed in two ways. The shallowest trenches could have originated higher and thus be more recent than the deep ones, or the reverse is possible in that the shallower trenches may have been earlier and their tops destroyed by subsequent construction disturbance. However this may be, the measured interior depths resolved themselves into those less than 0.4 foot deep, those 0.4 to 0.8 foot deep, and those in excess of 0.8 foot deep. On this basis I have separated the recognizable walls into fragments of three different structures (Figure 14). The few points where one member intersects with another, together with the pattern at the northeast and southwest corners, seem to agree with this order.

Overall, the entire assemblage is far from satisfying. It is known that the skewed trenches to the north represent a separate small building (Feature 29). It seems probable that another auxiliary building is represented by the one long and two short segments immediately to the south. I am reminded of at least one other similar maze that I have seen in the past, the Mx<sup>1</sup>A

# FEATURE 19: Presumptive Houses 1-3

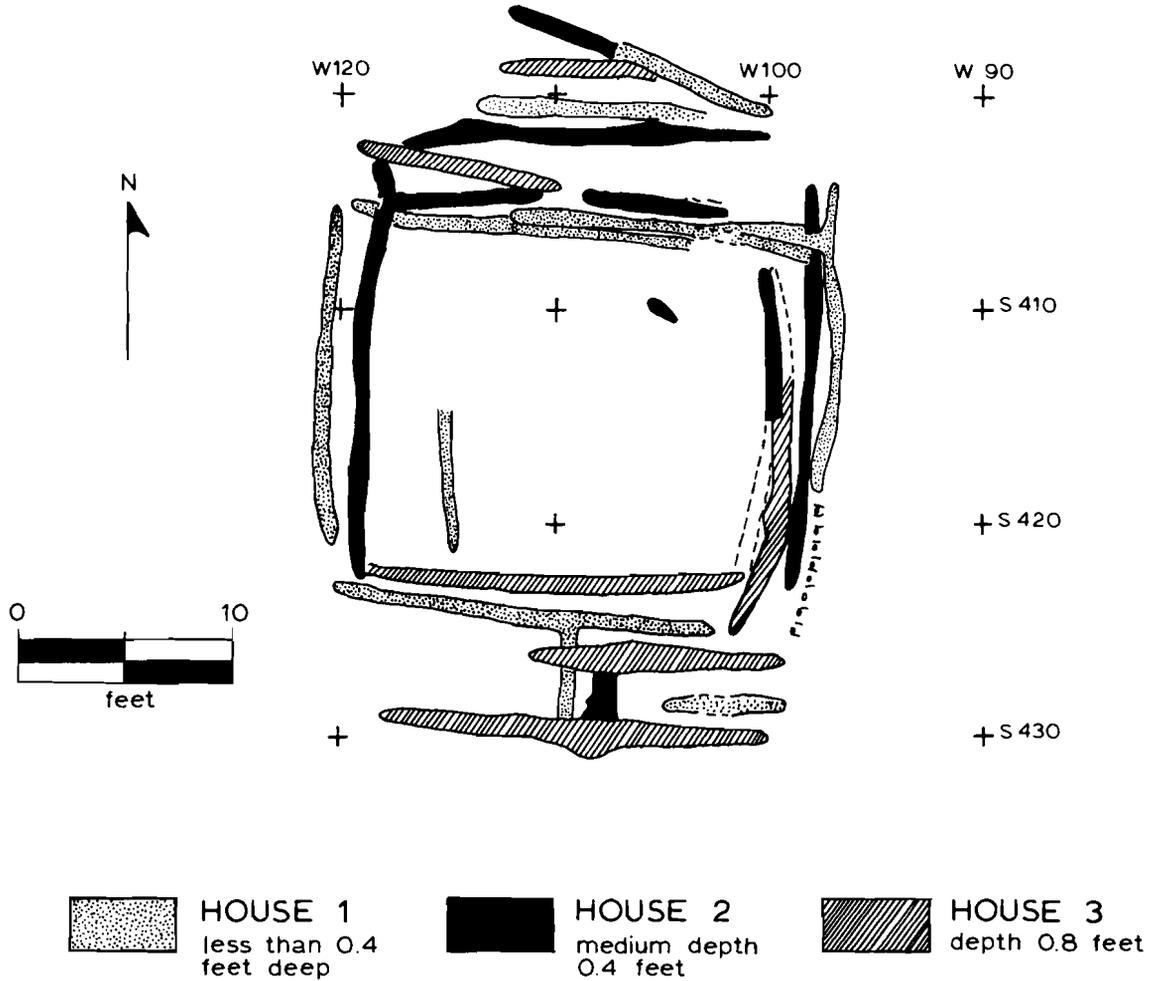


FIGURE 14. Reconstructed sequence of houses, Feature 19.

location at the Kincaid site in southern Illinois (Cole *et al.* 1951:43–51). Unlike the orderly succession of floors, fire basins, and intervening alluvial deposits there, Feature 19 contained no vertical soil separation to distinguish the separate buildings.

The small rectangular wall trench pattern (Feature 29) immediately north of Feature 19 was discovered accidentally while expanding the excavations of Feature 19. Curiosity was aroused by the one exposed trench that was twenty degrees out of true with the other east-west trenches on the north side of Feature 19. The Feature 29 pattern and other isolated wall trench members may support my belief that important, perhaps official, dwellings occupied this general location prior to the arrangements seen on the plaza in historic times.

Feature 29 was exposed by clearing the S385–400, W95–110 block in standard fashion. A thin, deformed layer representing Feature 24 lay just beneath the colluvial shield. It had been crushed and dislodged by machine wheels and obscured by a tree stump and had little continuity. Beneath it, Feature 25 averaged 0.5 foot thick and was in direct contact with the brown clay subsoil. Miscellaneous details of postholes and trenches are illustrated in Figure 13.

There appear to have been additions made to the building, or possibly two or more separate structures once occupied the spot. Four trench segments correspond to the cardinal directions and four are skewed, although evidence of the west wall is absent or has been destroyed. The patterns are smaller than the other structures seen on the plaza, being some twelve feet long by ten feet wide. The outside north and south walls appear to be paired since they range from 0.7 to 0.8 foot deep. The segment of skewed trench just south of the north wall was 0.1 foot deep and had almost disappeared. The short segment of the southeast wall was intruded into by a 0.6-foot-deep interior segment oriented east to west. The intersected wall trench averaged 0.6 foot deep, implying that it might be contemporaneous in level with the skewed north and south walls. Two short interior trench fragments oriented north-south are also intersected by the longer east-west segment. The overall array is not a model of congruity.

The cardinaly oriented members are somewhat too far away to be a part of Feature 19,

unless they represent a larger version of the building or some sort of annex. More likely they were parts of a separate building oriented in accordance with Feature 19. Their traces in the soil originate in the same Feature 25 stratum as does Feature 19, and at least one of the northernmost members of that feature intrudes into or cuts across a skewed trench and the two short, shallow strips that run north to south. In addition, some forty postholes were exposed. Their correlation is in doubt, but they may be grouped by average interior depths into three groups similar to the arrangement for Feature 19. They range from 0.3 to 0.9 foot in diameter and 0.2 to 0.9 foot in interior depth. A datum elevation record made for the upper origins of each postmold as seen, shows that more than one-half were started at 104.5 and the remainder at 105 feet elevation. This reading is probably not very significant considering the mechanical distortion done to both thin strata.

Few other conclusions can be drawn concerning this feature. The skewed position agrees with some other plaza structures, but the age of the building relative to Feature 19 is obscure.

Two of the by now familiar bowl-shaped shallow refuse pits were found in association with Features 19 and 29. Feature 23 was a few feet northeast of the northeast corner of Feature 19, and Feature 30 bore a similar relationship to Feature 29. Feature 23 was explored completely in the process of excavating Feature 19 and the overbank midden accumulations connected to it. Feature 30 was only partially investigated because of shortage of time. Slightly more than one-half of the eastern part was left uncovered.

Feature 23 first appeared to be a homogeneous black midden that was later determined to be marginal to the same deposit covering the Feature 19 tract. As additional levels were removed, a portion of the western edge of the pit was traced in subsoil. The profuse pottery, bone, and stone were catalogued separately, but it was not until the following year that the exposed portion was reopened and a complete excavation undertaken. This was done by arbitrary 0.25-foot levels referable to the defined pit area and separate from the surrounding midden, at least part of which must have been pit overflow. No physical separation could be made of the soil of Feature 23 and that of the general stratum of Feature 25 in which it was imbedded. A separate sherd count and bone tally was made from

the levels within the pit (Table 4). The pit was 1.0 foot deep at its center and 3.5 feet in diameter. The diminishing returns toward the bottom are a result of the decreased dimensions of the fill and are not indicative of reduced density of material.

More than 5000 animal, bird, fish, and reptile bones had been discarded in the vicinity of Feature 23, the overbank midden, and portions of Features 19 and 29. Most of this material can be identified stratigraphically with Feature 25, though it was often difficult to make the proper separation in the homogeneous black deposits. Approximately 1000 of the faunal remains are represented in the general site faunal study (Appendix II). Some 1300 more bones were recovered during the limited 1973 season, but were not subjected to formal study.

I did make an effort, however, to observe the bulk of these latter remains; to classify, somewhat crudely, the circumstances of their deposition; and to count the kinds of fauna present. The overspreading midden that could not be associated precisely with the pit of Feature 23 contained over 700 bone fragments. It was noted that fish and turtle bones were by far the most numerous in the range of the W95 line. They diminished proportionately and by actual count toward the east and over the bank away from Feature 23. Small animals and birds became proportionately more numerous in exchange. Large animals were also present as exemplified by portions of at least four adult deer that could be distinguished by matching long bones and epiphysial growth. Gray fox bones were also identified here with squirrel and rabbit fragments. Fish and turtle were the most numerous of all species, and bear bones were scarce. This is in contrast to the large number of foot bones of bear found in the midden near Feature 1. The slight but recognizable shift from fish to mammals in the same rather narrow midden limits might be inferred as a seasonal phase of garbage disposal. Carefully controlled distributional study of the whole deposit would be required to know the exact significance of this condition.

The circular confines of Feature 23 yielded identifiable pieces of three fresh water shells, eleven small mammal bones, 406 turtle and fish bones, sixteen bird, and forty-two large mammal parts for a total of 478. The total bone as removed by arbitrary levels runs thus:

Level 1	800
Level 2	275
Level 3	132
Level 4	93
	<hr/>
	1300

Specialized tools or artifacts were rare in the Feature 23 assemblage, not a notable observation when compared with the general site collections. An occasional modified flake, usually chert, a projectile point, bone bead, bone awl, sherd disk, or a modelled clay object are representative. Some 1000 cobbles and fragments and approximately 200 flakes were contained in the deposit, although not always specifically associated with the pit confines. The flakes usually showed no obvious signs of usage, but gave no clue as to why they had been struck off, since more formal chipped tools were extremely scarce. Only thirty-five pieces of daub were found, this in contrast to the quantities found in Feature 25 within the limits of the house patterns.

As explained, Feature 30 was not completely exposed so the exact dimensions are unrecorded. It appears to have had approximately the same dimensions as Feature 23 and most of the other eight pits of similar conformation. The interior depth was less than one foot, measured from the exposed top edge. The small arc of Feature 30 that was opened yielded fifty sherds, twenty-seven bone fragments, seven stone cobbles, and thirteen daub pieces. The midden topping was very thin, but could be identified as an extension of Feature 25 in a northerly direction. Feature 24 was so severely disturbed that its presence was difficult to identify except as grayish streaks. As usual with all such curious pits or basins, the artifact-laden overburden could not be separated from the actual pit contents above the level of the subsoil, again giving the impression for Features 23 and 30 that their contents had overflowed onto the surrounding surface. Neither Feature 23 nor 30 had a prepared clay wash lining as was thought to have been present in some of the others, but the cleaned surface of the bowl did appear brighter or yellower than the surrounding brownish clay. Perhaps this is a function of leaching or of the chemical content of the fill material.

## ZONE VII

A brief summary of the tests in this area has

been given in the forefront of the excavation descriptions. Since the previous Mound C excavations encompassed a large part of the western end of this zone, little additional test work was done south of the S500 line. The eastern portion of this sector had been determined to be within the range of deep banded colluvial fill underlaid by possible alluvial channel fill of St. Catherine Creek. A fifteen-foot-deep cut made with a bulldozer at W250, S700 struck no subsoil or occupational surface along the terrace edge of the site. This coincided with other bankline determinations along the eastern edge of the plaza area.<sup>12</sup>

The seven initial test pits put down immediately in front of Mound C were intended to locate the northern margins of the 1962 excavation (Figure 2). It was possible to learn a few extra details from them concerning the extent and specific association of the Phase III and IV ramps (Figure 6) in relation to the three plaza surfaces that were discovered subsequently and which have been described above.

The first six of the initial tests were in the W540-545 section at S520-522.5, S530-540, S545-550; W545-550, S550-555; W550-555, S545-550; and at W565-570, S545-550. The northern edge of the original Mound C excavation was traced in the S580-590, W370-380 cut where two profiles of the superimposed ramps and the northwest corner of Mound C had been cut and drawn. These were not included in the previously published

report, though the various mound phases are illustrated and discussed therein (Neitzel 1965:30, 35; Figure 12). As explained, excavation north of the S580 line was not done at that time. It was assumed then that the successive ramps merged into a single plaza surface beneath the colluvial mantle.

The test trenches enumerated above revealed the correct situation as illustrated in the W345 profile (Figure 6), where the Phase IV and III ramp surfaces are seen to be correlated with P-1 and P-2 surfaces respectively. It has been remarked above that the eastern edge of Mound C was almost entirely removed, probably as a result of the French military efforts. The colluvium that suffused the plaza since its earliest existence not only filled this fissure, but practically submerged Mound C, with all of its complex and interesting structure that has been described elsewhere (Neitzel 1965:27-39). It emerged as only a slight rise in 1930 when Chambers dug it (Ford 1936:60), and at that time was said to be four feet high. It was barely discernible when I undertook to reopen it in 1962. Allowing for the three feet of colluvium accumulated on the P-1 (1730) surface, added to the four feet of height allotted by Ford, the mound must have been nearly eight feet high when the French observed it. By projection (Neitzel 1965:30), it was possible to state that possibly one to two feet of the final mound mantle had disappeared.

## PREFACE TO POTTERY DISCUSSION

THE ENSUING SECTION contains information pertinent to the history of the development of ceramic studies in the Lower Mississippi Valley. Some of these recollections are cherished as part of my own earlier experience, and since they are similar to many circumstances that arose during the progress of the present study, it is hoped they will be interesting or instructive to the reader. Even while these processes are being noted and digested, the evolutionary course continues uninterrupted, since new terminological distinctions are continually being formed and put to use. Those who are unwilling to stand still for even small doses of memory lane may skip over to the formal discussion of the twice-overhauled ceramic nomenclature as it now stands, without concern for how some of these things came about.

Tables 1 and 2 follow the format and terminology used originally by Phillips (1970) and are intended to plot the general distribution of types on the site. Tables 4 and 5 and the alphabetically organized discussion of types also initially followed his pattern. After revisions were introduced, the latter tables and the discussion were altered to accommodate the newest type-variety pronouncements that had resulted from the data accumulated after the Grand Village collections were analyzed in 1972-73. The

changes result in part from the earlier work of Williams and Brain (n.d.) at Lake George and Winterville, and by Brain's Lower Mississippi Survey studies (Steponaitis 1974). The revisions I have included apply specifically to the Natchez area and stem from findings made there and entirely confirmed by the Grand Village data. Some of these data, unfortunately, have not been subjected to the refinement available through the latest terminological applications. The bulk of the Grand Village sherds were sorted in the field and returned to storage before the newer, important distinctions were recognized and used; thus, I am frequently forced to apologize for shortcomings in my analysis data. Major changes, such as elevating a variety to a type, or reordering a type and its varieties, have been reconciled by simply changing the old name to the new. In these cases the type criteria have not changed, but the type's position in the classification hierarchy has. These revisions will be referred to repeatedly, but this is unavoidable due to the built-in confusion arising from working with obsolete data. I experienced the same disorder when I had to shift from the original binomial classification to basic type-variety. The familiar materials were known and understood, but did not become usably explicit until fitted into the new nomenclature.

TABLE 1  
TYPE-VARIETY SHERD COUNT BY SITE ZONES\*

	ZONE							Total
	I	II	III	IV	V	VI	VII	
Alligator Incised,								
<i>var. Alligator</i>						1		1
<i>var. Oxbow</i>						3		3
Avoyelles Punctated,								
<i>var. Dupree</i>						2		2
Barton Incised,								
<i>var. Barton</i>				1	1	3		5
<i>var. Arcola</i>						3		3
<i>var. Estill</i>				5	2	1		8
<i>var. unspecified</i>						1		1

\* Mound Counts are From Computations Of Seriation (Neitzel 1965: Figure 13)

	ZONE							Total
	I	II	III	IV	V	VI	VII	
Baytown Plain,								
<i>var. Baytown</i>	3			45	2	15	3	68
<i>var. Addis</i>	3	236	2519	6022	3818	11,756	952	25,296
<i>var. Junkin</i>				4		39		43
<i>var. unspecified</i>	3			8		2		13
Beldeau Incised,								
<i>var. Beldeau</i>					1			1
Bell Plain								
<i>var. Bell</i>						1		1
<i>var. St. Catherine</i>		3	190	359	207	256	10	1,025
<i>var. unspecified</i>			1	4				5
Churupa Punctated,								
<i>var. Churupa</i>					2	2		4
<i>var. unspecified</i>				1		1	1	3
Coleman Incised,								
<i>var. Coleman</i>	1		1	5	12	4	3	26
Coles Creek Incised,								
<i>var. Coles Creek</i>				4				4
<i>var. Blakely</i>					1			1
<i>var. Chase</i>						1		1
<i>var. Greenhouse</i>					2			2
<i>var. Hardy</i>			1	3		17		21
<i>var. Hunt</i>				1	1	1		3
<i>var. Mott</i>				3		6		9
<i>var. Stoner</i>						2		2
<i>var. unspecified</i>				2	2			4
Evansville Punctated,								
<i>var. Evansville</i>			2	1	2			5
<i>var. Braxton</i>						3		3
<i>var. Lasalle</i>				4				4
<i>var. Rhinehart</i>				3	1	1		5
<i>var. Sharkey</i>				1				1
<i>var. Wilkinson</i>				1	1	1	1	4
<i>var. unspecified</i>				3	8			11
French Fork Incised,								
<i>var. French Fork</i>								0
<i>var. Iberville</i>					1			1
<i>var. Laborde</i>					1	1	1	3
<i>var. Larkin</i>			1	1				2
<i>var. McNutt</i>						1		1
<i>var. unspecified</i>			1	1	1	1		4
Harrison Bayou Incised,								
<i>var. Harrison Bayou</i>				8	2	14	1	25
Hollyknowe Pinched,								
<i>var. Patmos</i>						1		1
<i>var. unspecified</i>						1		1
L'Eau Noire Incised,								
<i>var. L'Eau Noire</i>					1	1		2
<i>var. Anna</i>				4	6	5	1	16
<i>var. Carter</i>						3		3
<i>var. Evangeline</i>						2		2
<i>var. unspecified</i>			1		2	1		4

	ZONE							Total
	I	II	III	IV	V	VI	VII	
Leland Incised,								
<i>var. Leland</i>			21	89	38	116	9	273
<i>var. Bayou Goula</i>			38	37	15	16	2	108
<i>var. Blanchard</i>						5		5
<i>var. Dabney</i>			1	1		13		15
<i>var. Deep Bayou</i>			3	2	6	37		48
<i>var. Fatherland</i>		4	380	663	142	130	5	1,324
<i>var. Ferris</i>			7	1	11	7		26
<i>var. Natchez</i>			240	269	112	139	25	785
<i>var. unspecified</i>	1		87	42	34	93	2	259
Maddox Engraved,								
<i>var. Baptiste</i>				1		13		14
<i>var. Emerald</i>			8	16	28	137		189
<i>var. Silver City</i>					1	3		4
<i>var. unspecified</i>					2	4		6
Marksville Stamped,								
<i>var. Yokena</i>					1		1	2
Mazique Incised,								
<i>var. Kings Point</i>			2	5	8	2		17
<i>var. Manchac</i>		9	65	255	178	349	19	875
<i>var. unspecified</i>				1				1
Mississippi Plain,								
<i>var. Pocahontas</i>			145	165	44	205	11	570
Mound Place Incised,								
<i>var. Mound Place</i>						1		1
Mulberry Creek Cord Marked,								
<i>var. Smith Creek</i>							1	1
Nodena Red and White,								
<i>var. Ellison</i>			1					1
Old Town Red,								
<i>var. Grand Village</i>			130	116	52	125		423
Owens Punctated,								
<i>var. Menard</i>					1	3		4
<i>var. unspecified</i>					1	2		3
Plaquemine Brushed,								
<i>var. Plaquemine</i>	2		33	161	217	520	62	995
<i>var. Grace</i>			1		1	5		7
Salomon Brushed,								
<i>var. unspecified</i>				5		1		6
Winterville Incised,								
<i>var. Winterville</i>			3	6	20	39		68
<i>var. Angola</i>				1				1
<i>var. Belzoni</i>				8	1	4		12
<i>var. unspecified</i>						2		2
Natchitoches Engraved,								
<i>var. unspecified</i>	1		22	24	1	2		50
Unclassified Incised	2		3		7	1		13
Unclassified Punctated and Incised	1			1	11	4		17
Unclassified Crosshatched					2	1		3
Unclassified "Ranch Incised," <i>var. Winterville?</i>	1							1
<b>TOTAL</b>	<b>18</b>	<b>252</b>	<b>3907</b>	<b>8368</b>	<b>5011</b>	<b>14,224</b>	<b>1111</b>	<b>32,783</b>

## POTTERY

THE BULK COLLECTIONS OF BROKEN POTTERY, like all other cultural material, were handled as outlined at the beginning of the excavation description; that is, they were sorted by specific arbitrary grid and level units. Some individual specimens and assemblages were identified with natural or cultural features, such as strata or pits, and were collected and catalogued by this specific association.

The initial grid squares were usually  $5 \times 10$ -foot openings which were expanded wherever the circumstances warranted. The customary 0.25-foot levels labelled A, B, C, etc., began with the top of the cultural stratum where it was first detected beneath the sterile silt mantle. Levels in a few of the very first squares opened by machine were counted down from the top of the silt. Later, these were correlated with the standard A, B, C, etc., level designations. Arbitrary levels in the special three-level stratification that has been described for the Mound B to C plaza were carried to depths of three to four feet. For most of the remainder of the site, the midden vein was rarely more than one foot thick.

Screens of one-half-inch mesh hardware cloth were used during the initial period, although not with any great satisfaction. The soils, even when wet, are not difficult to screen, but I have found results obtained from the customary thin slicing and careful observation very satisfactory (Neitzel 1965:26). Occasionally, small beads or buckshot were overlooked, but one-quarter-inch mesh screens exhausted my patience and did not prevent the passage of such small articles. Samples of soil deposits that were washed through window screen mesh gave the best return, but obviously all such techniques which are ideal for small crews, limited excavations, and the concentration on small or scarce collectables were not compatible with the scope and conditions of the work that confronted us at the Grand Village. As previously stated, the dirt was first hand peeled as part of the search for soil changes and feature outlines, then rehandled by level on

the trench floor, reducing all of the clods before discarding the dirt on the spoil heap. Two or more workers in the square were constantly checking each other. In addition, the crew chief and I regularly moved from cut to cut. Constant examination of our back dirt, especially after rains, afforded a running check on how efficient our recovery was. Only an occasional bead fragment or similar small object escaped.

I suppose the ultimate test of the success of any combination of recovery techniques is the advent of visiting firemen swarming over your spoil dirt, their beady eyes agleam at the opportunity to find you wanting. The record of secondary recovery at the Grand Village by these eager people was not impressive, although they were noticeably vocal about the least success.

Having established the routine excavation and recovery techniques suitable for the scale of the project, the procedure for processing the recovered materials was standardized. Bagged collections were marked in the field, then washed and catalogued in the temporary field laboratory. A full-time staff of two to four people was required to keep abreast of the daily recoveries.

Artifacts other than pottery were separated and catalogued during the classification process, although special artifacts were frequently singled out and catalogued separately in the field as they were discovered. Items that had eluded this special handling were marked with the find number on their field bag, so that it was possible that a gunflint, a potsherd, and a piece of animal bone bore the same field number. This was eventually replaced by a permanent individual catalogue number when the specimens were accessioned into the archaeological storage collections of the Mississippi State Historical Museum, Old Capitol Restoration, Jackson.

This separation of artifacts and classification of the hundreds of incoming sherds was my major laboratory activity. To conform to work schedules, I hoped to classify all of the pottery in the field and tabulate the findings on analysis sheets, so that the sherds could be packed and

forwarded to the Museum storage, since it was not possible to prolong this laboratory procedure beyond the length of the field season. This was accomplished, although I would prefer the leisure of post-season contemplation of pottery problems in a convenient, well-appointed work room. Wrapping up the classification work in the field places a burden of finality upon the classifier. He must be "right" the first time around. However, funding deadlines and the strictures of report writing place certain rigors on work schedules, with little allowance for margins of time.

In the present instance it will be seen that the basic nomenclature underwent changes during and subsequent to the field sorting, which could conceivably compound classifying uncertainties. These changes came about as the logical result of related and contemporary studies made in the Natchez area by Jeffrey Brain and his students of the Harvard Lower Mississippi Survey (Steponaitis 1974).<sup>13</sup> My liaison with them made it possible for me to keep up with most of the incipient and actual major changes in terminology that arose. I was also kept informed about developments by the drafts of field studies forwarded to me during the off season, although some lapses in communication were unavoidable.

I would have preferred to have been able to re-sort the entire Grand Village collection in the light of the new classificatory information, but it was not critically necessary since most of the essential changes were matters of clarification of type and variety names and criteria that were already set and constant. I either had knowledge of shifts of emphasis in forming new types and varieties and could adjust my Phillips model form to the newer concepts "on paper" without modifying the basic meaning, or the changes were not pertinent to the categories contained within my analysis units. As a result, I have had to make radical changes in only a few instances, and only four or five of these might bear detailed, first-hand rechecking against the analysis unit collections. An example would be the type Winterville Incised, *var. Winterville*, which has been changed to a more satisfactory status as Coleman Incised, *var. Bass*.<sup>14</sup> Indeed, these never rested comfortably under the *Winterville* rubric, but it was the closest assignment that could be made before additional data from several sites in the Natchez area dictated a change. It will be noted that this type under the "cor-

rected" intra-site stratigraphic comparison (Table 4) amounts to 0.4% in Analysis Unit 1-3, compared to 0.5% as originally counted for this unit in Table 2, thus affecting the quantitative significance only slightly. Similar disproportions would apply to the old Leland Incised, *vars. Leland, Fatherland, Natchez*, etc. alignment. Without the benefit of reworking the original sherd collections, it was necessary to resort to considerable submergence and purposeful shifting of some of these varieties into the new classifications of Fatherland Incised, *vars. Fatherland, Stanton, and Pine Ridge* or Leland Incised, *var. Foster*. In sorting through the large study collection I held, I find little difficulty in reclassifying the sherds into their newer groupings and making the necessary adjustments to the proportions of the analysis units affected. The individual type and variety problems involved in this adjustment will be discussed under the appropriate headings in the alphabetical roster of types below. Again, it would have been preferable to redo the entire job in the light of new data, but it is doubtful if the results would have been fruitful or would have altered the purposes and ends of this discussion. It is hoped that some ambitious student will rework the material in the future to make it more useful for a wider range of cultural problems than is currently being considered.

The entire dilemma might be characterized as an example of acceleration, where new data becomes available before contemporary related material is properly assimilated. The stately scholasticism of former times, allowing several years for loving preparation of manuscripts, has succumbed to the alert energy of modern graduate students and a seeming mass production of honors theses. I can now empathize with General Custer. Dr. Brain and his staff outnumbered and overwhelmed me despite well-meaning efforts toward continued communication. Correspondence is a poor substitute for late night heated discussion where ceramic analysis is involved.

Ever since the type-variety concept first appeared in the literature (Wheat *et al.* 1958), its acceptance has become inevitable in southeastern archaeology. Currently, the system is unobtrusively operative in many places, especially since the appearance of Phillips' (1970) practical exposition. It is to Phillips and his associates at Harvard, with their concentrated interests in

Lower Valley archaeology, that the impetus toward the adoption of the type-variety concept may be ascribed. During a maturation period of unpublished, but not unspoken opinions, the first formulations appeared in Greengo's Yazoo Basin report on the Issaquena phase (1964). Simultaneously Williams, then Brain, Belmont, and other students were following Phillips' basic precepts on various projects. Drawing on the accumulating fund of data at the Peabody Museum supplied by summer field explorations, they chipped away continuously at the established regional typology, producing conceptual changes that were usually manifested in the form of student theses. The countless meanings and relationships that have existed in archaeological cultures have gradually become better organized into a believable frame of cultural history. Potsherds have been pervasive throughout this seminal term of growth, and we were all subjected to regular infusions of the substance of this concerted application of the type-variety system to a limited cultural spectrum. The smoke-filled rooms at annual gatherings of the Southeastern Archeological Conferences were often given to constructive thoughts.

The philosophical basis for the terminology insurrection was expressed best in Phillips' practical reflection that the time, and perhaps opportunity, for making giant strides in Lower Valley archaeology has passed (Phillips 1970: 23). The millenium has been reached and future workers must concentrate on the next logical condition in the study of their materials. Pottery, usually in the forefront of the study of cultural objects, must now be subjected to the kind of scrutiny that could reveal the smaller, or at least more particular meanings.

I was exposed to the workings of the type-variety system at an early stage, but managed to remain impervious to its advantages until I was confronted with the sorting of some 11,000 sherds from selected excavations of the Grand Village mounds in 1962 (Neitzel 1965:45-47). I had completed the sorting, dutifully following the traditional binomial system, and had processed the bulk of the analysis cards when Drs. Phillips and Williams visited me in Jackson at the Mississippi State Historical Museum, following one of the Southeastern Conference meetings. The two pitched in, in shirt sleeve fashion, to examine my boxes of classified

TABLE 3  
BONE AND STONE DISTRIBUTION (PIECE COUNTS)

	W500	W400	W300	W200	W100	0	E100	E200	
ZONE I	(Mound A counts not included)								
Stone							5		
Bone							0		
ZONE II									
Stone							6	10	
Bone							0	0	
ZONE III									
Stone							11	2	
Bone							35	1	
ZONE IV									
Stone							42	306	
Bone							701	1419	
ZONE V	(Mound B counts not included)								
Stone				42	220	20	17	13	
Bone				68	58	19	52	146	
ZONE VI									
Stone	1			85	4485	139			
Bone	1			27	2746	1338			
ZONE VII	(Mound C counts not included)								
Stone		103							
Bone		199							

sherds. I was then initiated for the first time into the workings of the type-variety process in terms of raw material with which I was reasonably familiar.

Like many others, I had been content with an acceptance of the geographical and temporal significance of ceramics in broad terms. Phrases like "early" Coles Creek, "southern" Leland, and "incipient" Fatherland Incised were bandied about confidently, and those familiar with the material knew pretty well what the other fellow was talking about. The distinctions and relationships were recognizable, albeit somewhat subconsciously. As Phillips and Williams reviewed the collections from the Grand Village and discussed what they saw and what I had written on the analysis cards, I began to appreciate how the benign rigors of the type-variety plan might really be a great contribution to the ceramic hierarchy. At this time, and under Phillips' tender care, I presumed to generate my first type-variety term and grouping. The troublesome type, Maddox Engraved, seemed to occur as a minority everywhere, yet some of us thought we could see where distinctions might be made on typological grounds if nothing else. So the few pieces I had were christened Maddox Engraved, *var. Emerald*, and a few reservations and limitations aimed primarily at the Caddoan people were enlisted. By 1970 the type had been subdivided into at least three varieties, and potential relationships had been slightly clarified.<sup>15</sup> As always, much more work and thought will be required. Like most sensible or logical cultural creations that seek their level, progress is slow and hard won.

At the time of this first type-variety confrontation with the Grand Village inventory, it was far too late for me to update the pottery classification. The manuscript had advanced too far along the path of press deadlines. However, I did benefit by this superficial exposure to the scheme and, mostly through contemplation, became increasingly aware of the hard-core advantages that had escaped me previously. I hasten to say that I have not been alone in this kind of recalcitrance, and I think that for many of us in the Lower Valley, long familiarity with the pottery of the region has bred a sort of contempt for whatever explicitness may be said to dwell in potsherds. I wonder now, in retrospect, if there was not a very practical anxiety about tampering with the mass of complex taxonomy that had

matured in archaeological literature. I recall that at one time there were well over 700 binomial types in the general registry. Most of these were in constant use, and new ones were being formulated daily in general southeastern archaeology. It might seem inconceivable that this almost sacred hoard of knowledge could be stirred up and allowed to settle in orderly fashion without creating chaos. Of course, there were also expressions of constraint engendered by honest doubts as to how these mini-definitions could achieve justifiable ends. I think now that even James A. Ford, who was never particularly patient with the demands of the new system, would be one of the first to say that the application is highly practical and successful. Dr. Phillips has sprinkled references throughout his discussions to the many times that Ford not only used the system, but rendered unitalicized lip service to it in his writings by his frequent references to a standard pottery ware as being a variant of a particular type (e.g., Phillips 1970:24-26).

While pursuing this historical vein it might be informative to mention another earlier field worker in Mississippi, who also received some of the Harvard shock therapy directly from Phillips and Williams. Charles F. Bohannon (1965) excavated the Boyd Mound and a series of other central Mississippi sites along the Natchez Trace Parkway for the National Park Service. Like me, he was puzzled as to how to reconcile the material found in this archaeological vacuum with the binomial type descriptions available in the meager literature for surrounding areas. He paid a visit to the Peabody Museum and Phillips and Williams to see if there were any new data that he might use to sort his collections, since I had been of small help to him on the grounds. He returned a straitened and wiser man and was able to make a few reforms in his report which held up well for anyone in need of assistance in bridging this poorly documented archaeological area in central Mississippi.

When I began the chore of classifying the more than 33,000 potsherds recovered from the Grand Village plaza excavation of 1972-73, I had the advantage of using Phillips' model and consummate exposition of the intricacies of the type-variety system as applied to the Lower Yazoo Basin and related areas. It has been a loyal and unstinting companion in the somewhat lonely task of breaking existing methodological

barriers and introducing the updated order into Natchezan ceramics on a larger than ordinary scale.

In addition, as previously mentioned, I had the good fortune in 1971 and 1972 to work for two field seasons in the general western Mississippi area with Dr. Jeffrey Brain and the Lower Mississippi Survey. The excavation project at the Grand Village was concurrent with the Survey's 1972 fieldwork. Thus I had the advantage of "the book" and Dr. Brain's current and updated knowledge to help orient the shambles in my own reservoir of experience.<sup>16</sup>

At least one windmill from the past has been tilted with successfully. It should become evident below how simply and naturally the newer system meshes with the old, and this with a minimum of confusion in either terminology or concept. It has also lent a new dimension of interest and stimulation to the often grueling task of mulling over thousands of bits of baked clay rubble. There was little or no difficulty in reconciling the new definitions with the former ones. The numerical comparisons of each may even be expressed meaningfully in charts, by making simple explanations of the necessary shifts of definition.

It is an interesting commentary on the ease with which a newer or changed classification may be insinuated into the standing order, to compare the gross results of the 1972 assemblage with the breakdown of similar collections excavated from the mounds ten years ago. At that time, thirty pottery types were recognized from the standard list, in addition to a few unidentified sherds. These were typed (correctly or not) and examples illustrated. All of these can be identified in the present collections and would stand as fairly accurate, usable categories under either nomenclature. Only the names have been changed to compound my own innocence. Table 1 shows some thirty specific type names in addition to four unclassified groups. Any resemblance to the former basic listing ceases at this point, since there has been an addition of some eighty varieties which modify the type assignments and add more specific sense and meaning to the cumbersome body of ceramics. In turn, these titles were refurbished during the preparation of this report. Demotion of types to varieties and elevation of varieties to types, along with other necessary changes, will follow in proper order below. Some of the relationships

thus defined have immediate significance to cultural issues, real and imagined, in the Grand Village inquiry. More tantalizing are the withheld promises of others that indicate satisfying conclusions lying just over the hill. At first glance, this would seem to be an awesome list of "names" to learn in order to label the product and groom it for use as a guide to cultural relationships. Nevertheless, many borderline or tentative members of this potsherd family give promise of extending their usefulness. These have usually been marked in some collection at some other place as promising either chronological or geographical significance of cultural import.

Certainly, a few new varieties were launched that were simultaneously being detected by other workers. The irresoluteness of the term "*variety unspecified*" is an example of how new creations often start. Flexibility is maintained, but the sorter remains informed of the significance of the sherd under its type name, as he might have done formerly under the full binomial term. Eventually it becomes merged, discarded, or emerges as a full-blown type-variety and can be put to work as a useful cultural indicator. Examples will be drawn below.

I have created a minimum of new types, preferring to let those who have wider cross-cultural interests and experience mark the way. It is a frustrating affair to consign hundreds of sherds to an apparent category in a local study such as this, only to find that it lends confusion to similar studies elsewhere. Most of the categories sorted in the present Grand Village collection conformed closely to those assigned by Phillips. Some of these have been subdivided further, all in the normal process of learning more about the interrelationships of the various cultural issues. I am naive enough to pronounce that many gaps still exist in the improved range of knowledge furnished through the type-variety control.

Phillips' Natchez phase (1970:948-49), consisting of six sites yielding scant but similar content, has now been altered. Work in the St. Catherine Creek area by the Lower Mississippi Survey (Brown 1973),<sup>17</sup> contemporaneous with the analysis herein, has reduced it to a ragged shred on the historic dateline. The real strength of the Natchez culture seems now to have existed in the earlier Anna, Foster, and Emerald phases of the Plaquemine culture, an ancient and viable

TABLE 5  
 PRINCIPAL CERAMIC TYPES AND VARIETIES:  
 INCEPTION PERIODS AND APPROXIMATE PERSISTENCE

	Phase			Fatherland site average percentage
	Gordon Anna	Foster	Emerald Natchez	
Addis Plain,				
<i>var. Addis</i>	—————			79.00
<i>var. Greenville</i>		-----		?
<i>var. Junkin</i>			-----	.21
<i>var. Ratcliffe</i>			—————	.06
<i>var. St. Catherine</i>		-----	—————	2.30
Anna Incised,				
<i>var. Anna</i>	—————			.16
Avoyelles Punctated,				
<i>var. Dupree</i>	—————			.025
Barton Incised,				
<i>var. Arcola</i>		-----		.08
<i>var. Estill</i>		-----		.033
<i>var. unspecified</i>		-----		.045
Carter Engraved,				
<i>var. Carter</i>	—————			.25
<i>var. Mud Lake</i>	—————			?
<i>var. Shell Bluff</i>	—————			?
<i>var. unspecified</i>	-----			.21
Chicot Red,				
<i>var. Fairchild</i>		—————		?
<i>var. Grand Village</i>			—————	.86
Coleman Incised,				
<i>var. Coleman</i>	—————			.13
<i>var. Bass</i>		-----		.18
<i>var. unspecified</i>		-----		?
Coles Creek Incised,				
<i>var. Hardy</i>	-----			.05
<i>var. Mott</i>	-----			.06
Fatherland Incised,				
<i>var. Fatherland</i>		-----	—————	5.70
<i>var. Bayou Goula</i>			—————	.32
<i>var. Pine Ridge</i>			—————	?
<i>var. Stanton</i>		-----	—————	?
<i>var. unspecified</i>			—————	?
Grace Brushed,				
<i>var. Grace</i>	—————			.05
Harrison Bayou Incised,				
<i>var. Harrison Bayou</i>	—————			.05
Hollyknowe Pinched,				
<i>var. Patmos</i>	—————			.003
L'Eau Noire Incised,				
<i>var. L'Eau Noire</i>	—————			.063
Leland Incised,				
<i>var. Leland</i>		-----	-----	.75
<i>var. Blanchard</i>			—————	.03
<i>var. Ferris</i>		-----	—————	.21
<i>var. Foster</i>		-----	—————	1.70
<i>var. unspecified</i>	-----	-----	—————	.019

	Phase			Fatherland site average percentage
	Gordon Anna	Foster	Emerald Natchez	
Maddox Engraved, <i>var. Emerald</i>		-----		.50
Mazique Incised, <i>var. Kings Point</i>	-----			.023
<i>var. Manchac</i>		-----		2.34
<i>var. Preston</i>	-----			?
Mississippi Plain, <i>var. Pocahontas</i>		-----		.96
Natchitoches Engraved, <i>var. unspecified</i>			-----	1.06
Owens Punctated, <i>var. Poor Joe</i>		-----		.003
<i>var. Menard</i>			-----	1.05
Plaquemine Brushed, <i>var. Plaquemine</i>	-----			4.30
Winterville Incised, <i>var. Winterville</i>	-----			?
<i>var. Belzoni</i>		-----		.11
<i>var. Tunica</i>			-----	.12

continuum.<sup>18</sup> Expected chronological and geographical subdivisions are already appearing as new meanings and distributions of varieties evolve. This has been done on the basis of regional comparison, and the Grand Village data, though not in the public domain officially, have been extremely important in supporting and emphasizing the strength of regional determinations.

This report has the serious responsibility of managing and ordering this ungainly repository of data and interpretation for the more or less temporary convenience of others. I have manipulated the ceramic material in three general ways. First, I sought to examine the pottery, as well as other material, in very gross distributional terms, by dividing the site into seven arbitrary zones marked by grid coordinates as described above in the section on excavation. Subsequently, these zones were divided into feature and analysis units to narrow the terms of comparison and study. Table 1 shows the sherd distribution with the described types quantified for the site. Table 3 shows a rough distribution of the occurrence of stone and bone specimens that accompanied the sherd collections.

The second approach to the study has been directed at possible stratigraphic separations

after it became evident that small parts of the site were stratified, thus permitting pottery groupings by natural levels. Most of this demonstration has been carried out in the discussion of Features 19, 24, 25, and the three plaza surfaces. Stratigraphic implications were entertained hesitantly for other analysis units (Table 2), and may have some merit in furthering historical reconstruction. This tabulation was then expanded to include inter-site comparisons in Table 4. This becomes an exercise in stratigraphic comparison among culturally related sites—Bayou Goula, Emerald, and Foster—as they are currently known through archaeology (Cotter 1951; Quimby 1957; Steponaitis 1974). Gross seriation relationships between Anna, Emerald, and Fatherland (Grand Village) have been presented before (Neitzel 1965:Figure 14).

The third course is an updated review of Fatherland pottery types as originally outlined by Phillips and listed in Table 1. This follows the hierarchical order of the table, except where changes in the classification have been made. Pertinent annotations or comments to this order as they apply to the Grand Village material and Steponaitis' recent determinations (1974) are inserted where applicable. It is suggested that the

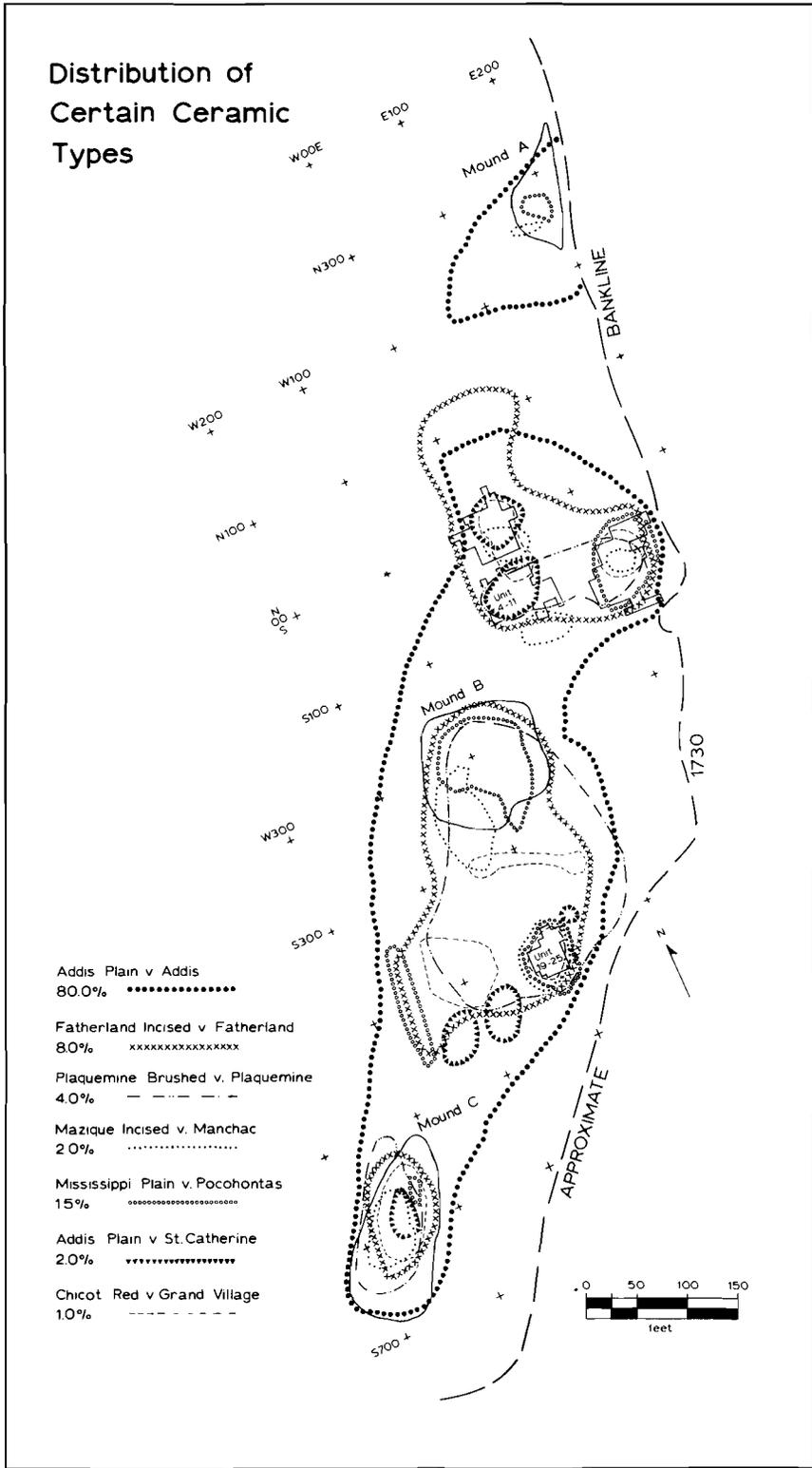


FIGURE 15. Horizontal distribution of ceramic types and varieties.

reader have a copy of Phillips' lexicon at hand (1970), especially Volume I, to assist in understanding the cross references and alterations.

The Table 1 grouping was devised mainly as an aid in managing the large quantity of artifact material recovered from the entire site area. It also serves, as said, to denote the organization and use of space over the areas of heaviest occupation, as reflected by relative proportions of ceramic and other cultural refuse.

Seven characteristic pottery types were selected because of their obvious popularity in the cultural life of the plaza, and were plotted as crude isopleths (Figure 15). The exercise is not entirely satisfactory, but describes visually the uniform levels of density of the pragmatically selected types. There is some advantage in eliminating the necessity of a square-by-square discussion of the properties of the potsherds. The principle was also extended to stone cobbles, flint chips, gunflints, animal bone, lead balls, buckshot, and daub. These were plotted on separate plastic sheets so that the highlighted concentrations could be superimposed and compared in various combinations. No problems were solved, but the general patterns of accumulation were demonstrated clearly, and coincide with ceramic clustering.

Aside from the peculiarities of the artifact concentration in the vicinity of the benchmark, the deposits were predictable in other plaza layers. Usually the isopleths denoted house or building plots of some permanence. I suppose that similar results could be expected if the individual areas were subjected to the detailed precision required in a dimensional analysis of variance or nearest-neighbor sort of study (Whallon 1973, 1974). The scope and circumstances of the total plaza deposits were far too broad and gross for the control required by such precise investigations.<sup>16</sup>

The isopleths lead to no profound conclusions, but do provide a short cut and insight into what appeared to be the most pressing lines of inquiry, and permitted me to set a sort of priority on the importance or significance of various parts of the site. The configurations set by the seven selected marker types are worth examining a little more closely and will provide an introduction to the most frequent and useful pottery types and their relation to the long list of other types that make up the ceramic archive. The types selected are listed under their new

names, with a brief explanation as to the significance of the revision. They are discussed in more detail in their proper place in the alphabetical lexicon.

One of the major type changes made in Phillips' listing was the return of the principal plain ware, *Addis*, to type status, thus completing a terminological cycle of type to variety and back to type. As one of the selected seven types graphed in Figure 15, it has assumed its place as head of the family, and *Addis*, *var. Addis* (Plates XVIIa, d; XVIIIa-d) and several useful satellite varieties in the area below the Yazoo basin are now recognized formally. The always ambiguous, far-ranging scope of the Baytown and Coles Creek Plain types has been narrowed accordingly.

The definition of the base type remains essentially the same as first described by Quimby for the Medora Site (1951:107-109), but with emphasis on the heterogeneity of the paste composition and due attention to shape modes that are pertinent to the Natchez-lower Yazoo area. The somewhat subconscious varieties, *Ratcliffe*, *Greenville* (Plate XVIIb, c), *Junkin* (Plate XVIIe), *St. Catherine*, and possibly others, now become explicit (Steponaitis 1974:116-122). In the process, the important *var. St. Catherine* (Plates XVIIf, g; XVIIIe) is also divorced from its previous affinity with the Mississippian type, Bell Plain, and assumes a rightfully logical and important place among the Fatherland and other Lower Valley wares. It has also been selected because of the level of its concentration at the Grand Village for representation in Figure 15. No disruption in the order of things has been incurred by these shifts of typological meanings. The ceramic hierarchy has become more logical and usable as a result, and the changes are easily comprehended within the framework of the older terminology. *Addis* is present as a basic quantity in all of the excavations, varying from approximately 70% to 85% concentrations as shown in the analysis units (Table 2), the average being 79% (Table 5). The percentages average considerably lower (50.5%) for the Bayou Goula site eighty miles to the south, and in all of the levels at the Emerald and Foster sites except the lowest level at Emerald. This Level 1 at the Emerald Site and possibly the earliest occupation at the Grand Village are within the Anna phase. I had originally thought that the Grand Village mound construction and

some cultural accumulation occurred during the middle of the phase, or slightly later than Level 1 at Emerald. It will be seen below that there are logical conflicts to this assignment. Addis Plain is the principal plain ware during the Gordon phase just preceding Anna.

The type Chicot Red, *var. Grand Village* (Plate XIXg) was also selected for plotting on Figure 15, where it averages approximately 1% of total sherds. It too has undergone a change of name in keeping with the general intention of closing up spatial relationships by favoring localization of types and varieties. For all practical purposes it is the former Old Town Red, *var. Grand Village*. The reasoning that allows the designation of Addis as a new type makes the new designation of Chicot Red consistent with the rule of priority. Now red-slipped wares on an Addis paste become *var. Fairchild* (Plate XVIIIg), and the sequent *Grand Village* is on a *St. Catherine* paste. Strict separation for *Fairchild* could not be made with the Fatherland (*Grand Village*) collections, thus its exact position cannot be demonstrated there. Rechecks of the type sample collection disclosed only *Grand Village* sherds. Thus the isopleths in Figure 15 are quite accurate in designating the variety. Vessel shape may eventually be helpful in making varietal distinctions when more information accumulates. At present, *Grand Village* is identified with teapot, bowl, and bottle forms. There is every chance that this entire red ware problem will be altered further, probably because of chronological unevenness.

There is a grouping of isolated configurations denoting concentrations of *Grand Village*, *St. Catherine*, and *Pocahontas* in a restricted portion of the Mound B to C plaza (Figure 15). It is confined to the S350-450, W150-275 tract, so far as is known. This coincides with the known extent of the stratified plaza surfaces (Figure 5), the eastern edge of which has been disturbed by the French sapper's trench. The isopleths were computed by combining the counts of sherd types from all three surfaces, since the samples from each were insufficient. The counts appear as separate units in Tables 2 and 4. Wider excavation in this area, now only represented by test squares, might clarify the situation.

Fatherland Incised, extending into the above area also, is a new type name resulting from terminological surgery on the type Leland Incised. The narrow-lined Fatherland motifs, now com-

binating varieties *Fatherland* and *Natchez*, have been localized for the Natchez area, as distinguished from the broad-lined, trailed scrolls of the much overextended type Leland. The latter is closely identified with the Yazoo Basin and more northern Mississippi types, although it has had an undeniable influence somewhere along the line on the Fatherland series. Strict adherence to Phillips' rules of classification has necessitated the separation. Many borderline sherds classified as Leland previously were probably "stretched" to fit, although good examples of the type do appear in the Natchez area and at the Grand Village. The three-lined *Fatherland* variety (Plates XVIII, XIXn) is approximately twice as numerous as the former two-lined *Natchez* (Plate XVIIIk, m), but there being no other significant distinction they are now merged. I originally combined the two in the isopleths for the sake of simplicity. This seemingly prophetic gesture is now an established fact of terminological life. The minor *Bayou Goula* (Plates XIXm, XXIIh) category, a late introduction, remains as part of this new family, and varieties *Pine Ridge* (Plate XXa, b), *Stanton* (Plates XXc-g, XXIa), and an intriguing four-lined *Unspecified* variety has been added to distinguish time niches in the Fatherland legacy. All of these are explicit expressions of modes that have been submerged variously under the general headings of irrelevant Leland varieties, such as *Dabney*, *Deep Bayou*, etc., which really do not occur in the Natchez domain, or else now belong with the Coleman Incised type. *Ferris* (Plate XXIIi) and a new intermediate variety, *Foster* (Plates XXIc, XXIIj-m), are still orthodox Leland representatives, as are occasional excellent quality pieces of unchallengeable *Leland* (Plate XXII f, g). The latter were probably imported from farther north. Originally, I thought I could see some small indication that the two-line mode was slightly earlier than the three-line version in the Fatherland site strata, but I have withdrawn from this position in favor of the later varietal distinctions found valid for the Emerald and Foster sites (Steponaitis 1974: 134-138, 143-145) and at Fatherland, where the distinctions and revision probably should have been recognized and established first. The belated recognition is certainly less painful to accept though, when the distinction has been first proven to exist somewhere in the neighborhood.

Mazique Incised, *var. Manchac* (Plate

XXIIIe-m) is a long established, simply decorated class ranging from 2% to 4% concentrations in the areas of accumulations of cultural debris at the Grand Village (Figure 15). It has a long, widespread history in the Lower Valley, although Steponaitis (1974:194) has recently indicated that this is discontinuous. Based on samples from the Emerald and Foster sites, traditional *Manchac* appears to be completely absent during the Anna phase. Middle and late variants appear in the Foster phase,<sup>20</sup> possibly revived by the influence of Barton Incised of the Mississippian cultures to the north. What Steponaitis recognizes as early, middle, and late variants of *Manchac* are represented at the Grand Village. Unfortunately, the criteria for separating these had not been developed when I sorted out the 900-odd sherds of this category, thus it is probable that interesting chronological significances of modal change may have been lost for the present in the Unit Analysis (Table 2). This will be an interesting line of research for a future graduate student. The *var. Manchac* occurs in approximately one-half the quantities that *Plaquemine* does in five of eight individual units.

A few shell-tempered sherds were found in nearly all levels and test cuts at the Grand Village site. Despite the lack of an adequate sample of rim sherds or other distinguishing criteria, I have placed most of these plain pieces under Mississippi Plain, *var. Pocahontas*. It would have been less presumptuous to call these *unspecified*, as others have (Steponaitis 1974:152). There is some small difference in the paste between these and what is called *var. Yazoo* immediately to the north of the Natchez area. The average frequency of shell inclusions is approximately 1% at the Grand Village, equivalent to later levels at Emerald and Foster. This is also in the same range as a standard Natchez area ware such as *Grand Village*. Some Addis Plain sherds contain minimal amounts of shell, and are now called *Greenville*. It is certainly possible that such sherds have been thrown in with *Pocahontas* in previous studies. All such types seem to be peripheral at Fatherland, and though important in the overall pottery array are not overly disconcerting when typed incorrectly. Reworking these categories should make an interesting comparative study, possibly yielding some small chronological significance. In the Natchez area, shell-tempering in itself has not provided the certitude in making typological

or cultural distinctions that it has done in the Mississippi Delta. Like other Mississippian features the trait may be considered an overlay to the basic clay/grit-tempered *Plaquemine* tradition.

Both *Pocahontas* and *Grand Village* are shown to have peculiar distributions in Figure 15. *Grand Village* has a narrow looped pattern in S300-350, W50-150 in addition to that noted above, 100 feet to the southwest on the south plaza. *Pocahontas* is also present, coincident to other considerations, and in a lineal loop pattern at W250, S350-450. There is also an irregular, localized loop pattern of *St. Catherine* appearing in this mid-plaza tract. I have suggested, for now, that these rather spotty deposits are probably not of great cultural significance, but are rather anomalies of a sort, which are caused directly by a caprice of sedimentation in a restricted area combined with disturbances resulting from the French sapper excavations. *Pocahontas* was also noted, but not graphed, in the Feature 18 exposure now known to be a part of the French excavation, and is seen as a minor element in the protohistoric Feature 19 concentration. It is more dispersed in the Feature 1 and Mound B tracts, similar to its pattern in the BM and 4-11 units in Zones III and IV. These distributions in association with other common varieties seem to be a normal circumstance for pottery with shell inclusions in the Natchez area.

*Plaquemine Brushed, var. Plaquemine* (Plates XXIj, XXIVh, j), as expected, is a marker type with substantial percentage levels (Figure 15). There now seems to be good reason for compartmentalizing its former widespread homogeneity into middle and late time variants. In the past, the type has appeared to be consistently uniform over a vast area. There is also a shell-tempered variety *Grace* that has been raised now to type status under the rubric *Grace Brushed* (Williams and Brain n.d.), further narrowing the type in the Yazoo basin. There is only a trace of this type at Fatherland.

The majority of the commonly recognized, widespread *Plaquemine Brushed* type seems to be linked entirely to an *Addis* paste ware. Of the two variants recognized (Steponaitis 1974: 155-156), the earlier is distinguished by a slightly flaring rim section with a rounded or squared lip. The brushing extends from the shoulder up almost to the lip. After Anna phase times, a less common variant appears. The

brushing is confined more to the ill-defined shoulder, leaving a wide undecorated zone below the lip. This area may be thickened slightly, or more often consists of an exterior rim strap. The brushing is in horizontal herringbone bands, separated by an annular incision or a row of punctates. Punctations on *Plaquemine* (Plate XXIVj) may be placed at the base of the brushed zone, at the rim, or even within the pattern. Because the two variants have not been separated in the Fatherland collections, it is impossible to say how popular the late variant may have been. Its scarcity at the Emerald and Foster sites seems to align it with the Foster phase. The late variant of *Manchac* has a rim treatment similar to the late *Plaquemine* variant, and the two are found together in side deposits. An occasional dilemma in sorting *Manchac* and *Plaquemine* sherds arises in the difficulty of determining where to draw the line between brushing and incising.

As previously stated, the discerning analysis that revealed these variants was done more than a year after the almost equal lots of 2000-odd *Manchac* and *Plaquemine* sherds from the Grand Village were classified. A random assortment of type study sherds retained from the field collections contained examples of all of the variants.

It has been noted that the overall quantities of both varieties are approximately equal, as shown in the total count of the site (Table 1). Only analysis unit 1-3 reflects this proportion. Unit 4-11 has only about one-fourth as many *Plaquemine* sherds as *Manchac*, and Unit BM has four times as many *Plaquemine* as *Manchac* sherds, although only fifteen sherds are involved. The five other strata units, Units 19-24, 25, P-1, P-2, and P-3, have twice as many *Plaquemine* sherds as *Manchac* (Table 2). This ratio is also fairly consistent for the Emerald site levels, but reversed for the Foster site level units (Table 4). Emerald and Foster sherds have been classified by the latest criteria, though the temporal variants are not distinguished in the table. Perhaps further careful definition of these two culturally important varieties into their appropriate early and late variants will clarify some of these quantitative puzzles. The general type-variety discussion that ensues below may reinforce the importance that I believe lies in the modal distinctions within these varieties. For the present, or until reclassification of the Fatherland sherds is accomplished, there can be little improvement in present knowledge.

At a former time, my first chore after completing the classifying of the bountiful Fatherland site sherd collections would have been to construct seriation graphs, a time-honored procedure for detecting fluctuations of pottery type frequencies and consequent cultural alterations. Since the range of what might be expected from such histograms had already been presented (Neitzel 1965:Figures 13 and 14), I chose to examine the distribution of cultural materials, especially pottery, over the site as a whole and for each separate house or analysis unit concentration. Since arbitrary levels had been carefully maintained during excavation, I did make an honest effort to formulate some seriation comparisons before tabulating these distributional features. The thinner deposits yielded no satisfactory stratigraphical results, so the graphs were abandoned in favor of the selected naturally separated levels or units set forth in Table 2. This was extended in turn to the data from the Emerald and Foster sites in Table 4, after Steponaitis (1974) made them available to me. Thus the cultural sequences of the Grand Village site (and the Natchez area) have been converted from seriated graphs of gross popularity changes into areal and stratigraphic comparisons of assigned cultural phases defined principally on the basis of marker types of pottery as they have been established in a regional sequence. These have proven consistent, although they still undergo corrective revisions from time to time. The Fatherland continuum can be said to run from a hesitant beginning in the Anna Phase of approximately the thirteenth century, when Mounds A and B may have been begun on an A.D. 1200 site surface. The sequence is more assured through the Foster and Emerald phases, to end abruptly in 1730 with the bob-tailed historic Natchez phase.

The next effort in general site analysis involved an examination of the breakdown of types into varieties, which led me to believe that there is some small evidence of internal site chronology or cultural change indicated in the site analysis units. These differentiations are listed in Table 2 and discussed below in some detail, though inconclusively, in the stratigraphic exposition of Feature 19 and environs. Whether the indicated relationships are valid or not, they should be helpful heuristically in understanding the interrelationships of pottery from the Grand Village with neighboring areas (Table 4). Some of the chronological insinua-

tions indicate that the types have their genesis elsewhere, but the supporting column of the Grand Village data is mutually helpful. Many cultural affinities hinge on these connotations, and they have a wide application in the Lower Valley.

In order to introduce a discussion of Grand Village ceramics, I began by following Phillips' typology (1970), using his alphabetical order of presentation. This permitted convenient direct comparisons between the established type terms and the Natchez material, although it soon became embarrassingly obvious that revision would be necessary as the expanded information became available. Phillips' lexicon is admirably complete and changes were minimal and orderly. The reader is reminded to have a copy of Volume I at hand if he is inclined to study the ensuing catalogue seriously. The change of content will be noted readily and with a minimum of confusion. Tables 1, 2, 4, and 5 may be used for further clarification.<sup>21</sup>

There is a small amount of reassurance concerning the serviceability of the established system of terms. Occasionally old problems seem to become worse, but then new ones reassure us that there is still much interesting work lying ahead for Lower Valley investigators.

#### ADDIS PLAIN

Addis Plain, *var. Addis* (Plates XVIIa, d, XVIIIa-d) is Phillips' Baytown Plain, *var. Addis* (1970:48-49), which he characterized as having no reliable sorting criteria. This point has been seized upon recently, and the very paste heterogeneity has become the ware's prime distinguishing characteristic and, along with other criteria, justification for establishing it as a new type completely distinct from Baytown Plain. At the Grand Village, this paste contains clay and especially grit, in addition to organic inclusions of either/or plant, shell, and bone (Steponaitis 1974:116). In the past I have sorted thousands of such sherds with confidence, but not without misgivings about some that now fit into explicit niches like *Ratcliffe*, *St. Catherine* (née Fatherland Plain), *Greenville*, or *Junkin*. These sins of selection are less oppressive now that I have compared the Fatherland *Addis* with sherds from many other sites in the region. I think that the myopia induced by confinement to plain Fatherland sherds only has now been corrected. I am now able to discard one half-hearted selection that belatedly I thought I could recognize

by definitions, especially in the Unit 19-24 and 25 collections. This is a polished, granular-textured ware that I felt constrained to call *var. Vicksburg* under Baytown Plain (Plate XIXb). I do not know what to make of these few rather distinctive sherds, since they are similar in finish and ubiquity to the extremely selective new category *Junkin* (Steponaitis 1974:119) and thus seem to be restricted to the same analysis units. Perhaps they will go away now that I have disowned them. If they are certifiable as *Vicksburg*, a middle Coles Creek phase component is implied. They are included in Table 2, despite my vacillation.

Now that the type Addis has been separated by definition from the very real association with the Baytown wares as these things were understood in the Yazoo Basin, it is possible to explain that Addis is indigenous to the Natchez region, probably as an outgrowth of both Coles Creek and Baytown wares. Its place under Baytown Plain in the Yazoo area was peripheral, and dimly seen. The shapes, the shell temper, and possibly other inclusions may be blamed on Mississippi influences that diminish farther to the south. Actual Mississippian sherds may well have been trade material. These include what I have held to as Mississippi Plain, *var. Pocahontas* and Winterville Incised, *var. Belzoni* that occur in the Grand Village and neighboring site collections. Addis developed its distinctness from earlier clay-tempered wares before Mississippian elements were felt in any degree. Making this important typological decision clears the way for other logical varietal assignments that have been conceptually and practically troublesome before.

The shapes of *Addis* are varied, ranging from bottles, simple and carinated bowls, plates, beaker forms, and jars with slightly expanded rims and slightly swelling shoulders. A simple line incision, step, and punctations on the plate rims are common, and include the "Tunica" rims.<sup>22</sup> Interior and exterior rim straps occur and may possibly be a late feature, as they are in *Manchac* and *Plaquemine* jars.

I am unable to explain the erratic percentages of the occurrence of Addis in Table 4. They range from 50% at the Bayou Goula site (which may include a sizeable number of the erstwhile Fatherland Plain type), through 60%, 70%, and 80% for the Fatherland, Emerald, and Foster units respectively. The range is more consistent in the Fatherland units, averaging 79%,

where I am personally certain of the constancy, if not the accuracy, of the typing. There must be some cultural factor, in turn linked to stratigraphy, governing this variation. It becomes more apparent that the large Fatherland plain collection should be reviewed carefully with perhaps special emphasis on modal features. With something like this in mind, I counted "Haynes Bluff" rims separately during sorting, but could draw no conclusions.<sup>23</sup> There seem to be more of them from the deposits of Units 19–24 and 25, suggesting a protohistoric context. However, there were also substantial numbers from the Zone V area, where the context is almost entirely historic.

The variety *Greenville* (Plate XVIIb, c) contains small quantities of fine shell by definition. It is now under the *Addis* heading and thus divorced from its former place under the more northern Bell Plain type. It is identified with the Winterville Phase in the Yazoo Basin, but appears somewhat later than the coeval Anna Phase in the Natchez area. For lack of definition, I had previously included the sherds under *Pocahontas*. In looking again at sample types I am able to distinguish the two handily, but it is too late to show the formal count in Tables 2 and 4. Steponaitis (1974:118–119) places *Greenville* at late Anna carrying through Foster and Emerald into the Natchez phase. This is probably true for the Fatherland site, but there is emphasis on the historic phase. I doubt that my inadvertent submergence of the variety into *Pocahontas* has altered the terminological usefulness of the latter as a late shell tempered minority indicative of Mississippian influence.

Addis Plain, *var. Junkin* (Plate XVIIe) was being recognized in the Feature 19 excavations at Fatherland at approximately the same time that Brain and his workers were distinguishing it in tests at the Foster Site. Since that time there has been some information accumulated about this very restricted ceramic specialty. As Steponaitis (1974:119–120) has remarked, it probably exceeds any other type in excellence of workmanship. It may have been confused at one time with the very best of Bell Plain or perhaps compared to some Leland as to paste quality, and it also falls into logical position as an extra high quality *St. Catherine*. Individual sherds are often seized upon as samples of the variety, their luster being especially conspicuous, but they are usually rejected upon closer examination. Phil-

lips (1970:59) has commented on the luster dilemma that involves several pastes. Steponaitis (1974:120) proffers these sorting criteria:

A delicate ware, generally no more than 4 mm thick. Paste is similar to that of *St. Catherine*, although the particles are always extremely fine and very well compacted. Shell may be present in varying quantities or not at all. The surface finish is literally flawless, being highly polished, and rarely exhibits any imperfections due to the leaching out of shell inclusions. Surface color ranges from black to tan, with most sherds being dark brown. Both carinated and simple bowl forms occur, along with a jar, jar-like beaker, and a barrel-shaped bottle with a short, flaring neck.

This seems to be a strictly local ceramic product. Its distribution is limited to three sherds from the Emerald site, fifty-five from the Foster site, and nineteen from the Fatherland site. It is tightly confined to the beginning of the Emerald phase. Eighteen sherds are from the Units 19–24 and 25 that have been set as just protohistoric or Emerald phase. The one sherd from Mound C (Neitzel 1965:Plate 11ii) was in disturbed outwash of the final mantle. It was regarded such a distinct specimen, with a typically glossy, dark brown finish, bearing the Maddox Engraved, *var. Emerald* crosshatched decoration, that I sought comfort from Dr. Clarence Webb at the time, supposing that I had acquired a fragment of an elite Caddoan ware. He immediately disavowed it for any of the series in that region, and now the lone fragment has been recalled from limbo by the creation of the variety *Junkin*. Steponaitis has commented upon the exclusiveness of *Junkin* (1974:113, 120), to which I can testify for Fatherland. The eighteen pieces that I am sure are classified correctly for Features 19, 24, and 25 are probably from a single simple bowl, and the rim from Mound C was from a slightly flared bottle. All of these bear the zoned crosshatched design, or are plain portions from such a vessel. As for the possibility that other sherds are contained in the mass of the Fatherland collections, it must be remembered that we were conscious of the variety only in the Feature 19 plot, and that the ware had not been typed formally. About the same level of awareness existed with Dr. Brain's people excavating the Foster site at the same time. I have not had the advantage of reviewing the Fatherland sherds, but feel that under the circumstances of having recognized the anomaly in

1962 at Mound C, I would have noticed this unique pottery if it had been present in the general collections. Steponaitis (1974:113) speaks of finding *Emerald* and *Fatherland* sherds that had a paste equivalent to *Junkin*, but considers it to be a plain ware. This places me in a methodological quandary since the sherds that I can identify in terms of paste and finish are not plain. They do, however, fulfill Steponaitis' qualifications of exclusiveness. He suggests that access to this fine ware was limited to elite status. Certainly its archaeological context as presently known is oddly restricted. Its value as a horizon marker is accordingly extremely precise, and is efficiently denoted through the workings of the type-variety system. Although additional quantities may help to clarify the plain *versus* decorated position that now exists, it may also destroy the intriguing illusion of very special status. This designation would certainly be a welcome philosophical addition to the inventory of elite symbols (insignia) and paraphernalia ascribed to Natchez class society.

Addis Plain, *var. Ratcliffe* was first singled out by Dr. Brain and his workers (Steponaitis 1974:120-121) as a rough-hewn red-paste mode of *var. Addis*. It was assigned a varietal status once Addis had been promoted to a type. It was recognized and set aside first at the Ratcliffe site and at a bluff-top extension of the Grand Village complex. The latter has suffered extremely from erosion over the years (Neitzel 1965:9, 12), and more recently from the construction of a football field associated with Trinity School on U.S. Highway 61 South on the outskirts of the city of Natchez. In the past I have undoubtedly cast substantial numbers of these chunky, red-tinged sherds into the *Addis* pile. I have not seen them first-hand in a number of years, but three bowls in Phase IV of Mound C were probably of this variety (Neitzel 1965:Figure 21d-f). These were near the skull of Burial 6. Steponaitis (1974:121) has specified the sorting criteria as follows:

Generally, a rather coarse ware. The paste is chunky with large white (and sometimes black) inclusions clearly evident. Shell or bone inclusions may also be present. Surface color usually ranges from a medium shade of reddish-brown to an orange-red, or even purplish-red. The surface is most often uneven, hardly being smoothed. The ware generally occurs in jars and simple bowls.

He adds that it was recognized from late sites

throughout the Natchez region, and from the historic Tunica occupations at the Trudeau and Angola Farm Sites and other historic situations in the lower valley. Not having been concretely conscious that a type existed among the smattering of "poor" quality sherds that had passed through my hands, I was particularly interested in checking back on the type collection I had reserved from the Grand Village digging. I was surprised to find that this patently selected collection contained thirteen *Ratcliffe* sherds. I must have selected these instinctively, and cast them into the *Addis* lot in a sort of despair. All except one are in comfortable historic levels, mostly from Unit 1-3. I await with interest a careful reexamination of the *Addis* count from the site, to see how many of these readily identifiable sherds can be separated from the base counts. I have included the incomplete count above in the Table 4 summary with the understanding that it is barely representative. The real figures must be much higher. The variety probably exists no earlier than the Emerald phase.

Addis Plain, *var. St. Catherine* (Plates XVIIIf, g; XVIIIe) has taken its place in the Addis category, thus removing it from the association with the more northern Bell Plain Mississippian fine ware. A genetic connection is maintained by way of the excellent Yazoo Basin variety *Holly Bluff*. Presumably the only tie now lies in the unreliable and superficial trait of shell in the tempering makeup. As Phillips has predicted (1970:60-61), *St. Catherine* would be best defined in the Natchez area and thus bridge the gap between the equivalent Fatherland Plain of the Bayou Goula site as defined by Quimby (1957:125), and the Bell Plain series of the Yazoo Delta. Shell even appears faintly in Fatherland Plain, but the main criterion of this important ware in the Natchez area (2% to 4.5%) is the heterogeneity of the paste, as in *Addis*, and the finely ground, compacted character of the clay.

Percentages of Fatherland Plain (not distinguished from *Grand Village* or *St. Catherine* in the Fatherland Mound collections, Neitzel 1965:Figure 13) are not included in Table 2 for Mounds B and C. The rather high count for Phase IV of Mound C may be partially accounted for by recalling that some sixty vessels (not always complete) were recovered from burials in this level in 1930 (Ford 1936:64). Frag-

ments of these were apparently lost during the excavations, and recovered by me as unassociated sherds thirty years later. Nearly all of these were in the *St. Catherine* paste class. If carefully matched, some of these sherds would probably fit into the restoration gaps in the vessels, some of which have plaster of Paris inlays.

Now that *St. Catherine* is established firmly (Steponaitis 1974:121) as set forth here, I would drop another historical note. When I was sorting the mound collections in 1962 for Addis Plain sherds, Phillips suggested that I would do well to examine and think about the finer textured ones and to isolate them in a trial category (today this would be *var. unspecified*). He even offered to let me use a name that he just happened to have available, *viz* "St. Catherine Plain," to fit with the binomial scheme in use. I may learn slowly, but I now take a back seat to no one when it comes to classifying sherds in the *St. Catherine* range.

#### ALLIGATOR INCISED

Alligator Incised, *var. Oxbow* (Plate XVIIh) is represented by four doubtful sherds. These should be associated with a Baytown period occupation, although Phillips (1970:39-40) does not appear enthusiastic about the usefulness of this type. I suspect that formerly I should have included these pieces from the protohistoric context of Units 19-24 and 25 in a sloppy *Manchac* class. I am still dubious about their typing.

#### ANNA INCISED

Anna Incised, *var. Anna* (Plate XVIIi, j), formerly a variety of L'Eau Noire Incised, has been moved to its own type position in the Anna Phase, without altering its physical characteristics. The same six sherds appear under the older L'Eau Noire Incised type in Table 2 and reappear under Anna Incised in Table 4. There were three each from Units 4-11 and 19-24.

#### AVOYELLES PUNCTATED

Avoyelles Punctated, *var. Dupree* (Plate XVIII) was very hesitantly assigned to two sherds, one each from Units 19-24 and 25. The type is identified with the Gordon Phase which undoubtedly is represented by a buried component in the site area. The problem of correct identification of the usually very fragmentary punctated sherds is always a matter of

considerable uncertainty. Except for a few *Wilkinson*, *Rhinehart*, *Churupa*, and possible *Menard* fragments, punctated decorations were minimal.

#### BARTON INCISED

The type Barton Incised (Plate XVIIIn, o) was represented by less than twenty sherds. The range of popularity lies to the north, but if we are to believe that the Tunicas favored vessels decorated in this style,<sup>24</sup> some representation should be present. Varieties *Estill* (Plate XVIIIm) and *Arcola* (Plate XVIIIIf) are tentatively represented in Units 19-24 and 25 (four sherds), and Steponaitis records seven *unspecified* sherds from the Emerald and Foster site excavations (1974:124). Two of these with broad incisions are thought to be similar to known Tunica specimens. Barton Incised seems to enter the Natchez area toward the end of the Foster phase and continues through the historic period. The tradition, familiar as it is, can in no way be considered to be an integral part of the Natchez region ceramics, although the hypothetical reintroduction of *Manchac* in the Foster phase may reflect Barton influence.

#### BAYTOWN PLAIN

Baytown Plain sherds (Plate XIXa, b) occur in substantial numbers over the site but are to be considered strays from an early component. Most of them occur in connection with the most intensive excavation connected with Units 4-11 and BM and excavations adjacent to Mound B. I have listed these under *var. unspecified*, since it is doubtful if there is any value in being more precise with such a small number. These were separated from the other plain sherds by paste qualities. Grit is usually entirely lacking in the temper composite. I failed to sort for this type in the mound collections, so there is no way of knowing how high the frequency of the type was. I should expect a nominal number to be present, since *Yokena*, *Troyville*, and *Churupa* examples did occur.

#### CARTER ENGRAVED

A new classification, Carter Engraved (Plate XIXd, e and f), replaces L'Eau Noire Incised, *var. Carter*. I am dubious about the presence of any such sherds now, although I had typed two sherds in Unit 19-24 as *var. Carter* in Table 2. Among the type sherds, I have since selected

one that conforms visually to Carter Engraved, *var. Shell Bluff* (Plate XIXf), although I am doubtful about the paste quality. Obviously more examples are required to establish the typology of this category that seems to range through Gordon and Anna phase times, and is represented sparsely at the Emerald and Foster sites.

### CHEVALIER STAMPED

The type Chevalier Stamped is to be expected in the Natchez area, since Coles Creek sites are an archaeological backdrop. The few examples found at Emerald and Foster (one at Fatherland) fit with variety definitions for the lower Yazoo Basin. Upon reviewing the type sherds from the Fatherland site in the light of Steponaitis' (1974) classificatory amendments, I was intrigued by one sherd (Plate XIXh) that I had listed rather hazily as one of the ridge-pinned specimens. I was surprised to find it identical to Quimby's old Lulu Linear Punctated from the Medora site near Baton Rouge (1951:121-122; Plate 20), and also listed under Chevalier Stamped, *var. Lulu* as defined by Steponaitis (1974:127). This is a courageous decision for me to make and will probably be denied me by Brain and others when they examine my sherd. The ensuing history will explain my quixotic position. Steponaitis, who gives some background for this Gordon phase, highly eclectic pottery sample, has stated:

This sherd fits the description given by Brain. Its paste is somewhat odd, but close enough to Addis. At the time the Lake George report was being written, this variety was known only from two sites— Lake George (21-N-1) and Medora (31-L-6)—which are 200 miles apart by air, and at least twice that by water. Mindful of this discontinuous distribution, Brain noted that 'for *Lulu* to be valid in geographical terms, this gap must be filled, or some explanation offered for the hiatus.' The sherd from Emerald was found squarely in the middle of this geographical gap, and provides us with our first tenuous 'missing link.'

Who could resist this challenge? Although I expect instant rejection for my Fatherland sherd's nomination on typological grounds of one kind or another, I need to do my part to fill the gap. There were no other specimens of Chevalier varieties found at Fatherland to match the eight sherds found at Emerald and Foster.

### CHICOT RED

A new type, Chicot Red, is a logical creation following the separation of Addis from the Baytown Plain family. It applies to all of the red-slipped wares on Addis paste. The variety *Fairchild* (Plate XVIIIg) covers this not inconsiderable representation in both the Yazoo Basin and the Natchez areas. Following the rules of priority, *Grand Village* (Plate XIXg), red-slipped pottery on *St. Catherine* paste, becomes a replacement for the former Old Town Red, *var. Grand Village*, thus setting aside the Mississippian northern position of Old Town Red, although the influence of this red ware is undoubtedly responsible for the mode in the southern part of the valley. Any possible historical connection with the older Larto Red-Baytown tradition is thus renounced, or at least suppressed. For all practical purposes, the *Grand Village* sherds sorted under the previous Old Town heading remain typologically the same. In reviewing the study collection, I was not able to find any *Fairchild* sherds, although I suspect there should be some in the Fatherland collections somewhere. Only nine were found at the Emerald and Foster sites where the variety was first defined in the Natchez area. *Grand Village* is a late Foster phase introduction and increases in popularity through historic Natchez times. The same slip was also applied to pottery that otherwise is classified under the Fatherland Incised varieties.

### CHURUPA PUNCTATED

Churupa Punctated was represented by four sherds from Zones V and VI. I have since reexamined these and have become doubtful about this designation. It seems entirely plausible that they would rest as easy under either type Evansville or Owens Punctated.

### COLEMAN INCISED

Coleman Incised has a complicated history, or almost a history, in the fringe-area classifying that I have done with Fatherland sherds from both the mound and plaza excavations. Phillips created this type to fill a classificatory need that arose in his survey area, and it was then found to be useful in the Tensas Basin in Louisiana. Similar sherds with Addis paste and trailed curvilinear decorations gave me trouble in the early work at the Grand Village mounds. Later I ex-

amined Brain's material from the Winterville excavations and recognized some old friends that I had illustrated as Unclassified (Neitzel 1965:Plate 11r, s and t). Their occurrence was scattered in the lower Yazoo Basin, and I did not really find enough in the mounds to pose a problem. Such was not the case when I sorted the thousands of sherds from the plaza excavations. I had not enough experience with the possible variations in the type, so I seized upon Coleman Incised, *var. Coleman* (Plate XVIIIh) as a logical repository for my doubts.

Recently Brain (1969) tried some adjustments via the Leland route, since there seemed to be some typological similarities. Leland Incised, *var. Bethlehem* arose, but the entire Coleman problem remained doubtful. Tensas Basin studies by Hally (1972) indicated that less stress on the temper was indicated, and width and incising technique of the curved lines deserved more consideration.

The Winterville classification that was of so much help to me was then altered so that only the shell-tempered *Belzoni* (Plate XXI k) sherds remained as a variety in the Yazoo and Natchez regions. The curvilinear incisions on Addis paste were included under the Coleman type and broken down into usable varieties *Coleman* and *Bass* (Plates XVIIIj; XIXh, k). The former is slightly older, and I have indicated selections that I made for it in Table 2. If I were to re-sort the collections, I doubt that I should find as many as I have shown. In examining the type sherds withheld from the general collections, I find that I am able to classify more than forty pieces as *Bass* and only one or two as possible *Coleman*. Nearly half of this *Bass* contingent are in analysis units. Being unable to make accurate counts based on the entire sherd collection, I substituted a trial run of *Winterville* sherds as counted in Table 2. This re-count is shown in its proper place under Coleman, *var. Bass* (Table 4), and may be compared for conformity with *Winterville* in Table 2. The totals would be much higher if other sherds submerged under varieties of Leland and even Manchac were included. The counts are thus provisional but, no matter how awkwardly presented, indicate that the variety *Bass* is a valid repository that will replace some *Deep Bayou*, *Dabney*, *Winterville*, and other unhappy titles under which an appreciable quantity of *Bass* sherds are submerged. For all practical purposes, *var. Winterville* may

be read as a minimal count for *Bass* in Table 2. The provisional count for *Bass* as actually typed is under its proper variety in Table 4. It is unfortunate that I must substitute unofficial, odd-lot counts for this valid and newly recognized variety. It is only proper that Steponaitis' (1974:132) description be paraphrased. *Bass* is a significant clay-tempered (Addis range) variant of Winterville Incised, *var. Belzoni*, which is present in the Natchez area and is distinct and later than Coleman Incised, *var. Coleman*. I doubt now that my earlier choices for *Coleman* or even *Winterville* can be defended as such. *Bass* is recognized by broad, carelessly made, curvilinear incisions in a wet paste. The "trails" are from 2-3 mm wide, usually with rough, burred edges. Festooning or imbrications in the old "Ranch Incised" manner is dominant on large straight-sided jars having a flaring rim above a slightly constricted neck. I have seen one specimen on a highly polished *St. Catherine*, almost *Junkin* paste from Fatherland; a sherd of similar quality was found at the Foster site. An exterior rim strap is usual, a modal association fitting into the Foster phase. Just as *Coleman* is more prevalent in the Yazoo Basin, *Bass* replaces it in the Natchez and Tensas regions, probably a function of temporal sequence.

#### COLES CREEK INCISED

Although the type is residual for the most part, varieties of Coles Creek Incised turned up in various situations throughout the site. Some of the pieces labelled Baytown Plain are closely related. One sherd of *Greenhouse* was found in Feature 25, considered to be protohistoric or Emerald in time. It should be a marker for the Balmoral phase, if it is correctly typed. One or two sherds each of *Blakely*, *Chase*, *Hunt*, *Stoner*, and *unspecified* were selected out of various contexts, mostly from Zones IV through VI. I would not defend the identification of any of these, since I am of the old "early, middle, and late" school, and probably should have thrown all of them into the *unspecified* tray.

*Mott* (Plate XIXj) and *Hardy* (Plate XIXi) pose a much knottier problem in my opinion. This is not necessarily a question of their proper identification, but rather of their numerical persistence through Plaquemine times into Natchez Phase associations at the Grand Village site. This seems peculiar for two stellar markers of

the Balmoral and Gordon phases of full Coles Creek times. Identification, as said, is hardly the issue. Although I was not explicit at the time, I had this same chronological difficulty with me in 1962 when I sorted the mound collections, and knew very well how to type for Hardy Incised. *Mott* sherds then were either submerged under Hardy Incised or set aside as unclassified. I simply did not acknowledge the discrepancies, obvious as they were at the time. I have chosen to introduce my perfidy here, since some additional information has accumulated that may partially illuminate the problem.

Phillips (1970:74) has discussed these two intergrading varieties with direct reference to the Yazoo Basin. Lately his views have received tacit support from the Natchez region (Steponaitis 1974:133-134). *Mott* and *Hardy*, firmly anchored in their Coles Creek ceramic sequence, are affirmed by both studies to be a fact of life in Lower Valley culture history. Neither Phillips nor Steponaitis seem too concerned about the problem that has beset me, nor has there been a sympathetic share of historical suspicion from other regional workers.

Specifically, I misdoubt the presence of substantial numbers of sherds (and at least one vessel) of *Mott* and *Hardy* within orthodox historical levels and their associations. This chronological difficulty, present in 1962, arose again in the 1972 study of the plaza collections. The discrepancy cannot always be set aside as the result of some kind of mixture or disturbance of midden and mantle layers. So far no solution is apparent to me, so perhaps it is time to air some of the pertinent points that have accumulated gratuitously in this unrequited history.

Although Phillips (1970:74) did not challenge this misalignment of Coles Creek varieties with historic strata, he mentioned the disparity. In support of his findings in the Yazoo Basin that *Hardy* was a marker for the Crippen Point phase, it was unfortunate that he cited only *one* of the histograms that I constructed (1976:Figure 14), and not the additional data available in Figure 13. In the same paragraph, he cites Quimby to the effect that Hardy Incised was found at three excavated historic Natchezan sites. Quimby also said in the same place (1942:267) that Hardy Incised is found in both Plaquemine and Natchezan cultures. I hasten to add that no specific stratigraphic association is set forth, and the "Plaquemine culture" of 1942

is not the same, qualitatively or chronologically, as that of 1972. At least one (if not two) of the sherds that Quimby illustrates in his discussion is *Mott* (1942:Plate XV-9, -10).

I have stated that Phillips' choice of evidence was unfortunate. This is true to the extent that the timing for the histogram is off the mark for either *Hardy* or *Mott* as Coles Creek markers. The figure was a composite of Ford's Mouth of the Red River chronology (1952:Figure 2), upon which I imposed Cotter's stratigraphic data for the Anna and Emerald sites (1951:Figure 14) and my own frequencies for the Fatherland site. This rather loose and gross seriation places a less than 1% frequency for Hardy Incised in Phase III of Mound B. This mantle carries a fairly reasonable radiocarbon date of A.D. 1540.

If Phillips' example is suitable for reference in the literature, then it should be accompanied by a reference to Figure 13 in the same report. This is a histogram of the comparative frequencies of the pottery types found in all of the excavated mound levels at the Grand Village. The typing is presumably above reproach, and I have had opportunity to reexamine many of the sherds involved. Of course, *Mott* and *Hardy* were combined in keeping with the typology of the time. The percentage entries of Hardy Incised sherds are shown to be present for all mound levels except the pre-mound surfaces. If the radiocarbon dates can be trusted at all, then all are subsequent to A.D. 1200, which is much too late for the established place of either *Mott* or *Hardy*. Moreover, there was a 2% count from Phase IV of Mound C and a substantial showing from terminal Mound B deposits. The latter is not indicated on the histogram since the sherds were then called "unclassified." I now believe them to be *Mott*.

Portions of a simple shallow bowl and the rim of a beaker, both bearing *Mott* incisions (Neitzel 1965:Plate 11q, m), were from historic Mound B levels. The beaker (Neitzel 1965:Plate 11m) was from historic midden talus levels, and the bowl (Neitzel 1965:Plate 11q) came from a small fire area just beneath the sod line on the undamaged south portion of the terminal mound mantle. It was in direct association with an iron knife blade (Neitzel 1965:Plate 13z). Charcoal from the hearth yielded a date of A.D. 1825 ± 100 years. In addition to the miscellaneous sherds from the terminal historic phase of

Mound C, there is also a Hardy Incised beaker (Neitzel 1965:Figure 21a) that Chambers excavated in 1930 in apparent association with Burial 8. A Natchez Incised bowl (now *var. Fatherland*) and glass beads were also included. The burial is one of the last extended interments placed in the floor of the historic temple. The bowl fragment from the Mound B hearth was *Addis* paste, and the beaker from the Mound B historic midden was more like *St. Catherine* in texture. The latter also had the red-slip finish of *var. Grand Village*. A brief conversation with Dr. Jeffrey Brain about these elicited the suggestion that the rim sherds from Mound B must somehow be "ringers" despite their resemblance to *var. Mott*. There is always the last resort that these specimens, especially the one with Burial 8, were heirlooms that persisted until historic times.<sup>25</sup>

I am at a loss to explain now why the two histograms cited from the Fatherland report (Neitzel 1965:Figures 13, 14) are not in exact agreement level by level as to the presence of Hardy Incised. Perhaps Figure 13 was intended to show only general ceramic relationships for the three major sites, whereas the mound seriation was more specific. Regardless, Hardy Incised was present, or at least available, in the loads of dirt used throughout the history of mound construction, whether this was begun in Anna times as the radiocarbon dates indicate, or whether the construction was telescoped into the Emerald and Natchez phases. If our culture history theories are correct, mound building at the large centers, including the Grand Village, was begun mostly in the Anna phase, with additional increments being added in Emerald times. At the Grand Village site, measurable numbers of Hardy Incised occur in Phase I of Mound A; Phase II of Mounds A, B, and C; Phase III of Mounds B and C; and Phase IV of Mound C. These amounts do not include the significant numbers of *Mott* sherds that were held in limbo as unclassified at that time and are illustrated by examples in the Fatherland report (Neitzel 1965:Plates 10i, j, k; 11m, q), some of which augment the historic level counts.

Mound strata collections are often assumed to be less satisfactory than primary stratigraphic samples, but they do relate directly as representative debris that was available to the original builders. This surface waste was also available for archaeological testing after the sedimenta-

tion was removed in 1972. The presence of both *Mott* and *Hardy* are apparent in Tables 1 and 2. There were nine *Mott* and twenty *Hardy* sherds in Zones IV and VI, the areas in which the major plaza residences were erected. The varieties are not very significant in the analysis units. There were five *Hardy* sherds from the protohistoric (Emerald phase) Units 19–24 and 25, and one from the P-1 surface, and one *Mott* sherd from Unit 1–3.

In rough comparison, both *Mott* and *Hardy* hold to the earlier levels at the Emerald and Foster sites, though four sherds of *Mott* were typed from the possibly historic Analysis Unit 3 at Emerald (Table 4). No more than sixteen sherds of either type can be accounted for at both sites.

Perhaps I have been overly concerned about the importance of this apparent chronological anomaly. But the fairly well-documented and persistent trickle of these two varieties through 500 years of deposits *after* they should have become obsolete in Gordon phase times disturbs my sense of order. The discussion has also given me the opportunity to point out that Phillips was led into a small chronological error by relying too confidently on only one of my histograms. I hope that this inaccuracy has been corrected now, even if the circumstances remain enigmatic.

#### EVANSVILLE PUNCTATED

Evansville Punctated was separated into three varieties as *Evansville*, *Braxton*, and *Sharkey* when the collections were first sorted. Eight of these sherds were included in five of the analysis units. More than twenty other sherds were thought to fall into the *LaSalle*, *Rhinehart*, *Wilkinson*, and *unspecified* varieties. Now that I have reviewed a few of these in type specimens, I am uncertain that I can even identify either Evansville or Owens Punctated sherds. There were nine fingernail decorated sherds illustrated for the mound collections that I called Wilkinson Punctated, although the category was not in high favor at that time (Neitzel 1965:Plate 11b-j). Very few sherds with this decoration were found in the more recent plaza collections. I think now I should have included all samples under *unspecified* except those shell-tempered, zone-punctated pieces that I have been bold enough to call Owens Punctated. I have deleted the Evansville specimens noted in Tables 1 and

2 from Table 4, but have retained Owens in the latter for intrasite comparison. I am not very assured about the *var. Menard* assignment, but I have seen similar sherds in southeastern Arkansas with historic associations.

The general dismemberment of older punctated types has also left us with Avoyelles Punctated, *var. Avoyelles*, *Dupree*, etc. (Plate XVIII), so perhaps other dubious types should be included under this heading. I am certainly doubtful about the decisions for *Dupree* indicated in Table 4 in Units 19–24 and 25.

If anyone thinks my disenchantment with punctated designs and irresoluteness about naming names is exaggerated, I can find extenuation in just one recent, small incident. The 1974 joint effort of the Department of Archives and History and the Lower Mississippi Survey at Fort St. Pierre and Haynes Bluff on the lower Yazoo River entailed many hours of evolving classificatory problems. In our field laboratory old types were mutilated, amputated, and discarded and new ones set adrift. One midnight session culminated with the christening of a new, very real, super-punctated lot of sherds as: Owens Punctated, *var. Skilliskallia!*

#### FATHERLAND INCISED

Fatherland Incised and similar design types have long been recognized as evolving products of the Natchezan cultures in the Lower Valley, eventually disappearing with the complete disintegration of the cultural groups that produced them. Specifically, they have been recognized as a finely incised, though often somewhat crudely executed, two- and three-lined scroll motif on the historic Natchez vessel forms at documented locations.

Phillips (1970: 104–107) expressed the tangible relationships of all such scroll-incised designs in the Yazoo Basin and the Natchez area under the classic Leland type, best defined in the northern part of the Lower Valley. Fatherland Incised had been a distinct type, as was Natchez Incised, but subordinating them to Leland served to organize or clarify the broad, overextended relationships of this classic family.

Dismemberment of this terminological Fatherland-Leland hegemony served essentially to separate the southern Addis paste wares from their northern Mississippian, usually partially shell-tempered counterparts. The attribute of the narrow, often carelessly incised lines of Fa-

therland contrasted with the wide, shallow-trailed Leland scrolls of the northern varieties, and was reinforced by other attribute distinctions like paste and to some extent form.

Recent studies of Natchez sites in the southern area, supported by the Grand Village site investigations, demonstrate chronological differences between Leland and Fatherland that uphold the typological separations (Steponaitis 1974: 134–138). The changes are also congruous with modifications of paste that mark the varietal spread of newly defined Addis Plain. Ordering, clarifying, balancing, and making explicit such previous modal inconsistencies is accomplished handily through application of fundamental type-variety constructions.

Little violence has been done to the criteria by which the varieties of the two types are distinguished. The large number of Leland Incised, *var. unspecified* shown in Table 1 would probably be substantially reduced and added to Fatherland Incised varieties. Several of the other Leland categories I had felt constrained to use, such as *Deep Bayou* and *Dabney*, would probably be lost entirely to *Bass* under the type Coleman, or to the new Fatherland Incised varieties. A new Leland variety *Foster*, it will be seen, absorbs some of these variations that have been at loose ends typologically and stratigraphically in the Fatherland sherds. For practical purposes, stratigraphically secure varieties of Leland should not appear later than the *Foster* phase, and are replaced by Fatherland Incised for the terminal chronological sequence in the Natchez district. Recently in the lower Yazoo region, *Dabney* was seen to dissolve in favor of two varieties, *Russell* and *Williams* (Williams and Brain n.d.). If this more or less stalwart member will not hold up on its home grounds, it is not surprising to see some marginal shifts of meaning in it and in hitherto related varieties to the south. I will list the newly defined Fatherland Incised varieties as they now stand, with the assertion that full, accurate samples do exist to support the determinations I have made by review of the limited type collection. Contrasts between Leland varieties in Table 2 and Leland and Fatherland in Table 4 demonstrate major changes.

Fatherland Incised, *var. Fatherland* (Plates XVIIIk-m, XIXn) is essentially as Phillips described the variety, except that the two- and three-line incised treatments have been merged

into one variety. There was no distinguishable typological or stratigraphic significance attached to the former separation. I was not playing the role of prophet, but was merely economizing on symbols and space when I combined the two to plot the *Fatherland-Natchez* isopleth in Figure 15. A polygon of the frequency of the two erstwhile varieties is quite similar. The *Natchez* profile is much lower owing to its numerical deficiency. The two-line pattern is one- to two-thirds less frequent than the three-line pattern in Zones III and IV and approximately equal to it in Zones V and VI. There are also infrequent examples of vessel fragments whose motifs might be classified as one or the other or a combination of both patterns. The three-line treatment is three times as frequent as that of the two-line at the Bayou Goula site, on the extreme southern margin of the Natchez region. There is no chronological significance indicated, since the entire historic Natchez package there appears to be an intrusive overlay. Contemporaneous documented types reduced to comparable varietal status have been included in Table 4 to supplement what is known of the late regional cultures. *Fatherland* is identified with pastes ranging from *Addis* to *St. Catherine*, the better executed scroll patterns usually appearing on the finer pastes. Some of the *Addis* specimens have a coarse paste and crudely done, burred incisions, one of the considerations that failed to ease my conscience when formerly constrained to classify these as parts of the Leland family. Full-fledged *Fatherland* dominates from the Emerald phase on through the Natchez phase. Its occurrence is not nearly so abundant in earlier time levels, when the transitional variants newly designated below and some of these submerged here in Leland, *var. unspecified* appear more conspicuously.

Fatherland Incised, *var. Bayou Goula* (Plate XIXm; a poor example) is the same class that has long been recognized on historic sites, and there is no change from Phillips' description. It has merely been moved from Leland to Fatherland Incised through the same compelling logic by which it was previously placed under Leland. The sherds are conspicuous, usually a scroll design consisting of five or more lines on the upper edge of simple bowls. Steponaitis (1974:137) had mentioned a four-line variant, currently *unspecified* (Plate XXj, 1), that will probably be distinguished from *Bayou Goula*,

although both appear to be confined to the Natchez phase.<sup>26</sup> *Bayou Goula* is a minority variety at both the Bayou Goula site where Quimby (1957:126) first recognized it and at Fatherland. Its frequency at Bayou Goula is 2% and from 0.4% to 2% at Fatherland, where there were approximately 100 sherds (Table 4). Only one sherd was found in the Emerald site excavation and none at Foster. The original definition described the design as multilinear and similar to the historic Choctaw type, Chickachae Combed. The paste is of the *St. Catherine* variety.

Fatherland Incised, *var. Pine Ridge* (Plate XXa, b) is a new assignment based on fifty-five sherds from the Foster site and one from Emerald. It does occur in the Fatherland collections, but an accurate count has not been made. Upon review, I was able to sort nearly twenty sherds from previous categories that had been referred to Leland, *vars. unspecified* and *Ferris*. *Pine Ridge* is very similar to the latter, except that the multilined spirals are incised with much finer lines. *St. Catherine* paste was preferred along with an occasional use of *Junkin*. The variant is probably a spin-off from *Ferris*, and occurs transitionally between the Foster and Emerald phases, or slightly later than *Ferris*.

Fatherland Incised, *var. Stanton* (Plates XXc-g, XXIa) is another useful refinement in the breakdown of the multilinear Leland configuration. Some seventy-three sherds at the Emerald Site and thirty from Foster were identified as *Stanton*, and ample illustrations of its presence were found in Cotter's (1951, 1952) work at Emerald and Gordon. With the Fatherland burials were two examples (Neitzel 1965:Figure 201, m) that for want of precise identification I had formerly called *Natchez*. In reviewing the plaza type sherd collections, I found at least twenty-four examples, mostly associated with Feature 24, that qualify as *Stanton*. Steponaitis (1974:139) sets its chronological position primarily as Emerald and Natchez phases, which places it somewhat later than, though overlapping *Pine Ridge*. I would agree with this generally, but the inadequate samples of both classes that I have reviewed for Fatherland point to *Stanton* as being slightly earlier. A much more refined study of the Fatherland material is required. The line drawing that Phillips has placed in the page margin as an idealized variety of *Dabney* (1970:105) conforms to my idea of

*Stanton*, though it calls for a more specific range of paste (Bell) than does *Stanton*. I would expect *Stanton*, like *Fatherland*, to be on any pastes in the *Addis* range, favoring *St. Catherine*.

Another formative variety of *Fatherland* Incised seems to be in the making, and is now referred to somewhat slyly as *var. unspecified* (Brain personal communication; Steponaitis 1974: 137). It is a four-line treatment that is not very expertly done. I have found perhaps eleven "possibilities" in reviewing the type sherds from the *Fatherland* collection. These are not consistently similar though, except for perhaps coarseness of paste (*Addis*) and recent time positions. Steponaitis (1974: 137) stipulates that the four-line treatment is entirely within the Natchez phase. From 0.4% to 6.5% were counted as *unspecified* in unit analyses of early to late levels at the Emerald and Foster sites (Table 4). I have not plotted the frequency for the *Fatherland* samples.

#### FRENCH FORK INCISED

French Fork varieties (Plate XXIIa) are a mere trace in the collections, if my identifications are correct. I have followed Phillips' definitions and have indicated three *Larkin* and two *McNutt* sherds in Tables 2 and 4. *Laborde* is carried as a heading in Table 4 to accommodate the meager showings from the Emerald and Foster sites. I previously illustrated a suspected French Fork sherd as unclassified (Neitzel 1965:46, Plate 11w); it might fall into *var. Iberville* of the latter part of the Coles Creek period. The specimens I have identified join with the few other Coles Creek types that have been found mixed in with the predominantly Plaquemine and Natchez period remains. Remnants of former Coles Creek components are not an oddity in the Natchez bluff hills.

#### GRACE BRUSHED

Grace Brushed, *var. Grace* (Plate XXIIb) was formerly placed under the Plaquemine Brushed type heading. *Grace*, although barely a trace variety, is an important distinction of a shell-tempered, Mississippian-related category, rather than of the standard Plaquemine tradition of the Natchez district. I have shown the easily recognized four sherds from Units 19–24 and 25 in Table 2 under the older Plaquemine heading. It has been omitted from Table 4, since it is not stratigraphically significant. Two sherds

were found at the Foster site representing the Anna-Foster phase time level.

#### HARRISON BAYOU INCISED

Harrison Bayou Incised, *var. Harrison Bayou* (Plate XXIIc, d) was represented by twenty-five sherds, concentrated in the midden deposits of Zones IV and VI. Seven sherds were found at the Emerald site, and it was marked as a trace type in the mound collections from *Fatherland*. It is temporarily placed in the Gordon phase. Four of the twenty-five sherds were from Features 24 and 25; thus, the majority were in presumably mixed chronological contexts in the plaza area. The type is an ambiguous stock culturally, but I wonder if it has not been placed too early in the chronology.

#### HOLLYKNOWE PINCHED

Hollyknowe Pinched was present, but just barely so, since only two sherds were singled out in the original sorting. After a review of type specimens I managed to make a decision that three sherds could be separated and diffidently labelled *var. Patmos* (Plate XXIb). In this general category I encounter my usual troubles with punctated-like treatments. I have followed Phillips' general description (1970:89–90), which I understand has been slightly modified by Brain (Williams and Brain n.d.). I accept the Anna phase placement designated by Steponaitis (1974:141).

#### KINLOCK SIMPLE STAMPED

One sherd of Kinlock Simple Stamped, *var. Kinlock* (Plate XXIIe) conforms to Phillips' description (1970:97). He places it as a minority in the late Mississippi period in the southern Yazoo Basin.

#### L'EAU NOIRE INCISED

One of the archetypes for the region, L'Eau Noire Incised, *var. L'Eau Noire* (Plate XXIIIa-c) is nearly all that remains of this family since the former *Anna* and *Carter* have been elevated to type position in the Natchez district, although *var. Evangeline* may still be a valid separation. I have recorded one sherd as such in Table 2, but in reviewing the type sherds, I could not find it again. There is some similarity to Medora sherds, of which there are several, and perhaps the specimen was overlooked.

*L'Eau Noire* sherds are infrequent in the Fa-

therland site collection, although the design is conspicuous in sorting. I am certain of at least six sherds. *Australia*, *Bayou Bourbe*, and *Evangeline* were first identified in the Baton Rouge area, where they seem to be more at home. The Anna Phase time level is appropriate for all of these and related varieties.

### LELAND INCISED

The Leland family is old and honored, and so recognized and established by Phillips (1970: 104–107). This formalization was a great comfort to me in working with Natchez district sherds, but at the same time I felt trapped, since I seemed to be struggling with sherds that were out of place, although the rules of sortability seemed to apply. Utility and continuity were not so convincing; nevertheless I “named” several hundred specimens as shown in Table 1. I now know these to be inept representatives of what Phillips had in mind when he set up the Leland format based principally on more northern site collections. Overextension of the Leland terminology is the villain, and the uncertainties are reduced by splitting off the Fatherland series and adjusting the Leland-like members accordingly. Unfortunately, I cannot provide a completely corrected table of these misnomers, but can only suggest probable trends of corrections as exemplified by the narrowly representative type sherd sample. True examples of Leland (probably actual trade pieces) do occur in the Natchez area collections. The majority of the 2000 sherds typed under Leland in Table 1 are thus misrepresented, and in the ensuing paragraphs I have attempted a paper rationalization that at least indicates the numerical trends that a correct typing of the Leland contingent might produce. The varieties of Leland that still remain valid are minority samples.

Leland Incised, *var. Leland* (Plate XXII f, g) as used by me tends to be a catchall for broad-incised or trailed sherds of good to excellent paste qualities similar to Bell Plain. Of the nearly 300 set aside here, a few would be changed to Coleman, *var. Bass* (Plates XVIII j, XIX k) or even *Coleman* (Plate XVIII h), although I have doubts about the latter.

*Blanchard*, which falls within the Emerald phase, would probably remain approximately as it is, although I would make certain there were no Anna Incised or similar sherds involved.

*Dabney* would be discarded altogether. There

were only fifteen sherds designated thus, and I was not satisfied with the category at all. Since then I have seen the same variety more or less discarded in the Yazoo basin, and two more pertinent members, *Russell* and *Williams*, emerge (Williams and Brain n.d.).

*Deep Bayou* also caused me much dissatisfaction, although occasionally it was not so far afield as *Dabney*. I assigned forty-eight sherds to this class, principally because I thought it might be a useful grouping. It has not proven so, and in rechecking the type sherds I find that most of them qualify best under the new Coleman, *var. Bass* category.

Leland, *var. Ferris* (Plate XXIII i), although conspicuous, is subject to splitting under Stepnaitis' new terminology (1974:143-145). I have shown twenty-six pieces in Table 1 under *Ferris*. Among the type sherds I have since regrouped, I now find three *Ferris*, seven *Foster*, and eighteen sherds of the more distantly connected Fatherland Incised, *var. Pine Ridge*. *Ferris* was considered a distinct, but very minor type by Phillips. Perhaps a few examples may be found in the more than 500 sherds I have assigned to *Leland* or *unspecified* reservoirs. The rims are selective, since *Leland* has the thick, rounded, exterior rim straps that *Foster* lacks. *Foster* usually has a polished surface that is not equal in sheen to *Leland*, and the design may be over-polished. The ware is equivalent to *Addis*, but is also found in the range of *St. Catherine* and *Greenville*. Brain has also specified a *Bethlehem* or early variety of Leland at Winterville that has counterparts at the Anna site. Perhaps an early, like variant of *Foster* will be found in the Natchez area. Examples may also lie in the *Fatherland*, *Leland*, and *unspecified* categories in which other curvilinear, trailed varieties seem to be submerged. With the smallest sherds there may be some uncertainty in choosing between *Foster* and Fatherland Incised, *var. Stanton*. The narrow lines of the latter probably should be the deciding factor. The relatively strong representation, thirty-five sherds at Emerald and seventy at Foster, suggest that the importance of the type has been understated at the Fatherland Site and elsewhere in the Natchez area. The type fits in well with the Foster phase, although it may extend earlier.

### MADDOX ENGRAVED

Maddox Engraved, *var. Emerald* remains

more or less as it has always been defined and as Phillips has described it (1970:108). One important difference is the dropping of *var. Baptiste* that Phillips thought had temporal and chronological significance associated with the distinction between the variants' paste qualities. The *Addis* to *St. Catherine* paste range is now acceptable under *Emerald* and the new *Junkin* paste also included as a rare selective aspect that appears in isolated cultural circumstances. *Silver City*, usually containing some shell tempering, is difficult to sort from the best *St. Catherine* specimens. It was first separated in the lower Yazoo Basin, and only four sherds were found among the more than 200 *Emerald* specimens at Fatherland. Steponaitis (1974:146) suggests that rim differences such as those between *Foster* and *Leland* may exist, and might be discovered with further work. *Emerald* appears in the Emerald phase, becoming strong in late Emerald and continuing on into historic times. The principal occurrence of the *Emerald* cross-hatched design on *Junkin* paste has been mentioned above in connection with Units 19-24 and 25. These appear to be sherds from one vessel, paralleling the concentration noted in the terminal pre mound level at the Foster site.

#### MAZIQUE INCISED

Mazique Incised, *var. Manchac* (Plates XXId, f, g; XXIIIe-m) has been discussed briefly since it was chosen as one of the types numerous enough to graph as percentage isopleths in Figure 15. It still remains on the record as a vastly overextended type, and I did not have the benefit of Steponaitis' (1974:148-152) valuable insights into a coming breakthrough in the shoulder and rim elements of decoration. He has maintained the widespread general class, but has indicated temporal significance in the manner of placement of the slashed rim incisions, and thus secured the position of Phillips' previously defined *Kings Point* (1970:129) typologically in the Balmoral Phase (Plate XXIII n). In addition, he has introduced the new variety *Preston* (Plate XXI e) into the Natchez region, although accurate separation was not done because of the lack of determinant rims. Only six sherds of this variant as defined by Hally (1972:310) in the Tensas Basin were found at the Emerald and Foster sites, and if there were any at the Grand Village they remained submerged in the general collections

under *Manchac*, as do those now known to be middle and late marker variants. There were so few sherds present in the type collections that although I found good examples of Steponaitis' modal distinctions, I can give no indication of quantitative comparisons or trends through the temporal span of the Grand Village site. This will be an important aspect of future ceramic studies of the Grand Village collection.

Three *Kings Point* sherds were listed in Tables 2 and 4, one each associated with Units BM, 19-24, and 25. An additional fourteen were deposited indiscriminately in Zones III, IV, V, and VI. As formerly, this variety is regarded as a descendant of *Mazique* and transitional into generalized *Manchac*, a parallel of *var. Coles Creek* moving through *Mott* to *Hardy*.

*Manchac*, as previously stated, indicates a susceptibility to being broken down temporally, although it seems to persist uniformly over an inordinately wide region. Steponaitis (1974:148-151) noticed, however, that the temporal sequence was discontinuous, the variety being absent at the Emerald and Foster sites during the Anna phase. I cannot verify this circumstance at the Grand Village site, although absence or low counts of the easily recognized sherds are to be noted from the pre mound and early mound levels (Neitzel 1965:Figure 13). Neither do I have any way of determining whether the earliest variant of *Manchac*, i.e. *Preston*, of the Gordon phase was present. After mound construction was well advanced, substantial counts of generalized *Manchac* are seen, especially in Phases III and IV of Mounds B and C.

Presumably, these sherds were predominantly of Steponaitis' middle variant, characterized by broad, crude incisions in a wet paste. The incisions were often so close that they may be mistaken for a brushed effect. The decorations are on straight-sided jars with a broad outer rim strap, often with a rolled appearance, on a moderately flared rim. The incisions extend from the shoulder all the way to the rim strap. The patterns of the incision are variously line-filled triangles, herringbone, or diagonal bands filled with parallel vertical incisions. The paste is almost exclusively *Addis*, although Steponaitis reports a ware approaching *Junkin* from the Foster Site. This "middle variant" makes its appearance at the beginning of the Foster phase, after an unexplained hiatus during the Anna

Phase. Whether the motif survived marginally during this period, or was in effect "reintroduced" from Barton Incised influences from the north is a matter of speculation.

The late variant of *Manchac* appears somewhat later than the foregoing in the Foster phase and continues until the terminal historic time level. It is undoubtedly the most numerous category of the 900-odd *Manchac* sherds sorted from the plaza excavations and a lesser quantity from the mounds. It indicates a solid Mississippian influence in the globular jar form with a constricted neck and flared rim. The decoration usually consists of widely spaced incisions of line-filled triangles placed well down on the shoulder, leaving a space between the upper edge and the rim lip. The paste is almost exclusively *Addis*, although *var. Ratcliffe* has been allowed by Steponaitis. Specimens with shell inclusions might well be called Barton Incised in some instances.

The typological variability noted for the long temporal span of *Manchac* in general cannot be illustrated by the present sorting of the Grand Village samples, but there are odd frequency counts for the various units, especially when compared with a broadly equivalent ceramic companion, *var. Plaquemine* (Plates XXIj, XXIVh, j). The approximately uniform distributions of the zonal quantities of some 2000 sherds are peculiarly distorted when compared in their stratigraphic contexts. Aside from the low frequencies for the basal site levels, reflecting to a degree the absence of *Manchac* in the Anna phase as postulated by Steponaitis, I would call attention to the comparisons between *Manchac* and *Plaquemine* in the intra-site units of Table 4. *Manchac* appears in its gross counts as does *Plaquemine*, though the latter seems to be susceptible to refinements similar to the temporal divisions set up for *Manchac*, and there are early and late attributes in the matter of rim treatment and possibly vessel shape. The shell-tempered variety *Grace* has been dropped here.

At the Bayou Goula site only sherds from the historic level are used, since there seems to be a fairly sharp, stratified break between it and the lower *Plaquemine* levels. Both *Manchac* and *Plaquemine* have low counts, the former being double that of *Plaquemine*. In Fatherland Unit 1-3 *Manchac* and *Plaquemine* are equal, but *Manchac* is over three times that of *Plaquemine* in Unit 4-11. *Manchac* drops to a fraction of a

percent in Unit BM, and *Plaquemine*, though only slightly over 1%, is four times more numerous. Units 19-24 and 25 have high incidences of *Plaquemine* at 4% to 6%, or two to three times that of *Manchac*. The plaza levels have approximately the same ratio. Plaza 3 has 3.8% *Manchac*, a level that should include Anna phase depositions if they are present. This would be the interval in which Steponaitis has stated that *Manchac* disappears from the Mazique continuum. His Emerald site Analysis Unit I, which ought also to reflect the Anna phase level, has a 1.7% frequency, or one-third the full 5% to 6% frequencies of the Emerald phase, when *Manchac* is supposed to have reentered the continuum. It should be remembered that these sherds were all sorted as generalized *Manchac*. Perhaps specialized sorting for *Preston* or a comparable, yet unnamed variety of the transition period between the Gordon and the Foster and Emerald phases would demonstrate the diminution of *Manchac* during the Anna phase. I would hesitate to claim the P-3 deposits as pure Anna, thus they could hardly be expected to support Steponaitis' postulation of discontinuity. Based on the trends from the mound phases I can see a case for a qualified absence of *Manchac* during the Anna phase, but not the complete truancy that Steponaitis claims. Once again, it becomes evident that careful resorting of the Fatherland types is required. Additional carefully controlled and selected stratigraphic tests, probably at the Emerald and Anna sites, should shed more light, especially upon the *Manchac* varietal hiatus. The oldest level at the Grand Village may be too young to produce a thriving Anna phase component.

There seems to be some cultural problem other than one rooted in chronology that causes the irregular ratios between *Manchac* and *Plaquemine* within the units of the Fatherland site. Given almost equal totals of the two types of sherds recovered from the entire site, there is, aside from the customary irregularities expected in Unit BM, a fairly uniform distribution of *Manchac* throughout all site units. *Plaquemine* on the other hand fluctuates from unit to unit from less than 1% to more than 8%. Trial polygons of these varieties, compared with five other major types and varieties appearing in Figure 15 and Table 4, produced no regularities or irregularities between the Fatherland analysis units and the Bayou Goula, Emerald, and Foster

Sites that can be construed to have cultural significance.

### MEDORA INCISED

Medora Incised, *var. Medora* (Plate XXIVa) consists of twelve sherds, nine of which are from Zone IV but unassociated with Unit 4-11. Three were from Unit 1-3 and two from P-3. The criteria are the same described by Phillips (1970:130). The line-filled bands are distinctive, although a small sherd might be confused with Anna Incised. The Medora Incised type is apparently more at home in the Plaquemine period of the Baton Rouge area. The number of sherds identified at Fatherland (none are recorded from the mound excavations) is unexpectedly high, if they are correctly typed.

### MISSISSIPPI PLAIN

Mississippi Plain, *var. Pocahontas* has been boldly labelled so in carrying through the Pocahontas Plain type that designated this shell-tempered ware in the previous Fatherland report (Neitzel 1965:45). I have done this with unjustified finality, since Phillips (1970:134) has pointed out that Quimby neglected to furnish full particulars concerning how to sort it when he first set it up as a type (1942:266). In addition, very few sherds have features of shape or rim detail that would enable the proper assignment of variety to them. Steponaitis (1974:152) records sixty-four sherds from Emerald and thirty from Foster that are subsumed under *unspecified*. Perhaps the 570 specimens from the plaza and those from the mound levels should be placed in this class until added information is available. Based on the paste alone, I think I could distinguish them from *Neeley's Ferry* or *Yazoo* to the north. The paste and tempering is usually quite fine and well kneaded, but since the establishment of Addis Plain, *var. Greenville*, which has much the same feel, I am dubious about being so specific in using the title *Pocahontas*. It is a little late to make the change here, but these shortcomings are noted to keep the record as straight as possible. The total frequencies recorded in Tables 2 and 4 are hardly altered by these second thoughts.

The Mississippian type (or variety) is important as a historical indicator and in actual comparative numbers. Quimby recorded 12% frequency at the Bayou Goula site (Table 4) and the levels are 1% to 2% in the plaza and mound cuts

except for Mound A (Figure 15; Table 2) at the Grand Village. It is undoubtedly a northern introduction, probably Tunican, and is well established from Emerald through the Natchez phase. This, or a closely similar ware, is common at the Trudeau and Angola Farm sites in Louisiana, both of which are documented eighteenth-century Tunica occupations (Brain 1970; Ford 1936:129-140).<sup>27</sup> Exact counts from them are not available, but something between the maximum 2% at the Grand Village and the 12% at the Bayou Goula site would be appropriate. If a strictly Tunican component were separable at these sites, the frequency would be much higher. There are many cultural factors at play in the southern Louisiana sites that would tend to distort attempts at clearcut cultural intrusions or influences.

### MOUND PLACE INCISED

Mound Place Incised, *var. Mound Place* (Plate XXIVb) is consistent in being anomalous even this far from its purported home base. One sherd of Bell Plain quality paste, with slightly overhanging Coles Creek incised horizontal lines was found in Zone VI. I am not satisfied with the classification, or for that matter with finding the sherd at Fatherland at all. I would accept any compromise to change the name of this one specimen.

### MULBERRY CREEK CORD MARKED

Mulberry Creek, *var. Smith Creek* is also a one sherd item. It was in an appropriately deep P-3 level. I was undecided about this specimen and probably should have settled for *unspecified*, but instead yielded to regional chauvinism. The Smith Creek site is barely forty miles away as the crow flies, a fairly precise delineation when cord marked sherds are the issue.

### NATCHITOCHE ENGRAVED

Natchitoches Engraved, *var. unspecified* is obviously an outright import of a foreign ware into the Natchez ceramic assemblage. The same probably may be said for special Mississippian ceramic treatments, but the implication is not always as clearcut as with this sterling type from the middle Red River valley of central Louisiana. In the Caddoan area its engraved affiliates are pretty well known, so that if the type-variety system were in use there Natchitoches might very well be a variety of Hodges Engraved,

with possible close connections with others now called Belcher, or Avery Engraved (Suhm and Jelks 1962). Natchitoches Engraved appears to be a late downstream variant of Hodges Engraved and has been identified with the historic Natchitoches occupation at Natchitoches, Louisiana. Differences in paste, decorative technique, and lack of agreement by authorities as to the basic historical courses of type evolution for the Caddoan ceramics excuse me from responsibility on the type-variety level in that field. Natchitoches Engraved, as I accept it at the Fatherland site (and I know of no specimens from other sites in the Natchez district), may probably be separated from the mid-Ouachita Hodges Engraved at approximately A.D. 1600. There is certainly something to be said for reworking a site such as Fatherland and recapitulating the findings in comparison with earlier investigations. My particular reward has been learning how to spell the word "Natchitoches" (Neitzel 1965:45). Knowledge can be said to accrue whether it evolves or not.

The fifty sherds from the plaza area and portions of three vessels from the mound excavations are the only ones that are known from historic sites in this area. Caddo salt traders have been mentioned in the literature as having been at the Grand Village, and they may have delivered the salt in Natchitoches Engraved bowls. The fragments are always in the most recent levels at Fatherland: twenty-two sherds were in the BM Unit area and twenty-four in the Unit 4-11 plot. Some of these have been fitted together, which implies relatively few actual vessels. At least two of the vessel fragments from the historic midden outwash of Mound B were painted red.

The clear trade connection with the Caddo towns might well be duplicated in the archaeology by Chickasaw, Choctaw, and Tunica property. The infrequent shell-tempered Mississippian pieces might well be Tunican, but the imports are scant considering the long proximity of the Tunica and Natchez chiefdoms. I have remonstrated with history previously (Neitzel 1965:47) concerning the complete absence of evidence in the form of distinctive Choctaw and Chickasaw sherds. Complex social connections between the three are referred to in historic accounts, and Quimby (1942:265) has included Chickachae Combed as a Natchezan cultural determinant at the Grand Village. I had

once claimed one or two sherds from superficial Mound C deposits to be Chickachae Combed, then recanted, though not soon enough to eliminate them from the published histogram in the Fatherland report.<sup>28</sup>

#### NODENA RED AND WHITE

Nodena Red and White, *vars.* *Nodena* (Plate XXIVc) and *Ellison* are another one (or two) shot affair. One sherd each from Zones V and III, respectively, are textbook examples of Phillips' definitions (1970:142-144). They are undoubtedly superficial cultural intrusions, but their high visibility cannot be ignored.

#### OWENS PUNCTATED

With very small confidence, I have designated seven sherds in Table 1 as Owens Punctated. My frustration with punctated designs is reflected here. Four of these are placed as *Menard* and three as *unspecified*. There is an error in the bookkeeping or typing at this point, since four *Menard* and two *unspecified* sherds appear in Units 19-24 and 25 in Table 2. One *unspecified* sherd has thus been lost from the Zone V total of two, and one *Menard* shifted from there to Units 19-24 and 25. The punctated type specimens were re-sorted at a later date and only four specimens of *Menard* were assigned to Units 19-24 and 25 in Table 4, two to each unit. The *unspecified* punctated specimens were relegated to another type, and one to a new Owens variety.

While reviewing these types, I was diverted by Steponaitis' discussion (1974:154) involving two sherds from the Emerald site and a new designation, Owens Punctated, *var. Poor Joe*. The above vagrant *unspecified* sherd was consigned to *Poor Joe* (Plate XXIVf). However, it was on *Addis* paste, unlike *Menard* and others, so the chief point of resemblance is the wedge-shaped punctates, usually from fingernail impressions, confined within incised curvilinear bands. The *Menard* sherds retained traces of red paint within the incised zones, similar to specimens I have seen on the lower Arkansas River.

There were a number of fingernail-punctated sherds in the mound collections (Neitzel 1965:Plate 11b-j), in contrast to the dearth of specimens from the plaza excavations. I used the term "Wilkinson Incised" in the mound study in defiance of Suhm and Krieger (1954:377). The sherd (Neitzel 1965:Plate 11j) appears to

conform to Steponaitis' *var. Poor Joe*. Steponaitis places *Poor Joe* in the Emerald phase, conforming to Phillips' terminal Mississippi time level for the type Owens. Both *Menard* and *Poor Joe* extend into the Natchez phase. My personal confusion with punctated types apparently does not interfere with the thinking of other Lower Valley workers. I submit the illustrations in Plate XXIVd, e, and f as examples of my diffidence. Obviously there are some things I shall never understand. The sherd labelled g in the same plate would have been tossed into the Wilkinson bin in 1962!

### PLAQUEMINE BRUSHED

Plaquemine Brushed, *var. Plaquemine* (Plates XXIj, XXIVh, j) continues to be identified as a homogeneous ware over a widely extended area, although the former *var. Grace* has been elevated to its own type status, thus narrowing the field of definition. Despite this, the large, simply decorated, slightly constricted beaker jars of *Addis* paste are more or less consistent quantitatively over a large region of the Lower Valley, including the western and eastern hinterlands. There are recognizable temporal differences in rim treatment (Steponaitis 1974:156). The earliest has a rounded or slightly squared finish to the lip of the gently flaring rim. It is the most frequent variant and is associated with the Anna phase, a development that is said to occur when the Mazique variety *Manchac* is quiescent. A lesser later variant of *Plaquemine* is distinguished by an undecorated strip between the rim and the upper edge of the brushed shoulder zone of the vessel. The rim may be thickened or a rim strip added, similar to what is seen on *Manchac* late variants. The brushing is often carried out in horizontal bands of herringbone pattern, frequently separated by incised horizontal lines or punctations. So far as is known, this specialized treatment is limited within the Natchez area, and although found in Anna levels, it is more indicative of the Foster phase. Again, the Fatherland collections require a complete restudy to see if there is a corroboration of these apparently important, finely drawn temporal features. Both variants, expectedly, can be sorted out in all units and extend into the historic levels. A trial polygon comparing *Plaquemine* and *Manchac* indicates that the former, despite its very high average profile, tends to be weak in historic units, almost vanishing in Unit

BM and strengthening in Unit 19–24 where *Manchac* drops. *Plaquemine* has a lower density at the Bayou Goula site than *Manchac*, a complete reversal, and rises to 16% at Emerald through Analysis Units 1 to 3 while *Manchac* almost vanishes. In general, the *Manchac* profile is low and level while *Plaquemine* is erratic. Perhaps larger corroborative samples from other cuts may serve to clarify such fluctuations; if not, then some cultural factor should be sought to account for the peaks and lows. Some thirteen additional recordable percentage polygons show a predictable evenness for the other common types, except for the BM Unit. The erraticism previously noted in materials from this unit is unexplained at present.

Table 1 indicates that the areal distribution of *Plaquemine* is seemingly normal, that is, it parallels companion varieties such as *St. Catherine*, *Manchac*, and *Fatherland*. The reader is invited to examine the comparative values of all types as plotted in Tables 2 and 4 to see if he can discover any notable cultural ground waves for the quantities and frequencies recorded. I have pursued a number of intriguing leads to no avail. Perhaps ultimate refinement of the varieties present, in accordance with Brain and Steponaitis' preliminary areal example, will serve to align the fragments of cultural history contained within the presumed 500-odd years of the Grand Village occupation.

So far as I know, the specific origin of *Plaquemine* Brushed is unknown. There is a wide time gap between the somewhat dubious Chinchuba Brushed of Tchefuncte vintage (Phillips 1970:66). It is similar to Flint River Brushed of northern Alabama (Heimlich 1952) or, closer to home, Salomon Brushed, identified with the somewhat later Deasonville Phase in the Yazoo Basin (Phillips 1970:158). I am not very confident about the six sherds in Zones IV and VI that I have named Salomon Brushed. The paste was strange, but so is that of many *Addis* Plain sherds. The surface treatment has an "unintentional" brushed look similar to pictures in Phillips' report. They may be queerly made *Plaquemine* specimens.

### QUAFALORMA RED AND WHITE

Quafalorma Red and White, *var. Quafalorma* (Plate XXIVm) is represented by one sherd, and conforms to Ford's original Deasonville type. Phillips (1970:156) accepts and de-

scribes the type as rare in the southern Yazoo Basin. It is a clay-tempered version of the late red and white wares associated with the Mississippi period. It is confined to the Baytown period.

#### WINTERVILLE INCISED

Winterville Incised, *var. Winterville* is shown in some strength in Table 2. Forty-six sherds appear distributed through the various analysis units, including a trace in the final mantle of Mound C. Since this category has now been redefined as Coleman Incised, *var. Bass*, it becomes necessary to try to explain the changes in significance that need to be comprehended. *Bass* is now the clay-tempered counterpart of Winterville, *var. Belzoni* (Plates XXIk, XXIVn), and therein lies the basis of the change. The tabulation in Table 2 under *Winterville* should now be replaced by those under *Bass* in Table 4. Even so the representation is only generally accurate, since I was unable to reexamine all of the sherds originally classed as *Winterville*. Those available to me in the type collection are responsible for the Table 4 tabulation under *Bass*. Although the numbers have been cut from forty-six to eighteen, the proportions of the *Bass* remainders are similar to those for the erstwhile *Winterville*. I am certain that the apparent deficiencies in Units 19–24 and 25 would be increased if all of the sherds could be re-sorted. Conversely, I doubt if there is even a single *Winterville* sherd as originally defined by Phillips (1970:173) in the Fatherland collection, although *Belzoni* is known. All of this adds to the historical complexity that Phillips has conceded to the type, but should clear the way in the future for accurate typing. The explanation of the change is really more complex and confusing than the actual concept.

Other members of the Winterville family retain their status, except that the provisional variety *Angola* has been changed to *Tunica* (Plate XXIVo) because of its Tunican affinity at the Trudeau and Angola Farm sites in Louisiana, now well-documented historic Tunica sites of the early to middle eighteenth century.<sup>29</sup> *Belzoni*, although a very minor variety in the Natchez region, remains a constant and valuable indicator of the inception of the Emerald phase.

This temporal position is parallel to the defunct *Winterville*, now *Bass*, category. Seven *Bass* sherds having historic associations were typed from Unit 1–3. The remainder of the *Bass* specimens, so far as they are known from limited sorting, are from protohistoric units. The two from Unit BM might be an exception, but the deposits here always appear mysteriously out of line.

The broad-lined incised Winterville, *var. Belzoni* sherds, like the new Coleman, *var. Bass* (*née Winterville*), were sorted but not named when the mound collections were first studied. They appear as “unclassified” in illustrations, but the minimal occurrences of both are now recognized and understood. The situation has improved somewhat over the recent confusion enveloping the identification and interpretation of *Leland*, *Coleman*, *Winterville*, *Dabney*, *Deep Bayou*, *Preston*, *Bethlehem*, and others. Further clarification will always be welcome.

I am uncertain as to the standing of *Bass* and *Belzoni* at the Bayou Goula site or even the Medora site, both to the south of the more or less marginal Natchez district. I would not expect to find them in the superficial historic layers at Bayou Goula.

#### UNCLASSIFIED

There was a small assortment of “unclassified” sherds, usually of the punctated persuasion. If the newer versions of type-variety identification had been used from the beginning in sorting the plaza collections, it might have been smaller or at least less conspicuous. There is also the very good chance that some of the sherds resting uneasily under the varieties of *Leland* may be better termed “unclassified.” A reservoir of sins of omission seems somehow to offset the balance of the many sins of commission that now becomes a part of the record.

I have illustrated four sherds of minor significance simply because I thought I could identify them properly, and it is only right that I should discuss one of them briefly. The unclassified specimen (Plate XVIIk) was originally classified as *Medora*. Since then I have retracted, and find that I can get no one else to name it. There is even disagreement as to whether the design is on the interior or exterior.

## OTHER CERAMIC ARTIFACTS

NINE CLAY TOBACCO PIPES of varied forms were found indiscriminately throughout the general excavations of the site. Three crudely modelled bowl rims and part of the heel of an elbow form were contained in the old occupation layer over Feature 1 (Plate XXVg, k, i). The ware was a chalky kind of paste of Baytown Plain. A broken fragment (Plate XXVh) of what appeared to be the pointed end from an equal arm form of pipe was found in the merged Plaza 1, 2, and 3 surfaces in the coordinate trench leading into the south side of Mound B. It was carefully modelled and vaguely quadrilateral in cross-section, and made from a *St. Catherine* variety paste.

Two stemless pipe bowls (Plate XXVe, f) were found in the mixed midden of Feature 18, and may have been turned up from deeper levels as a consequence of the French military construction. One fragmentary section had a full, rounded base constricted just above the stem aperture, then apparently the upper part of the bowl proper flared outward. The second fragment also had a modelled base. There was a sharp constriction just above the aperture forming a shoulder, above which the bowl flared outward in a cone shape. Both bowl interiors were charred, and the stem apertures were 16 and 10 mm in diameter. The paste was of the *St. Catherine* variety.

One almost complete pipe with a flared bowl (Plate XXVd), an equal armed fragment, and a portion of the bottom of a crudely modelled, pointed bowl came from the rich midden accumulation centering around the datum benchmark. The first was shell-tempered and had inverted chevrons incised on the bowl and a zig-zag line on the base. The fragment was thick and the paste was Mississippi Plain. There was some charring of the bowl interior.

A very unusual and most interesting clay artifact is the fragment that was obviously meant to be a modelled replica of one of the large brass sleigh bells that were traded by Europeans to the natives (Plate XXVo) (Neitzel 1965:Plate 143).

It is a thin, neatly fashioned upper half-shell of such a bell. Slashed incisions mark the slightly rounded surface, and the extruded top is shaped in the characteristic sub-square profile, perforated for suspension. A small perforation occurs near the lower edge, probably for lacing the upper shell to its lower counterpart. The paste is *Addis*. The shape is unusual; it is a combination of Brown's varieties *Angola* and *Flushloop*.<sup>30</sup>

There were three thick, modelled clay disks, or more properly ear or lip plugs (Plate XXVm, n, j). Two reddish-fired, neatly fashioned specimens were cylindrical, one being slightly tapered. The third was moderately biconcave and mashed prior to firing, leaving the sides slightly concave or grooved. These probable earplugs were of a paste with no visible tempering. A fourth similar object (Plate XXVI) was small, neatly modelled, and expanded at one end similar to a collar button. The paste was *St. Catherine*. Another somewhat similarly shaped fragment may be part of a rather long plug, or part of an adorno or rim lug. It was also of *St. Catherine* paste. Two of the above were associated with Feature 1 and three with Feature 19, the most prestigious building sites on the plaza. Three similar earplugs were found at the Emerald and Foster sites. The Emerald phase or even a Plaquemine time period seems appropriate for both (Steponaitis 1974:160).

There were four pieces of modelled, fired clay objects resembling the biscuit-shaped Poverty Point type. One is complete and another has wide grooves, possibly cane impressions, on one surface.

There were also three small miscellaneous pieces of clay. One is a ball-shaped appendage, one a flat, modelled, pointed object, and the third seems to be an unintentional clay cast.

Thirteen whole pottery discs and fragments of five others were associated with the various analysis units on the site. At least nine were with the protohistoric units on the south plaza, five with Feature 1, and one each with Units BM and 4-11 and Feature 18. One fragment had

been drilled through several times and another (Plate XXVc) was perforated for suspension. All but one were cut from *Addis* pottery vessels. The exception (Plate XXVb) was cut from a sherd of *var. Fatherland* bearing a red film. The

discs ranged from 20 to 45 mm in diameter. Steponaitis (1974:161) reports only one fragment of a pottery disc from the Emerald site. Its association in time could be Coles Creek, Plaquemine, or Emerald.

## STONE ARTIFACTS

APPROXIMATELY 6000 COBBLES OR SMALLER STONE PEBBLES were recovered, distributed over practically all of the test trenches opened. I have mentioned it elsewhere in this report, but it is worth restating that similar high counts were characteristic of the mound excavations in 1962. A record was made during analysis, but was never tabulated in the final report.

I have tried to understand what the large quantity of waste stone might mean, but so far have not found a satisfactory answer. The run of specimens ranges from fist size grading down to small pebbles. A dark red, granular textured rock is most conspicuous, along with some familiar tan and gray chert pebbles that are known to occur in gravel outcrops of old terraces in the Mississippi Valley. Many of the stone pieces appear to have been used, probably casually as hammerstones. There are few signs of heat or fire cracking. The red stones appear inadequate for chipping or working into any specific sort of tool, although apparently broken through percussion. Many of the tan and gray specimens have had spalls or chips removed, as though part of a biface industry. Many such chips and flakes are found but show little indication of use, temporary or otherwise.

The source of most of the stone is probably the occasionally exposed beds of the Citronelle sand and gravel. This apparently tertiary alluvial deposit is the basal facies of the loess in the Natchez area (Snowden *et al.* 1968). The beds were exposed in deep ravines and creek beds and the raw stone was available in aboriginal times, long before St. Catherine Creek became artificially entrenched in the nineteenth century. The entire raw stone inventory is accessible today on the sand bars of the modern creek channel. In reading various geology reports one is struck with the abundance of some stone resources, practically within the confines of the Lower Mississippi Valley. The region is usually characterized as stoneless, a fact of life that has generated its share of cultural theory. I would disagree with Steponaitis' statement

(1974:162) that "stone rarely occurs naturally in the loess bluffs."

Another anomaly that evokes comment, but no enlightenment, is that in the midst of this profusion of raw stone resources, there is only minimal evidence of a worked stone industry. Chipped or pecked and ground stone implements are practically absent within the Natchez culture. It is as if the very abundance of stone in the bluff hills generated scorn for its utilization. However this may be, there are a few stone tools of both technical categories and, more rarely yet, ornaments to be described.

The limited stratigraphic opportunities gave no indication of use changes in the stone residues. The distribution from the many excavation tests was plotted as counted, with little or no significance evident for horizontal placement. Predictably, the areas with little or no other evidence of occupational activity had few or no stones. Site Zones I, II, and III were notable in this respect (Table 3). Zone III, it will be remembered, was the locus of exceptionally abundant yields of garbage bones, broken pottery, stone, and European trade goods, principally in the vicinity of the site datum or benchmark. Much of this was concentrated in two bowl-shaped pits, Features 9 and 10. No other traces of structure, except for a few scattered post-holes, were seen here.

Zone IV was the source of substantial quantities of cobbles and pebbles, especially near the house patterns just north and east of Mound B. Some 300 were tallied for the Unit 1-3 tract, and somewhat less than that for Unit 4-11.

Part of Zone VI has been discussed in reference to the stone material recovered from the Feature 19 excavation and from the soil upheaval of Feature 16. Some 4500 rocks were collected from the strata cuts in this area, not to mention the 3000-4000 recovered from one small house floor pit, Feature 27 (Plate XVIIb). The latter were somewhat different from the general run of stone residue over the site. They appear to have been selected in a smaller size

than the site average, and there appears to be considerable, possibly intentional, breakage. Evidence of fire fracture was not clearly demonstrated, although I suspect that something like this might account for the fairly uniform fragmentation. There is no obvious answer as to their use or their presence in a house sub-floor cache.

Zone VII was subjected to less excavation than other site areas. It was the site of Mound C and considerable marginal digging occurred when the mound was excavated. The three superimposed plaza surfaces tested here yielded only scant cultural material, indicating either a restriction of cultural debris or short-term exposure to occupational activity for each surface.

#### CHIPPED STONE AND DEBITAGE

Of the more than 6000 stone cobbles and pebbles tallied from the strata tests, some were classified as cores. Keeping pace with this count were 4000 flakes and chips from the same cuts. There was no depositional distinction between the distribution of the two lots. Depending upon the part of the site from which the counts were made, the range ran from as few as two to four specimens for a square in Zones I and II to 286 for Zone III, 519 for Zone IV, 864 for Zone V, 4500 for Zone VI, and 172 for Zone VII. Approximately the same proportion of stone material was recorded for the 1962 mound excavations, though the exact count is not now available.

It was often very difficult to decide whether there was definite evidence of secondary use of many of the flakes, perhaps as temporary knives or for similar functions. Any that did show edge abrasion from use were classified as utilized flakes or chips and were thus set aside from those that showed obvious secondary chipping or retouching. It has been shown that the miscellaneous flakes and chips, used or not, were evenly distributed in substantial numbers throughout the site, but I have yet to find a comparable representation of bifaces or finished products, or for that matter an adequate representation of cores from which the debitage may have been removed. Insignificant in style and numbers as they are, a roster of chipped tools is supplied below.

Most of the blades and chips had been struck from chert gravels, part of the cortex often showing. The stone varied from light grays,

buff, and tan, to dark grays with occasional tinges of pink and red (probably heat treated) and banding. The bulk of the rock residue, as mentioned above, was the granular, dark red stone that predominates in the loess basal facies.

The lack of typological distinction has led me to sort the believable artifacts into six broad divisions. Some overlapping was inevitable.

The large broken pieces that may have been cores or even choppers or rough blades were separated first. Approximately twenty-one of these were retained as a study collection. There still may be a few in the stored level collections; therefore, they are not counted here.

The second separation was made for large, rough flakes or spalls, showing slight breakage along the sharp edges, indicating possible moderate usage. There were eleven of these.

The third group was difficult to distinguish from the former except that there were many more small pieces present. Upon close examination evidence of usage was indisputable, and intentional secondary chipping was often obvious. These seemed to be temporary knives and/or scrapers of no particular form. Seventy-four specimens were counted (Figure 16d-g).

The fourth group may well have been included under either group two or three, except that I saw a real or imagined similarity to what have been called spokeshaves. At least the notched edges showed use fracture. There were only five of these.

There were fifteen elongate oval, percussion-formed pieces that may have been choppers or end scrapers. They were thick and roughly prismatic in cross-section.

The sixth category comes more closely to what might be called an artifact type. These are the small thumbnail-shaped scrapers. Some are close to the classic turtleback or snub-nosed form, but tend to run to a disc shape. Steeply chipped edges are present on at least one thick side. It was partly because of this feature that I was at first inclined to classify many of these as native gunflints, quite like Witthoft's stage one (1966: Figures 3a, c; 5m-s). A few of them may be just that! There were thirty in the final count (Figure 16a-c).

After attempting to make the foregoing distinctions for the snub-nosed class, I was left with four that I have included in the native gunflint discussion below. Because of breakage, I am irresolute about one of these.

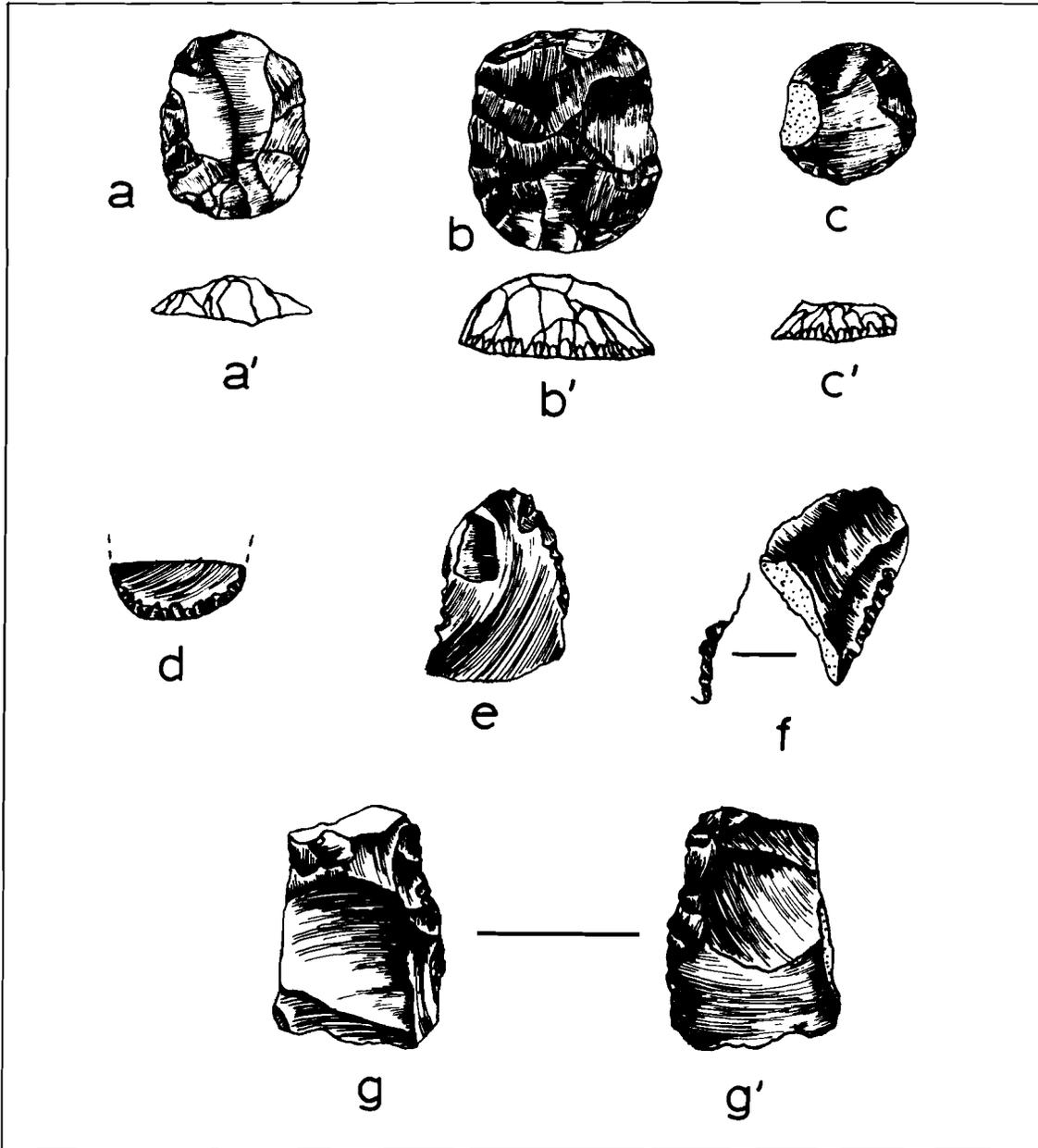


FIGURE 16. Fatherland site lithics: a-c, snubnosed scrapers; d-g, worked flakes.

I originally had high hopes of discovering various significant clustering concentrations of the chipped stone assemblage. As with other artifact categories, this goal was not met in any significant manner. More of them are found around centers of living activity, such as houses and middens. All six classes are more noticeable

in the vicinity of Feature 1 and the datum benchmark. Such tools were scant from Unit 4-11 and the Feature 19 levels, which might seem to indicate a preference for stone scraps in historic situations over protohistoric deposits. The meaning, however, is not at all clear.

The last and certainly least controversial

chipped stone class is that of projectile points. This group was never overwhelming in the Fatherland collections. Thirteen were catalogued from the mound excavations in 1962 (Neitzel 1965:Plate 12s-ee), and twenty-three were recovered from the more extensive plaza tests. As shown in Plate XXVIa-h, they may be classified generally as five medium-sized stemmed Kent and Nolan types, and two were probably leaf-shaped or straight-sided knife blades. There are eleven Madison or the similar Kinney specimens, one Alba Stemmed (Bell 1958; Perino 1968), and three that are unidentified. The most interesting is a small triangular (Mississippian) one made from glass that has become highly iridescent (Plate XXIXf). If one were ever dubious about, or required evidence of cross-cultural links, this must be it. Two other especially interesting specimens in this technological class are the slender flint drills or pins and the eccentrically shaped blade, which have not been seen in the historic-oriented Natchez stone tool groups before (Plate XXVIk, l).

Steponaitis' comments about stone at the Emerald and Foster sites (1974:162-170) conform generally with the uncompromising estimation I have rendered above.<sup>31</sup> He has three broad classes defined by (1) evidence of manufacture, (2) wear patterns, and (3) apparently unmodified rocks whose presence might mean something. There was one projectile point each at Emerald and Foster. That from Emerald was of the Bayougoula Fishtailed, *var. Bayougoula* that Quimby (1942, 1957) formerly posited for historic sites. The variety is also known from the Gordon and Lake George sites, as Steponaitis has pointed out (1974:163). He notes further the circumstance that it was absent at Fatherland, a situation that impelled him to reexamine the Bayou Goula site context. He found that the point there was coeval with the Anna phase at the onset of Mississippian influence in the Lower Valley. The point is also reported from Cahokia, according to Steponaitis (1974:164).

A Collins side-notched point was found at the Foster site, and Steponaitis (1974:164) places it in a Deasonville context in the Yazoo Basin, or coeval with the Hamilton Ridge phase of the Baytown period in the Natchez area. He also mentions two other point fragments from Emerald and Foster that are in the Kent or Gary style, similar to rare specimens from the Grand Village. An extremely limited array of scraper-

knife-chopper categories are also described by Steponaitis (1974:165-167). These and the wavering utilized or nonutilized classes are certainly similar to the grouping about which I have registered so much indecision.

## GROUND STONE

Ground stone items are even more sparse than the chipped stone list, and equally unspecialized. Twenty-seven such tools or used stone pieces were singled out. There was one stone discoid that appeared to have been shaped more by nature than by human intention. For a people who have been described as being devoted to playing chunky, there is certainly scant archaeological evidence to support the existence of this form of recreation. One slightly quadrilateral hammerstone had been used for pecking. The abrasions were on both ends and on one flat side. Two large cobbles may have served as anvils, and one rectangular block had been part of a mortar. Six specimens were probably used as abraders.

Special artifacts consisted of an arrow-shaped, polished piece of catlinite, bearing incisions on the edges (Plate XXVIIn) and a shallow drilled hole in its blunt end. There was a large semi-elbow-shaped block of limestone that was probably intended to be a pipe blank. The polls of a small siltstone celt, and a larger one with a blunt blade made from petrified wood, came from a Feature 25 stratum. There was a small fragment of polished catlinite from Feature 10, and a cut and polished prism of galena from Feature 24.

The thinly spread sample of ground and polished stone artifacts precludes any significant conclusions about the horizontal and vertical distribution of this group. A very modest assortment of ground stone tool fragments were found in the mound excavations. Of some twelve pieces, possibly three were paint palettes and two or three were tobacco pipes. One quartzite and one sandstone palette were found at Foster and a polished stone unidentified fragment was uncovered at Emerald (Steponaitis 1974:168-169). The palettes seem to be consistent with Mississippian times in the Yazoo Basin and Anna to Emerald times in the Natchez district.

French accounts state definitely that split canes were used for knives, and garfish scales or simply pointed cane shaft ends for the heads of

arrows, which may explain somewhat the dearth of stone cutting tools or projectile points. Nevertheless, such a scarcity makes it difficult to explain the reportedly extensive use of wooden dishes (Swanton 1911:19) in conjunction with the known abundance of pottery vessels. Large mortars made from hollow tree trunks and dugout canoes were also an established part of the native craft system and certainly called for a fairly sophisticated stone tool kit. In 1973 a fifteen-foot-long dugout canoe was exposed and recovered from a sand bar in the Homochitto River a few miles south of the Grand Village. I was asked to inspect this unique find, and was able to recognize charring and possible adze cuts on the interior surface. The specimen, which dated from the middle of the fifteenth century, has been described by McGahey (1974). Adzes are known to have reached the Gulf Coast by Poverty Point times at least, and stone axes were probably much earlier. No satisfactory specimens of either have been found in the Natchez Phase sites that I know of. How a fairly extensive wood crafting industry was accomplished without the use of stone tools, or why an unusually abundant source of stone

was not utilized more efficiently, has yet to be explained.

### OCHRE

Although this mineral substance is not strictly an artifact, its occurrence was noted at the Grand Village, Foster, and Emerald sites, and some kind of cultural activity may be attributed to its presence and use.

There were fifteen minute samples of red and yellow ochre and what appears to be a vestige of white kaolin recovered from several locations at the Grand Village. Two yellow, three white, and seven red traces were contained within Levels A and B of Feature 9, a bowl-shaped pit. One trace of red ochre or fired kaolin was noted in the midden mixture of Feature 15. Red ochre and an unidentified mineral were seen in the disturbed layers of Feature 18, and a trace of pinkish (fired?) clay was found in Unit BM deposits. As at the Emerald and Foster sites (Steponaitis 1974:169), all of these substances could be placed at early Anna, Foster, and possibly Emerald phase levels carrying through to historic occupation at the Grand Village.

## BONE AND SHELL ARTIFACTS

THERE WERE THIRTY-THREE ANIMAL BONE and shell specimens that were either full-fledged tools or had been used or altered. There was one pointed fragment of mussel shell, a cut columella, and four flat cut pieces of conch shell (Plate XXVIIq, r, s). Two modern shark teeth and one fossil form (Plate XXVIIi, j, k) had undoubtedly undergone some kind of selection, if not actually used. One burned garfish scale may have been an artifact, although large numbers, usually unburned, were widely distributed throughout the site. It has been previously mentioned that they were recorded as having been used to tip arrows. There were five bone fragments (Plate XXVIIo, p) with butcher marks that were selected from the general faunal remains. These fragments are discussed in Appendix II.

There was one antler drift (Plate XXVII n) that was obviously an antler flaker. Another piece had been fashioned into a chisel, possibly for wood working. A rather short bone splinter appeared to have been used for the same purpose. There was a split long bone fragment that had been sharpened to form a wide bodkin-like tool, and three carefully honed, double-ended needles or bodkins were also recovered (Plate XXVIII, m). A complete awl (Plate XXVII h)

made from the ulna of a gray fox, the pointed end of a similar awl, and a sharpened bird bone splinter came from various locations. The shaft of the long bone of a large bird (Plate XXVII d) had been cut into a tube 38 mm in length. There were two bone beads (Plate XXVII a, b), one bearing three incised annular rings, and a three-pronged leg bone splinter (Plate XXVII e) that was apparently intended to be used as a scarifier or scratcher. The smoothed, pointed spine of a large fish bone may have been used as a needle or a pin.

The most interesting article was a bear incisor pendant (Plate XXVII c). The tip of the root had been cut off, and a longitudinal notch cut anteriorly almost to the dentine. An annular groove at this point penetrated to the root canal, providing two holes for suspension. The latter specimen and six other bone artifacts were associated with the protohistoric levels of the Feature 19 area. Equal numbers of other bone tools were associated with the historic Unit 1-3 tract, and the remainder were with the historic associations. This implies that bone tools continued in use after European substitutes had been made available. As scarce as the bone artifacts are, they compare favorably with the number of stone tools.

## EUROPEAN ARTICLES AND COMMERCE

AS MIGHT BE EXPECTED FROM THE LONG TERM of interchange between the Natchez and the French, or for what Quimby (1966:67) has termed the Middle Historic Period (1670–1760), there was a variety of the less perishable trade objects recovered from both the mound and plaza excavations at the Grand Village Site. The former have been discussed and illustrated (Neitzel 1965), and conform in general with the less selective elements found in the plaza. There is some slight difference in quality between the items accompanying the Mound C burials and the discarded material in the mound and plaza middens.

The numbers of European articles that reached the Natchez Indians through native commerce, or at least the fragments that survived, are not impressive. Compared to other southeastern sites in both French and British or American trade channels, they are meager, especially for the Middle Historic Period noted above. The three most closely related sites that may be used for comparison are the Bayou Goula site near Baton Rouge (Quimby 1957), and Fort St. Pierre and environs on the lower Yazoo River (Brown 1974a, 1975a, b; Brain 1974),<sup>32</sup> including contemporary French, Tunica and other neighboring tribal units. In contrast the post-1706 Tunica sites, barely fifty miles downstream from the Natchez post, yielded a tremendous quantity and variety of valuable trade articles (Ford 1936:129–141; Brain 1970, 1973; Neitzel, field notes).<sup>33</sup> Occupation of the latter location at the mouth of the Red River persisted thirty years or more after the Natchez demise and represents the period when the Tunicas dislodged the Houma people and entrenched themselves as valuable and apparently well-paid allies of the French, to whom they had become attached at the time of the earliest French settlement in the Lower Valley. Both the Natchez post and Fort St. Pierre landings were designed to serve as principal staging areas for French commerce and control. History saw both of them come to a disastrous end despite the construction of forts, warehouses copiously stocked with goods, and the well-in-

tioned mutual cooperation design between whites and natives using all the resources of the military, missionaries, and commerce.

Few of the fruits of twenty years or more of common residence at Natchez are to be found in the ground at the Grand Village. Prior to the flight of the Indians in 1730, some 500 white settlers and perhaps as many as 4000 Indians occupied the immediate vicinity of the Natchez Post. For all practical purposes, the quantity of trade goods recovered from the entire Natchez chiefdom is hardly more than would be expected from a passing liaison.

Fort St. Pierre was probably designed for even greater things, and conceivably was intended as the major outpost of France in the Lower Valley. Although a fort was erected and a population of some 400 whites was settled in the environs, very scant archaeological evidence of this short-term occupation remains. The burial contents at Angola Farm (Ford 1936) and the Trudeau site (Brain 1970, 1973) surpassed the combined remains found at all of the other historic locations in the Lower Valley. The contents of other less well-documented or investigated locations could well be added without altering the proportions significantly.

So far as is known, there was little effort made to transform the mouth of the Red River Tunica settlement into a French outpost, although it did serve as a temporary staging area for French punitive forays on at least two occasions. No warehouses, churches, forts, or outlying white settlements or concessions have been mentioned in connection with the Trudeau or Angola Farm sites. Unless the Yazoo or Natchez posts settled for quantities of perishable goods versus the hard goods found at the Tunica landing, it is difficult to account for the discrepancy in trade goods remains. It is fairly well known that large cargoes of iron, glass, pottery and other less perishable goods were transshipped in colonial frontier trade for the entire Great Lakes and Mississippi Valley, both by boat and overland by pack trains. Despite the highly publicized liaison between the French and the Natchez chiefdom centered at the Grand Vil-

lage, the fact remains that artifactual evidence is virtually absent. As I have intimated above, some of the trade scrap from the plaza may even be the result of French occupation and may not have entered into the white-native trade cycle. No significant examples of trade goods have been found at what are now considered to be Natchez villages mentioned in the French sources and contemporaneous with the Grand Village.

Concentrating on the latter, it is interesting to compare the contents of the presumably elite graves in the floor of the temple on Mound C, with the run of historic Tunica burials at the Trudeau Site, or for that matter the few individuals unearthed at Angola Farm. I have ventured the suggestion that the Mound C burials included that of the Great Sun who died in 1728. He was a staunch and presumably favored ally of the French, possibly at the expense of some of the loyalty of his subjects from neighboring, dissident Natchez towns. Burial 15, perhaps this Sun's grave, was the best supplied of all of the twenty-six burials enumerated (Neitzel 1965:93-95). The trade goods accompanying all of these interments would hardly be equal to the contents of a few scattered graves from the Trudeau site. The total number of graves dug at the latter is estimated to have been around 100, and the "Tunica Treasure" from these (Brain 1970) filled a moving van when packed for shipping. In addition, the quality of the goods from the Tunica graves is far superior to any other such assemblage from a historic site, which may possibly result from the fact that the settlement persisted late into the Middle Historic Period, whereas other sites were extinct after the 1730s.

There doesn't seem to be any clear explanation for this problem of quantitative and qualitative imbalance of trade goods. As often happens, the archaeological reality does not agree with what is rather loosely asserted historically. There is some indication that the French were basically fearful of their Natchez neighbors, but at the same time became more and more acquisitive-minded toward native territory. Perhaps trade goods were withheld except for bargaining or demands for ever-increasing concessions. The French community can be said to have been in ascendancy as compared to the deterioration of the Natchez chiefdom on all fronts. The need for cooperation from the

Natchez was not as valuable or necessary as that required from the less numerous but reliable Tunican allies to the south.

Regardless of these unresolved questions the goods themselves are historically demanding of description and comment. As remarked, most of the trade items recovered from the habitation and midden areas of the Grand Village plaza excite little interest for excellence or uniqueness. With one or two explainable exceptions, they all conform to the appropriate time period and the apparent source of supply through French commerce. Scraps and castoffs predominated, with some emphasis on military things.

It is well to recall that we are not dealing with the average historic village situation, i.e., one that has been subjected to two or more centuries of intrusive disturbances from settlement, agriculture, or commercial developments. It has been postulated that colluvial creep was washed onto the site during and immediately after the Indian-French occupation, so that the critical aboriginal surface was sealed in until exposed by the excavations of 1972. The only significant disturbance to the aboriginal condition was that of the contemporary French when they usurped the plaza for a month or so in 1730 to besiege the temporary Indian forts to the south. The conventional siege fortifications did extensive damage to the plaza and probably the mounds, but large expanses of the archaeological matrix were untouched.

## CERAMICS

Fragmentary European ceramics were consistent with what has been found at contemporaneous locations. Faience and glazed and unglazed earthenware predominated. There were only fourteen specimens of the coarser ware (Plate XXVIIIj, n), including two fine-grained, red bricklike sherds from the south coordinate trench into Mound B and Feature 1. The glazed ware (Plate XXVIIIh) was usually green and much less numerous than at Fort St. Pierre (Brown 1974:34). Conversely, there was more than twice the quantity of faience at the Grand Village than at Fort St. Pierre.<sup>34</sup> There were some seventy pieces, mainly white (Plate XXVIIIa-c), but also blue on white and a few polychrome pieces with orange brushings and abstract or foliate designs (Plate XXVIIId-i). The blue on white designs were rectilinear, brushed linear, and foliate. There were four

pieces of a pinkish, chalky ware (Plate XXVIII, m) from the Unit BM area, and two from the south coordinate trench into Mound B. Dr. Brain assures me that this ware is identical to that found in the Trudeau collection (personal communication, 1974). Another sherd (Find 570) has been identified as pearlware (Plate XXVIIIk) that could not have been in existence before 1769. It was found in the upper one foot of talus material in the south coordinate trench into Mound B, thus there was opportunity for it to have been a post-massacre intrusion. Two of the chinaware fragments were porcelain, their paste and finish quite distinct from the pinkish cores of the white faience upon which the glaze had often cracked and separated from the core (Plate XXVIIIo, p).

The distribution of the European ceramics on the site is of interest. Although individual sherds were scattered over most of the trench tests, the majority were associated with the Unit BM location. Some were even included in the deeper deposits of the two bowl-shaped pits there, Features 9 and 10. There were a few in the house pattern deposits of Units 1-3 and 4-11, and three were found in a test trench that intersected the French sap works. Again, there was a concentration of distinctly European table ware with military paraphernalia, all mixed in with aboriginal artifacts near the site datum.

### PIPES

Kaolin pipe fragments (Plate XXIXa-d), mostly stems, were also found to have accumulated along with the chinaware and military hardware. There were thirteen in the Unit BM inventory of the total of twenty-one. Two were found in Feature 18, also identified as part of the French siege works. The stem apertures were measured, but dates were not computed by Binford's formula. Six were in the 3/64- to 4/64-inch size, six in the 4/64-inch size, and nine in the 5/64-inch class. The three diameter measurements were evenly distributed in the upper levels of the site, and one stem and three bowl pieces came from the deposits in Feature 9, a bowl-shaped pit. Only six stems had been found previously from the Mound B midden outwash, and a spurred bowl had been placed at the feet of Burial 15 in Mound C (Neitzel 1965:43, 50; Plate 13j). Three stems were decorated with annular punctated and stamped designs that identify them as of Dutch origin.

Three such stems were found at Fort St. Pierre and other contemporaneous, though widespread sites such as Fort Michilimackinac, Fortress Louisbourg, and Santa Rosa at Pensacola, Florida (Brown 1974b:8; 1975a:194-196).

### GLASS

Glass sherds from various kinds of bottles and possibly a few panes were somewhat localized in the site deposits. Seventy-two pieces were catalogued from the entire site: nine were from the surface above Feature 19, twenty-four from the benchmark tract, including Features 9 and 10, three from Feature 1, and four from Unit 4-11. Six had an indefinite association with the disturbance of Feature 18. One specimen has been reported above in the stone projectile points section as an iridescent triangular point. Ten trianguloid slivers, shaped consistently enough to be considered a tool type, were distributed generally. Five came from the benchmark coordinates, one from Feature 18, and the remainder from various test trenches. They were distinctly triangular and bore cutting marks, as though shaped with a glass cutter. They could have been used for a number of light cutting, perforating, or graving tasks.<sup>35</sup>

### BEADS

Beads were recovered as individual specimens from wherever they might occur in the various excavation units and layers. There were no massed assemblages, such as had been found in Mound C burials (Neitzel 1965:93-95). The finding of the more than 400 specimens listed was a random process; they had obviously been lost in the same manner. Some have been lost again in the process of field cleaning and cataloguing.

For simplicity's sake, I have followed a system of classification used by Gregory and Webb (1965:15-45). The beads were typed basically on color, and the sub-type derived from shape and/or size. The types do not include any that might be considered aberrant for the times, the place, or source of supply. Similar examples can be found in any historic context in the Lower Valley and can also be compared with distant collections related to the same circumstances, such as the Illinois valley or the Great Lakes provinces.

There are a few specimens which I have chosen to consider more scarce than others.

These are dark blue to black, football-shaped beads, bearing white spiral or straight longitudinal lines. One broken specimen was similar in shape, but white with spiral blue lines bordering a red line. There is one red and blue *Cornaline d'Aleppo* and several clear, faceted, and raspberry types. Two, one worn and the other broken, appear to have been made from por-

celain or chinaware. They both bear fine gold lines. The types are described in Table 6.

Approximately 75% of the beads came from the area around the site datum, many from the lower levels of the pits, Features 9 and 10. Approximately fifty were in the Feature 1 deposits, twenty in the Unit 4-11, and nine with the deeply disturbed deposits from the upheaval of

TABLE 6  
GLASS BEAD TYPES\*

1. White opaque, sometimes called porcelain					
a. Large elongated ovoid, 10-15mm. Tendency to be waisted					61
b. Medium elongated ovoid, football-shaped, 8-11 mm					88
c. Spheroidal medium, 3-8 mm					34
d. Small elongated oval, football-shaped					10
e. White ovoid seed beads, 2-4 mm					69
2. Dark blue translucent, elongated ovoid, football-shaped					
a. Ovoid, 9-14 mm					31
b. Spheroidal, 8 mm					3
3. White triple blue-striped spiral, 3 bands					
a. Elongated ovoid, football-shaped (rarely long and waisted), 8-17 mm					15
4. White blunt ovoid, single blue stripe, 10 mm					11
5. Green opaque, elongated ovoid, football-shaped, 9-12 mm					13
6. Dark green translucent, elongated ovoid, 8-17 mm					12
7. Blue-gray, triple red-white stripes, 3 bands, elongated ovoid, football-shaped, 8-13 mm					6
8. Clear elongated ovoid, football-shaped, 12 mm					3
a. Clear elongated spheroidal, white stripes					7
9. Clear green, spheroidal, white striped, 6 mm					3
10. White opaque, spiral brown striped, elongated oval, 12 mm					3
11. Opaque pale blue oval to spheroidal, 4-12 mm					13
a. Opaque to clear pale blue seed beads, 2 mm					4
b. Opaque black or blue seed beads, 2-4 mm					4
12. Clear white knobbed, 12 mm					2
a. Dark blue opaque knobbed, 9 mm					1
13. White knobbed, ridged (fragments)					2
14. White decahedrals, 8 mm					2
a. Clear decahedrals, 8 mm					3
15. Blue, white-striped elongated oval (1 spiral), 10-12 mm					4
a. Blue, white-striped spheroidal, 5 mm					1
b. Black, red-and-white banded (broken)					1
16. Red Cornaline d'Aleppo spheroidal, 6 mm					1
17. Green iridescent blunt ovoid, 8 mm					2
18. White gilt banded spheroidal, 5 mm					2
19. White elongated ovoid, three banded, blue-red striped					1
20. White elongated ovoid, four alternate red-and-blue striped					1

Distribution						
Unit 1-3	Unit BM	Unit 4-11	Unit 19-24 and 25	Feature 18	North Plaza	South Plaza
52	313	23	-0-	-0-	9	2
14						

\*Based on Gregory and Webb (1965:15-45)

the French sap in Feature 18. They were absent from the protohistoric levels of Feature 19. I have rechecked the catalogue carefully and none were overlooked for this tract, although there was a smattering of European trash imbedded in parts of the surface there.

### MISCELLANEOUS METAL AND GUN PARTS

There was a large and varied assortment of metal objects to be discussed and illustrated. Many of these can be classed in no other way than as miscellaneous or possibly under a heading identifying their particular substance. The iron and brass or copper objects were processed by conservators of the Institute of Archeology and Anthropology of the University of South Carolina. I am obligated to them for the care and pains they took to preserve and stabilize the varied assemblage. Maintaining the original field catalogue numbers on the deteriorated surfaces was difficult, and a few items lost their place through complete breakdown or illegibility of numbers. A conservator's technical report is in Appendix VIII.

Gun parts were of iron, brass, and possibly copper. The parts found appear to have been discarded as useless and, of course, had deteriorated further from corrosion. Though there are concentrations of pieces from the lock mechanisms, there was no indication of a gunsmith's cache or any such repair stock accumulation. Recognizable parts are shown with their Analysis Unit and/or Feature association.

	1	2	5-11	9	10	BM	18	19	Md.A.
Trigger Guard	1	1	1	1	1				
Screws, ram	2				1				
Rod ferrule							1		
Finials, etc.	1		1		3				
Cocks					2*				
Spring							1		
(1690)—Lock					2**				
(1740)—Plates								1	
Butt Plates							1		

\*1660-80, 1660-90

\*\*1660-75, 1690-1740

Of the twenty-two parts listed above, it is interesting to note that eight or nine may be identified most directly with aboriginal installations, whereas the remainder are suspiciously related to works or concentrations that may have been used specifically by French troops. The one lock plate found on the surface near Mound A could

have well been associated with the materials from the Analysis Unit BM. I have relied on Hamilton (1960) for the dating information on the cocks and lock plates. One iron fragment (Find 1235) may have been part of a lock plate also, though classified as scrap.

There were six recognizable knife blades and four, perhaps five fragments that may have been parts of blades. Four were clasp knives, of which two had oblique points that may identify them as razors (Plate XXXIIb). In their present condition the two tanged butcher knives (Plate XXXIIa) resemble table knives more than anything else. The tang of one, rectangular and tapering away from the blade, was bent back over the back of the blade. This suggests that it may have been used for a special purpose, such as a strike-a-light. One of the fragments may be a broad iron strap fragment. The prize knife specimen is the pearl-handled folding item (Plate XXXIIc) found in the uppermost surface at Feature 19. Five of the above specimens were contained in the mixed midden of Unit BM, one, perhaps two fragments in Unit 5-11, one from Feature 1, and two from the north plaza near Unit BM.

These numbers compare with four clasp knife blades, one oblique, from the mound excavations. There were also one or two fragments that may have been knives. Brown (1975a: 205-208) reports nine knife or blade fragments from Fort St. Pierre. One of these was a butcher knife and six were clasp knives. A nearby, presumably aboriginal dwelling site yielded one knife blade. Iron knives were standard items in the trading lists of goods in the Illinois and Hudson Bay Company inventories. Quimby (1966:68-69) considers clasp knives to have been more popular in the trade lists for the Early and Middle Historic Periods, gradually being superseded by butcher knives in the Late Historic Period. More widespread study of site collections of these important tools are necessary in order to make them more useful in determining chronologies. At the Grand Village site, there seems to be reason for emphasizing that knives were associated with a known, transient white or French "component," similar to the recoveries from Fort St. Pierre.

There were four iron pins classified as awls or drills (Plate XXXII d-f). Two of these are from the benchmark area, one from Unit 5-11, and one from the uppermost limits of Feature 23, a

bowl-shaped pit near Feature 19. Although the latter provenience is considered protohistoric, there were a few European objects lodged superficially in the rather complex creek bank midden there.

There is a broad representation of more or less miscellaneous iron objects. Any one of these could have been articles traded to the natives, but as a group they are certainly to be connected more specifically with white occupation. A large iron clevis (Plate XXXI, l') was exposed during the initial phases of dirt removal at the base of a bulldozer cut, four feet beneath the surface. The specific lodgment was in the edge of a buried gully just to the north of the house knoll of Feature 1. Although it might well be classed as nineteenth century or even modern as to form, there is no doubt about its association with the sealed eighteenth-century surface. I note that the conservators classed it as probably nineteenth century. Inquiry into the typology of similar agricultural tools was not satisfactory, and although my own memory for details is vague, I have seen very similar articles in use in the third and fourth decades of the twentieth century on walking plows. This specimen is 20.5 cm long and 11.5 cm wide. There is a knobbed notch on the inside of the U-shaped bar similar to the notches that occur on agricultural clevises. This permits the raising or lowering of the beam of a plow where it attaches to the singletree, thus altering the plowing depth. Additional evidence for suspecting the use of draft equipment and possibly animals is applied by what appears to be a pintle (Plate XXXk), albeit somewhat small, that fits the clevis, found on the south plaza surface P-1. Although I thought of these articles in terms of agriculture originally, the documented presence of soldiers and artillery now leads me to think of the clevis and pintle in terms of a growing inventory of military-related equipment.

There is a broken piece of square iron bar (Plate XXXg) from the benchmark area that may also be a military tool. In addition, two rather sophisticated locking devices from Feature 1 and 18 also suggest the presence of trunks or lockers. These may well be associated with military debris, since Feature 1 may have been used by the soldiers; at any rate, the house site was probably open during French occupation. The locks do not permit accurate examination to see how the key bar works, but they appear to be

a form of padlock (Plate XXXII, j). Each has a keyhole in the side of a conventionally shaped, tapered hollow tongue. The looped bar of the lock enters the tongue through the rectangular top and the two ends are held behind the traverse key bar. Both have the remnants of a brass strip affixed to the tapering front of the tongue. It is not at all clear to me whether the tapering form of the tongue is functional in that the entire hollow tongue inserted into a lock slot as do modern spring door locks, or whether the unit is a true padlock. Obviously, a whole specialized line of inquiry is opened up by the presence of these two articles. Boxes or cases or trunks which contained burials were present in the temple mound. A hasp, two locks, a key, and some hinges were present. An observer of the same general period noted that the Tunica chief kept his valuables in a chest (Charlevoix, quoted in Swanton 1911:312).

One brass buckle, probably from a shoe, and one whole and parts of two iron buckles (Plate XXXIII, h) came from the benchmark deposit. An S-shaped belt hook (Plate XXXIII, k) came from the fill of a posthole in the same area, and a pointed belt scabbard holder came from the P-1 surface of the south plaza. All of these seem to be items of military apparel. The linked fragments appearing in Plate XXXIII are chain mail, also found near the benchmark concentration. Another large, oval, iron buckle frame may have also been used as a strike-a-light in its original condition.

A roundheaded tack was classified by the conservators as nineteenth-century, but its position in the benchmark deposits is firm for the early eighteenth century. I cannot explain it away as an intrusion, as I did for two twentieth-century wire nails (Finds 541, 547) that had been used by me as level markers in a deep coordinate trench cut into Mound B in 1962. This trench happened to coincide with the shallow excavation that proved to be the top of Feature 18, part of the 1730 French disturbance. A broken oval chain link from the south P-1 surface and a similar iron ring from the Unit BM deposit, two pairs of iron scissors (Plate XXXIII, k), one of which was brass handled, also came from the benchmark deposits. All of these articles might be construed to be not only European in origin, but perhaps closely associated with the French occupation of the plaza, rather than as trade items to the natives. An obviously sharp-

ened nail fishhook in the benchmark deposit may be attributed to either French or native usage. An iron C-bracket from the P-1 surface of the south plaza is probably connected with native occupation (Plate XXXh).

Only three buttons (Plate XXXIII-n') were found in the plaza excavations. One of these was the solid or molded type with a square or wedge-shaped tap on the back and a stamped rim groove around the edge. This was similar to two from Burial 15 in Mound C that were from a three-foot-long row of such buttons. They were spaced three inches apart along the length of the burial and had fragments of wool attached. This would seem to indicate a coat, possibly military, worn by or interred on top of the individual (Neitzel 1965:43). These buttons are said by Brown (1974b:9-10; 1975a:169-172) to be standard for post-1716 uniforms. He lists numerous other supporting examples from various historic French situations. The type does seem to have been confined to the Gulf states sites and probably was related to some kind of troop clothing supplied by private contractors during the Crozat-Law regimes. The other two buttons, one a fragment, were of the compound hollow type. The front was crimped over a back plate and a U-shaped strip was soldered to the back. The solid specimen came from the fill above Feature 23 proper, and thus was in the upper layer of the protohistoric house site. The fragmentary and whole specimens with the soldered tabs came from the benchmark debris and Feature 1, respectively. According to Olsen (1963:351-354), these compound types were not made in the early eighteenth century, though Quimby (1957:139) found both the cast and compound forms at the Bayou Goula site.

One large brass quillon (9.5 mm) from the hilt of a sword was found in the benchmark area (Plate XXXI, l'). The unbroken end is cast as the head of a gargoyle, and the handle socket bears an egg motif relief. The broken end is slightly longer and apparently did not duplicate the gargoyle. A small quillon (Plate XXXIm) was probably from a dagger. The unbroken end is upswept in a scroll. One side of the hilt socket has a rearing stag attacked on its flank by at least two dogs. The other side portrays a boar, apparently at bay, with an unidentified object draped over its withers, possibly the head and right foreleg of a dog or lion. A brass trigger bow

from the same deposits, cited above in the section on gun parts, reveals a design that was not apparent prior to conservation treatment. It has a single line incision on the lateral edges of the bow with a centered formal design similar to the Chevrolet trade mark (Plate XXXIh). Brown (1975a:216) discusses this type of French trade gun in his Fort St. Pierre report. It dates between 1685 and 1730. The other two trigger guards (Plate XXXb, b', c), from this same locality and also listed above, were of iron. A slotted small bolt, erroneously classed as a nail and not included in the section on gun parts, came from the Feature 18 disturbance and thus may have direct association with French paraphernalia.

Some twelve iron and sixteen brass cones or tinklers (Plate XXXIIIb-f) were scattered over various parts of the site. Two were with Feature 18, where it had disturbed native deposits, ten were from the benchmark area, possibly two from the Feature 19 area, and one from Feature 14, a bowl-shaped pit in Unit 4-11.

There were approximately thirty-odd brass or copper pieces including those described above. Some could be recognized as specific artifacts, while others are identified as scrap probably cut from kettles. Nine brass strips, a brass coil, a spring, and a piece of crushed brass scrap were in the benchmark deposits. One tinkler came from the Feature 19 area, and five scraps from the vicinity of Analysis Unit 4-11. Two pieces of matched scrap and a tinkler came from the Unit 1-3 layer, and two brass strips appeared on the south plaza surface after rains.

There were some fifty objects generally classified as iron scrap, a few pieces of lead, and perhaps some tin. Some scraps were mere lumps of oxide, and some may well have been parts of knife blades or similar instruments.

Readily identifiable were the approximately seventy iron nails (Plate XXXIIg, h) and tacks. These were universally distributed across the site and, with the exceptions of two wire nails and one peculiar tack noted, were of conventional hand-forged type. There were three or four fragments of spikes and three general groups of nails averaging 9.5 cm, 7 cm, and 4 cm long. The latter two groups were equally divided, and there were at least five in the 9.5 cm group. At least one horseshoe nail, and possibly another now lost, were tightly clinched and positively identified on the spot as horseshoe

nails by one of the machine operators who was a trained farrier.

There were some thirty nails from the benchmark tract, five from Feature 18, and twelve from the Unit 4-11 houses. The latter are within fifty feet of the benchmark area with its accumulating inventory of European articles. Eight nails came from the north plaza area, probably with fairly close connections with the activities around the benchmark. Five other nails were found on the south plaza, much of which was disturbed by the French sap. Seven nails were in direct association with Feature 1 and four came from Feature 24, a capping deposit over Features 19 and 29. I have mentioned the two twentieth-century wire nails, where a careful check on the relative grids restored my faith in some of the devious engineering that is done in order to obtain metrical control over site excavations. These two specimens were found where the landscape had been altered considerably since the mound excavations of 1962. The nails were found in the top of the Feature 18 disturbance that proved to coincide with the extremity of a coordinate trench dug into the south side of Mound B in 1962. This trench was the W560 coordinate of the special Mound B grid (Neitzel 1965:Figures 3, 4). Subsoil had been reached at this approximate point, and eight and tenpenny wire nails were being used as .025-foot level markers in the walls of the trench to guide the workers, prior to the time when natural levels could be identified.

Brain's account (1974) of the work at several historic, probably Tunica sites at Haynes Bluff does not itemize nails or artifacts, but I have no recollection of nails as prominent items during my involvement with these investigations. One small, probably aboriginal habitation, the Portland site in the vicinity of Haynes Bluff, yielded three hand-wrought nails, and Fort St. Pierre, somewhat more removed and obviously a French military installation, yielded, as of 1974, 367 nails of sizes comparable to those from Fatherland (Brown 1975a:122, 221-223). Quimby (1957) offers a rather meager European artifact list for the Bayou Goula site, but no nails are mentioned. This inadequate summary does indicate that the presence of nails in significant quantities may assist in separating white and native components on given historic sites.

## GUNFLINTS AND STRIKE-A-LIGHT FLINTS

There is much valuable literature about the gun and fire flint industry, much of which has been synthesized by historian-archaeologist writers. Because of the various individual approaches to studying the problem, there is also some confusion for the archaeologist in correlating these studies with his site finds. Witthoft (1966:12-49) has noted this circumstance and has ordered his approach from the standpoint of the artifacts, the technology, and the typology, and then has assimilated the historical and stratigraphical data accordingly.<sup>36</sup>

Briefly, Witthoft suggests and reviews four broad technological stages in the history of making flints (1966:Figure 3). I have chosen to use this framework, as best I can, to describe the fifty-two more or less whole specimens and odd fragments found in the Plaza excavations. Originally, I had included a number of specimens of native flint in the identification because they do look like some of the examples Witthoft (1966:Figure 3) has discussed. These specimens were reexamined and a considerable number separated because of form or bifacial working. These are now called oval, steeply chipped scrapers very close to the classic thumbnail type. I am still dubious about where to draw the line between these divergent cultural classes, since native flint is used in all of them. This is not an unknown or impossible circumstance at least in the northeastern states, where Witthoft has concentrated on documented specimens. Other incidents of indecision are indicated in the following description.

The first category was set aside as native flints. Of the nine specimens, four are definitely native and five are of a grayish, dull finish that might warrant their inclusion under a European flint class. The four certain native specimens are of the spall type, three with steep backing and the fourth one broken away where and if the backing was made. Four of the grayish pieces are spalls or wedge-shaped with steep backing. The fifth is a "French" blade nearly triangular in cross-section and with dubious backing on one edge. Witthoft says this size (medium) and shape were usually fire-making flints. Except for the dullness of the texture, this specimen would be lost in the assemblage of "French" waxy flints, some of which are nearly as dull as

this one. All of this discussion is by way of demonstrating some of the hair-splitting that the collection has undergone. Since this is an avowed descriptive exercise, and not interpretative, perhaps I may be allowed some vacillation.

The second category consists of thirty-nine spall, gnawed-heel types to which I have added two modifiers, size and physical condition. On the average, they measure 30 mm across the face for the few large ones, 25 mm for the medium, and 20 mm for the smallest. The physical condition relates to the wear and breakage that took place while in use; thus there are some sixty nearly whole pieces, nine worn or half-used pieces so to speak, and ten broken fragments. Additional lateral damage to some of the broken and partial pieces is probably due to use as a fire striker. These specimens seem to fit Witthoft's second stage in the development of gunflints. The spall type is considered to antedate the other technological types in the generalized eighteenth-century span. The general range and condition of these and the minority prismatic types yet to be discussed conform closely with what Brown (1975a:199–204) has reported from the French military installation of Fort St. Pierre for the same early eighteenth-century interlude. His discussion, like Witthoft's, contains interesting cross-cultural comparisons with northeastern historical sites that I have elected to disregard here.

There were eight severely used pieces of prismatic, triangular sectioned, blonde flints of all three sizes. Six of these were backed, implying that they had been used as gunflints, while the other two were apparently used with fire strikers. Three showed lateral nicking indicating possible use for striking fire. If the reader is beginning to suspect a certain amount of vagueness, he is within his rights. As Brown suggests (1975a:204) and as is foregone with Witthoft's (1966) article, much more particular work with the flint knapping technique is needed.

There were six (five large) specimens of prismatic flints with trapezoidal cross-sections. Again I would not fight for some of these selections. Four have been backed, two were broken or damaged, and one was apparently used incidentally as a fire striker. One of these was graded as small but it has been broken, so no measurement is secure. These fit with Witthoft's (1966:Figure 3) state III of technology.

There are many technological and commer-

cial trade overlaps that confuse the whole archaeological presence of fire or gunflints in North America. I have chosen not to enter the lists with the likes of Hamilton, Smith, and Witthoft. I agree with everything they have written. This includes the occasional minor disagreements they have with each other. The historical framework in which the Grand Village tools could have been deposited is bound to the period 1682–1730 by definition. We have every right to believe that the trade in gun and fire flints was spread over most of this span, but was concentrated subsequent to the use of Feature 19, itself an Emerald phase protohistoric house.

There were twenty-five musket and pistol flints in the benchmark area and five of each associated with Feature 1. There was one of each near the Unit 4–11, one from the general surface, and three from just south of Mound B in the Plaza 1 deposit.

Again it would appear that the significance of these pieces relates strongly to the French military occupation. A sample of the European flints is illustrated in Figure 17.

## LEAD

Lead musket balls and various sizes of bird shot and buckshot were present in substantial numbers throughout the site. The largest concentration was in the tract around the benchmark. Twenty-nine musket balls (Plate XXXIIIo–r) of identifiable caliber were weighed and measured. Four of these balls were measured at .62 inch with grain weights from 282 to 336. Twelve balls were measured at .56 inch and ranged from 234 to 270 grains, and there were two deformed lumps weighing 251 and 184 grains. Brown (1975a:208–209) found nine balls at Fort St. Pierre, at least five of the .56 caliber size with a similar weight range at Fatherland. He has pointed out that the same size ball ranged from 235.4 to 280.2 at Fort Michilimackinac on the Great Lakes. Although exact measurements are difficult to determine on the uneven ball surfaces, other balls were tabulated as: one at .50 inch, 146 grains; five at .48 inch, from 139 to 166 grains; one at .40 inch, 71 grains. I had listed eight balls from the mound excavations (1965:50) as being approximately .50 caliber. I suspect that there might be an error here and that the balls were closer to .56 caliber (1965:Plate 13h).

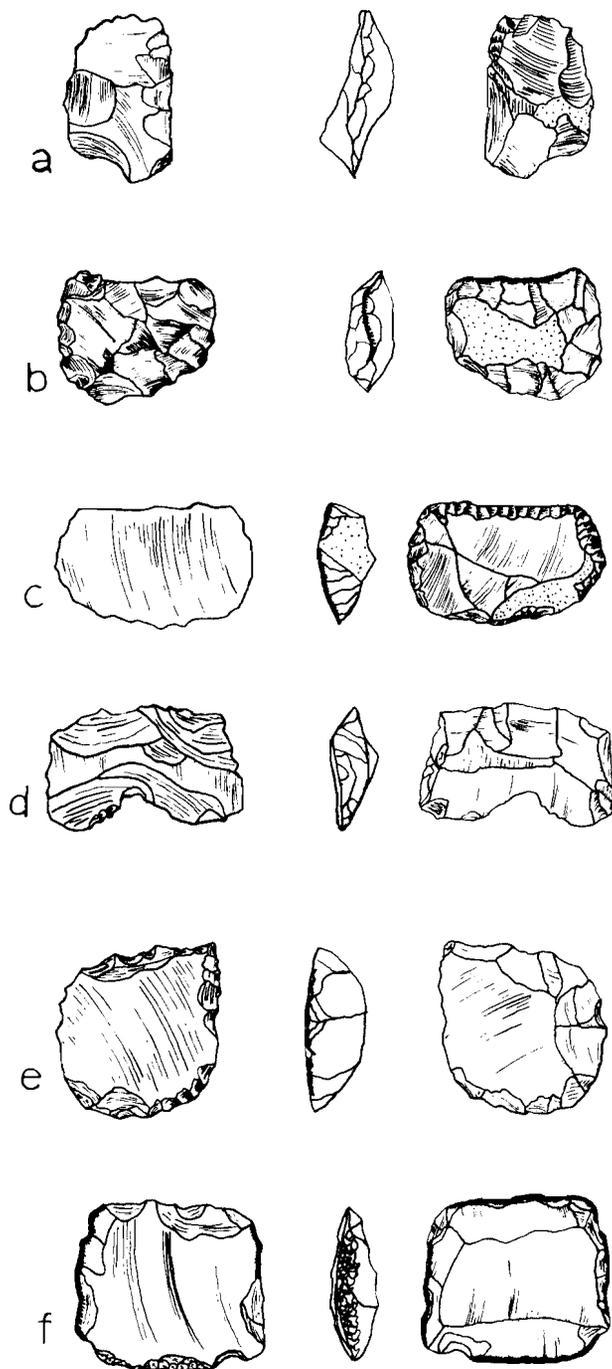


FIGURE 17. European gunflints (three views of each specimen).

It is presumed that all of the above are musket balls, although rifles were known in the north-eastern region at this period. The size range seems to indicate that military-type muskets were in vogue, although there is some evidence from the Iroquois country that smaller caliber weapons were preferred by the Indians for hunting, where a choice was permitted.

The concentration of over half of the balls in the benchmark area, along with other French connected objects, indicates that they may have been used by the French military rather than the natives. Two or three of the balls were found in direct association with the French sap that was dug across the south plaza. It is well to recall, too, that two pistol barrels (Neitzel 1965:50, Plate 16b) were found on top of Mound B, and probably were also directly related to the French occupation of the site, when artillery was mounted on the mound.

Approximately 135 buckshot and bird shot of various sizes were also recovered. These ranged from No. 1 through No. 4 buckshot that average 175 to 340 shot in modern shot loads. There were also .175 and .18 BB shot and bird shot of sizes 2 through 8.5. The BB and No. 4 buckshot sizes were the most popular by far, or at least they were the easiest to find. There were some fifty or sixty of these. Most of the shot was concentrated in the Unit BM area, and substantial numbers were associated with the house patterns of Features 1 and 4-11. The smaller shot were difficult to recover and manage in cataloguing and analyzing, so there has been some loss and error because of illegible numbering. Most of the specimens show little deformation from use, seeming to indicate they were dropped *in situ* or had not met a hard target if fired. If the benchmark were a French bivouac a certain amount of loss of items as elusive as small shot would be expected. It is tempting to suggest, in a more romantic vein, that the shot had been fired at the French in their bivouac by the Indians, since it is known that frequent sorties were made by the Indians from their concealment in the canes along the creek. There is also occasional mention of the firing of guns by both the French and natives as signals, so some of these loads, if a full charge was used, had to come to earth somewhere. It is not known how well the Indian warrior population was supplied with guns. Possibly sharpened cane or garfish scale tipped arrows predominated over guns.

Very little evidence of firearms was found in the presumably pure Indian rubbish of the mound deposits.

It has been suggested that a large number of detached locks from Iroquois graves (Hamilton 1960:100) might indicate that the Indians were interested in these articles primarily as fire lighters. Guns themselves were extraordinarily numerous in that northeastern district during the seventeenth century. Hundreds have been found archaeologically, and there is extensive evidence of grave robbing, first by the Indians themselves, then later by white settlers. The guns became scarce after a severe break in the beaver market, and the few available became treasured articles. A similar early restriction in the beaver trade in the Lower Valley may account for the scarcity of firearms in all historic sites except those of the Tunica, who early became allies of the French. The few remains of guns at the Grand Village seem to be discarded, worthless junk and not to be compared with what are called gunsmith caches elsewhere, although the French were known to have maintained gunsmiths to service their own weapons and those belonging to the natives. The fur trade revolved primarily around buckskins in the south, and the competition between the French and the Georgia traders with their En-

glish goods was sharp. The Georgia merchants encouraged the purchase of new weapons rather than the repair of broken arms, and were known to decry the Indian custom of placing such valuable merchandise in graves. Perhaps other trade sources may be present to confuse the trade picture. Several of the stamped kaolin pipe stems found at the Grand Village can be identified as of Dutch origin, though no such traders are known to have been in direct contact with the southern valley Natchez, Tunicas, Chickasaws, or Choctaws.

Other lead articles probably related to firearms were found principally in the benchmark tract. There were nine fragments (Plate XXXIII-s-w) including some worked pieces. One is a sprue with three attachments where the balls have been cut from the casting. There is a lead cock vise bushing similar to one found in the surface level above Feature 19. The remaining pieces are stems or scraps.

From the vicinity of the benchmark, three other lead articles may or may not be related to firearms. One was a flattened disk, appearing as though a musket ball had been battered to a smooth, thin condition. There was also a very small pointed lead hook and a long, curved bar with annular striations, resembling thread marks, on both ends.

## SUMMARY

### BLUFF HILLS PHASES AND CRITERIA

THE CULMINATION OF TWO YEARS of extensive survey and test excavation in the bluff hills is contained in the remarkably perceptive Honors Thesis reports written by Ian Brown (1973) and Vincas P. Steponaitis (1974).<sup>37</sup> Brown (1972) also contributed another related manuscript earlier, relative to the location of the Natchez villages. The field work and studies described in the latter manuscript were more or less concurrent with the excavation and research at the Grand Village. These writings have reevaluated both old and new data, and furnished the basis for a new stratigraphical and geographical schedule of the cultural phases of the Natchez district and their relationship to those of the lower Yazoo and the upper Tensas Basins (Figure 18). I have drawn upon these sources, supplementing them with the data from the Grand Village, in order to furnish the ensuing check list of criteria for distinguishing the regional cultural phases. The Grand Village site material is an integral part of the data that contribute breadth and depth to the cultural inventory.

The Plaquemine period, as a direct descendant of the preceding Coles Creek hegemony, is represented by components at numerous sites throughout the bluff hills. The Gordon phase, immediately preceding the Anna phase, is represented at the Grand Village in only a small degree considering the scope of the sampling. A few Baytown Plain sherds, *Kings Point*, possibly *Preston*, and other odd sherds of earlier types occur throughout the mound and plaza deposits of the Grand Village. The *Mott* and *Hardy* varieties of Coles Creek Incised have received special mention in the pottery discussion above, and to me are a confusing and disconcerting issue in the Grand Village chronology. Components of many early culture periods undoubtedly lie at various places beneath the silt covering most of the St. Catherine Creek bottomlands; however, the principal concern of this summary begins with the Anna phase, since it can be documented

at the Grand Village to an appreciable extent. The radiocarbon dates from basic levels at the site provide the proper setting for some specific Anna marker sherds and other loosely expressed cultural criteria that occur in the deposits. I have, however, been unable to generate undue enthusiasm for hypothesizing a full-fledged Anna phase cultural system or component from this archaeological residue.

At one time I would have said that mound construction began during the Anna phase, and this seems to be demonstrated in the histogram of pottery from the mound strata (Neitzel 1965:Figure 14). I never placed too much credence in this chart previously, but I find now that it expresses the kind of temporal relationship that really exists between the Anna, Emerald, and Grand Village sites. Table 4, although the Anna site is excluded, extends some of this basic ceramic information to the Bayou Goula, Emerald, and Foster sites. A polygon of fifteen of the pertinent marker types was constructed using these tabulations. It is not reproduced here, since it does not improve the quality of the information. It did, however, serve as a quick study or reference in compiling this report.

### ANNA PHASE

I have had difficulty in mustering an argument to support the contention that there was actually a functioning Anna cultural component at the Grand Village. It would seem that Mississippi Plain wares and other patent Mississippian cultural infusions were beginning to move farther south below the Yazoo Basin by A.D. 1200, and were becoming recognizable in the indigenous Plaquemine continuum, thus furnishing one clue for the presence of an Anna component. Other factors align with the intrusive ones. Steponaitis holds that the following varietal ceramic features are characteristic. He finds that *Plaquemine* occurs as 40% to 50% of the decorated varieties at this time, and that *Manchac* has disappeared entirely. Counterparts of the latter in the preceding Gordon Phase are *Preston* and *Kings Point*, and Grace Brushed oc-

	CULTURE OR CULTURAL TRADITION	NATCHEZ REGION	UPPER TENSAS BASIN	LOWER YAZOO BASIN
1820	Plaquemine (Mississippian*)	Natchez	Taensa	Russell*
		Emerald II	Transylvania*	Wasp Lake*
		Emerald I	Fitzhugh	Lake George*
		Anna		Winterville
1200	Coles Creek	Gordon	Routh	Crippen Pt.
		Balmoral	Balmoral	Kings Crossing
		Ballina	Ballina	Aden
		Sundown	Sundown	Bayland
600	Baytown	Hamilton Ridge	Marsden	Deasonville
300	Marksville	Issaquena	Issaquena	Issaquena
		Grand Gulf	Point Lake	Anderson Landing
AD	Tchefuncte	Panther Lake	Panther Lake	Tuscola
500	Poverty Point	Frasier	Poverty Point	Jaketown
2000	Meso-Indian			

FIGURE 18. Bluff hills comparative chronology (adapted from Steponaitis 1974).

curs as a minute trace at the Grand Village. Reference to the mound histogram mentioned above (Neitzel 1965:Figure 14) and Tables 4 and 7 indicates an uneven congruence from the Grand Village counts. *Plaquemine* compares favorably, but *Manchac* ranges from 10% to 30%. Since the latter variety is supposed to be represented in its entirety by middle and late variant sherds, it would seem that the representation at the

Grand Village is slightly off center, and that the full *Anna* cultural expression had passed in the transition toward the Foster phase. Other identifying cultural data, including meager counts of diagnostic sherds of *Anna*, *Carter*, *Coleman*, *Greenville*, and *Patmos*, are insufficient or inconclusive for predicating the presence of the phase. *Australia* does not appear at all, and *Addis* persists as a strong replacement of the ear-

lier Baytown Plain wares, following through in similar proportions until historic times.

Other traits that may be assigned to the Anna phase are small fishtailed projectile points, which Quimby (1942:269) formerly classed as a possible historic Natchezan trait. Their association at the Bayou Goula site (Quimby 1957:128-130) does not tie them tightly to historic context, since they were also found in mound fill or Medora phase levels. I have never found such a point at the Grand Village, and examples

from regional sites such as Gordon, Lake George, and Emerald are all in prehistoric context.

Simple and carinated bowls and beakers with a slightly constricted neck begin to appear in the Anna phase, with a notable increase of plates and bowls over previous jar forms. Since these forms, yielding to slight evolutionary changes, persist throughout the Emerald and Natchez phases, they cannot be considered exclusively diagnostic in the Grand Village assemblage.

TABLE 7  
SHERD COUNTS BY PHASE AND CONTEXT

	Anna Phase Markers								
	P-3	P-2	P-1	Unit 25	Unit 19-24	Unit BM	Unit 4-11	Unit 1-3	
<i>Addis</i>	462	541	921	1928	8009	795	596	1320	
<i>Greenville</i> (submerged in <i>Pocahontas</i> )									
<i>Pocahontas</i>	3	9	2	26	89	10	9	35	
Total Plain	465	550	923	1954	8098	805	605	1355	14,757
	2.6%	3.1%	6.2%	13.3%	55.0%	5.5%	4.0%	9.2%	
<i>Anna</i>	0	0	0	0	3	0	3	0	
<i>Carter</i>	0	0	0	3	0	0	3	0	
<i>Coleman</i>	0	1	2	2	2	0	0	4	
<i>L'Eau Noire</i>	0	1	1	0	1	0	0	0	
<i>Manchac</i>	17	14	21	71	252	3	26	43	
<i>Plaquemine</i>	27	59	50	149	400	12	7	45	
Total Decorated	45	75	74	225	658	15	39	92	1,224
	3.7%	6.1%	6.0%	18.4%	54.0%	1.2%	3.3%	7.5%	
	Foster Phase Markers								
	P-3	P-2	P-1	Unit 25	Unit 19-24	Unit BM	Unit 4-11	Unit 1-3	
<i>Addis</i>	462	541	921	1928	8009	795	596	1320	
<i>Greenville</i> (submerged in <i>Pocahontas</i> )									
<i>St. Catherine</i>	5	16	19	30	144	54	37	81	
Total Plain	467	557	940	1958	8153	885	573	1401	14,934
	3.2%	3.7%	6.3%	13.1%	54.6%	5.9%	3.8%	9.4%	
Barton Incised <i>var. unspecified</i>	0	0	0	4	0	0	0	2	
<i>Bass</i>	0	1	0	0	5	0	0	7	
<i>Belzoni</i>	0	0	0	1	2	0	3	0	
<i>Emerald</i>	5	1	3	22	49	3	0	7	
<i>Ferris</i>	0	0	0	0	0	0	0	0	
<i>Foster</i>	0	0	0	6	20	69	12	0	
<i>Grand Village</i>	1	2	0	19	82	18	7	2	
<i>Manchac</i>	17	14	21	71	252	3	26	43	
<i>Plaquemine</i>	27	59	50	149	400	12	7	45	
Total Decorated	50	76	74	268	810	105	55	101	1,539
	3.3%	5.0%	4.9%	17.4%	5.3%	6.8%	3.6%	6.6%	

Emerald Phase Markers

	P-3	P-2	P-1	Unit 25	Unit 19-24	Unit BM	Unit 4-11	Unit 1-3	
<i>Addis</i>	462	541	921	1928	8009	795	596	1320	
<i>Junkin</i>	0	0	0	7	11	0	0	0	
<i>Pocahontas</i>	3	9	2	26	89	10	9	35	
<i>St. Catherine</i>	5	16	19	30	144	54	37	81	
Total Plain	470	566	942	1981	8253	859	642	1436	15,159
	3.1%	3.7%	6.3%	13.2%	54.4%	5.7%	4.2%	9.5%	
Barton Incised, <i>var. unspecified</i>	0	0	0	4	1	0	0	2	
<i>Emerald</i>	5	1	3	22	49	3	0	7	
<i>Fatherland</i>	11	14	30	41	128	200	83	155	
<i>Grand Village</i>	1	2	0	19	82	18	7	2	
<i>Manchac</i>	17	14	21	71	252	3	26	43	
Nodena Red and White, <i>var. unspecified</i>	0	0	0	0	0	1?	0	0	
<i>Pine Ridge</i>	?	?	?	?	?	?	?	?	
<i>Plaquemine</i>	27	59	50	149	400	12	7	45	
Owens Punctated, <i>var. Poor Joe</i>	0	0	0	1	1	0	0	0	
<i>Stanton</i>	?	?	?	?	?	?	?	?	
Total Decorated	61	90	104	307	913	237	123	254	2,089
	2.9%	4.3%	5.0%	14.7%	44.0%	11.4%	5.9%	12.1%	

Natchez Phase Markers

	P-3	P-2	P-1	Unit 25	Unit 19-24	Unit BM	Unit 4-11	Unit 1-3	
<i>Addis</i>	462	541	921	1928	8009	795	596	1320	
<i>Pocahontas</i>	3	9	2	26	89	10	9	35	
<i>Ratcliffe</i>	5	16	19	1	3	1	?	5	
<i>St. Catherine</i>	5	16	19	30	144	54	37	81	
Total Plain	475	582	961	1985	8245	860	642	1441	15,191
	3.1%	3.8%	6.3%	13.0%	54.4%	5.7%	4.2%	9.5%	
Barton Incised, <i>var. unspecified</i>	0	0	0	4	1	0	0	2	
<i>Bayou Goula</i>	0	1	1	10	4	4	5	5	
<i>Belzoni</i>	0	0	0	1	2	0	3	0	
<i>Chickachae</i>	0	0	0	0	0	0	0	0	
<i>Emerald</i>	5	1	3	22	49	3	0	7	
<i>Fatherland</i>	11	14	30	41	128	200	83	155	
Natchitoches Engraved, <i>var. unspecified</i>	0	0	1	4	7	22	20	0	
<i>Trudeau</i>	0	0	0	0	0	0	1	0	
Fatherland Incised, <i>var. unspecified</i>	?	?	?	?	?	?	?	?	
<i>Grand Village</i>	1	2	0	19	82	18	7	2	
Total Decorated	17	18	35	101	273	247	119	171	977
	1.7%	1.8%	3.6%	10.3%	28.0%	25.0%	12.0%	17.4%	
<i>Plaquemine and Manchac added to above decorated total:</i>									
<i>Manchac</i>	17	14	21	71	252	3	26	43	
<i>Plaquemine</i>	27	59	80	149	400	12	7	45	
	61	91	106	221	925	262	152	259	2,077
	2.9%	4.4%	5.1%	11.6%	46.0%	12.6%	7.3%	12.5%	

Stone work, so far as is known, is sparse in the entire region during the phase, but again this is hardly a distinguishing feature at the Grand Village, since stone work was rare in all units. Bone tools duplicate this general pattern, except that increased numbers were recorded for the coeval Winterville phase in the upper Yazoo delta. This is probably an example of an imported Mississippian trait that did not penetrate very far south in the Lower Valley. Many other similar intrusions lost emphasis as they moved farther south.

A proliferation of minor sites was characteristic of the entire Coles Creek period, and this pattern persists through the Anna phase up to the final native dissolution in historic times. The large central plaza-mound centers with the largest mound on the west are reminiscent of the Upper Valley Mississippian pattern. The most representative of these centers during the Anna phase include the Anna, Windsor, Bayou Pierre, and Shieldsboro sites. They were concentrated along the west edge of the escarpment touched by the Mississippi River. Obviously, the latter was vital to the economic organization of the culture and the times. Additions to the large mounds were actually made during the Anna Phase, although the gradual withdrawal of populations to interior locations occurred during the decline of this phase. Steponaitis believes that Mound A, the first and largest at the Foster site, was begun during this time. I have already expressed doubts and possibilities as to the status of the earliest mound stages at the Grand Village, contending that though radiocarbon dates confirmed the presence of mounds, I could not detect an adequate functioning cultural complex to support such organized activity.

Steponaitis has suggested that haphazard burials may also be characteristic of Anna phase society. If this be true, and possibly a continuation of the unsystematic pattern for the previous Coles Creek period, then perhaps the twelve extremely careless interments found in the basic plaza surface in or near Feature 1 at Fatherland would qualify for this phase. Some of the complete vessels from the Anna site illustrated by Cotter (1951:Figure 20) may have been burial furniture. If so, they undoubtedly represent Foster and Emerald phase levels there. Except for the elite mound placements in the temple at the Grand Village, no burials at all would be an apt criterion for this site and its satellite communities. Apparently ordinary individual burials

were made in the dispersed hamlets, and discovery of such remains in the rugged loess terrain would be highly fortuitous.

Posts set in wall trenches, similar to the Mississippian pattern, were the essential element in house construction. Rectangular structures of this type were seen at Foster (Steponaitis 1974: 100-102) and in all levels at the Grand Village. Only one structure at the Grand Village (Feature 1), dating to the Natchez phase, had individual posts set for walls. The corners of this apparently cribbed-type building were also slightly rounded, a departure from all such known structures.

### FOSTER PHASE

This phase continues (transitionally, according to Steponaitis) toward the Emerald phase, sparked by the appearance of *Manchac*, a variety that seems to have disappeared during the Anna phase. There is a hypothesis describing the circumstances, but the data are not quite adequate to explain how they may have happened. As described in the section on pottery, what is now called a middle variant of *Manchac* appears in strength. Simultaneously, *Plaquemine* tends to diminish. Horizontal herringbone design bands around the shoulder of jars are first seen at this time in both *Manchac* and *Plaquemine* treatments. Another new decorative element, curvilinear designs, also begins to appear upon the Leland Incised varieties of *Ferris* and *Foster*, and Coleman Incised, *var. Bass*. I believe that re-sorting the Fatherland collections would substantially increase the counts of *Bass*. Many sherds that I was formerly constrained to call *Winterville* are *Bass*. There was also an area of doubt in groupings that were placed under Leland Incised, such as *Deep Bayou* or *unspecified*, and I suspect a number of *Bass* sherds are also submerged in those counts. Recent clarification, relying on *Addis* paste quality, enables a logical separation in the Natchez district now. *Emerald* is a definitive marker for Foster and succeeding phases, though it never occurs in more than minor quantities. *St. Catherine* becomes strong and Fatherland Incised is first defined as *var. Stanton* along with Chicot Red, *var. Fairchild* and some *Grand Village*. I cannot recall any positive examples of *Fairchild* in the Grand Village material. Unspecified varieties of Mississippi Plain and Barton Incised continue in moderate numbers. I have classified, probably inaccurately, the Mississippi Plain at the Grand

Village site as *Pocahontas*. This designation may be too specific, and the category should probably be allowed to stand as *unspecified* until more is known about rim modes. Occasional short-necked bottles join the carinated and simple bowl forms, and jars with moderately constricted necks first appear. A broad exterior rim strap was often added to the latter.

Criteria other than pottery are much the same for both the Foster and Anna phases. Lithic work remained scant, except for the excellently carved limestone pipes, fashioned in human and animal forms. These may have been burial accompaniments, though two limestone fragments and a sandstone specimen come from superficial Mound C fill at the Grand Village (Neitzel 1965:Figure 15; Plate 13a, b). The best examples from the Emerald mound were removed in the nineteenth century and the exact provenience is dubious. Bone tools are little known at the Foster and Emerald sites, probably owing to sampling circumstances. Approximately twenty-one bone tools or ornaments were found at the Grand Village. Seven of these were from the Unit 19–24 and 25 levels that probably belong in the Emerald phase, beginning about A.D. 1500, thus corresponding to the radiocarbon dates for the building level No. 3 on Phase III of Mound B and possibly the Phase II mantle date of Mound A. I have shown that such an alignment is subject to several irregularities.

Rectangular buildings with posts sunk in wall trenches and the sides covered with wattle and daub are firmly established in the archaeological record at Foster and Fatherland. The plaza structures at the latter were in the range of fifteen to twenty feet on the side and the wall trenches were somewhat more than one foot deep. The mound buildings were extremely large, forty or more feet on the side for the temple and fifty feet for some of the chiefs' houses. The wall trenches were exceptionally deep, averaging three feet in depth, but the posts for both small and large structures averaged out the same at approximately 0.4 foot in diameter. Three burials found at Emerald should probably be assigned to the Foster or Emerald phase and may have had some of the elaborately carved stone pipes with them. No burials identified with the Foster-Emerald span were located in the mounds or elsewhere at the Grand Village. Steponaitis, in summarizing the bluff hills phases, has stated that the second stage at Emerald, stages 3 and 4 at Anna, and the pre-mound

level and possibly Mound A terminal portions at Foster are attributable to the Foster phase. Ignoring radiocarbon dates for the moment, Mound C at the Grand Village seems to have begun in this phase, and Mounds A and B were probably completed during this sixteenth-century span. This is almost certain for the first three phases of each.

## EMERALD PHASE

Some welcome distinctive varietal shifts and characteristics become manifest in pottery in this phase. In general, the cultural array for the previous phase becomes more elaborate and seems less transitional. A gradual population shift away from the large bluff sites has been noted, and Anna, Windsor, and Shieldsboro among others were completely abandoned.

Late variants of *Manchac* and *Plaquemine* tend to supplant the previous treatments, and the latter loses ground in the counts, although the gross basic counts listed in Table 7 do not reflect the nuances of varietal change. *Fatherland* appears in strength during this phase, and *Pine Ridge* and *Stanton* continue strong. Many sherds of the latter two varieties are undoubtedly submerged in the older Fatherland and Natchez Incised categories from the mound collections, and to a lesser extent in the counts in Tables 1, 2, and 4 representing the plaza deposits. *Emerald* persists as a minor marker, as does Barton Incised and *Greenville*. *Grand Village* becomes very strong, and traces of Nodena Red and White, Avenue Polychrome, and Owens Punctated, *var. Poor Joe* and possibly *Menard* appear. None of these are important at the Grand Village, though *Menard* is a marker for the succeeding Natchez phase. Mississippi Plain and *Belzoni* continue evenly, and *Junkin* and *Ratcliffe* join *St. Catherine* under Addis Plain. *Junkin* is especially interesting because of the apparent exclusiveness it enjoys regionally and temporally; so much so that it may have been bred out of the evolutionary scheme. *Ratcliffe*, to the contrary, expands to its greatest consequence in the succeeding Natchez phase.

Lithic manufacture and use continues in a subdued manner as before, but bone tools occur in large numbers at the Grand Village, probably because of the wide sampling opportunity. The majority of projectile points that do appear are the triangular Madison type. Stemmed specimens may be knives or survivals from an early component in the area. Houses continue to

be rectangular with posts imbedded in wall trenches. Those on the plaza tend to be rather large, averaging twenty feet to the side, except for one pattern beneath Mound B and Feature 29 near Feature 19.

The dispersed hamlet settlement pattern remains firmly entrenched, and Stages 3 and 4 at Emerald were constructed and the latter used right on into the Natchez phase and historic times. The smaller mound at Foster and the single mound at Ratcliffe were built, and the major interior sites of Gordon, on the Natchez Trace at Coles Creek, Foster, also on the Trace, and the Grand Village were active centers. A lineal north-south orientation of mounds with the larger mound to the north is noted, and Mound C at the Grand Village may have been completed during this time. Depending on circumstances discussed above, Mound A, the largest mound at the site, may have been abandoned. Scattered representations of Southern Cult motifs appear on pottery from Emerald, and are suggested by the carved human head from the Grand Village (Neitzel 1965:Figure 15), and copper sheets from the remote, interior Mangum site on the Natchez Trace to the north of the Natchez district proper (Cotter 1952b).

#### NATCHEZ PHASE

The principal distinction between the Emerald and Natchez cultural phases stems from the influence of their respective historic contacts and is manifested in the resulting archaeological residues as additions to the prehistoric base. This is stated confidently enough, but in practice there is little except written historical accounts to support it. The artifact inventory from the Grand Village site contains virtually all of the European material to be assessed. The principal European contact was through the French, and they disbursed a surprisingly small amount of material to the principal Natchez center. Others that are argued to be contemporaneous historic centers, such as Emerald for the Jenzenaque or Hickory town, Foster (or possibly Henderson) for White Apple, Ratcliffe for the Grigra town, and the International Paper site for the Tioux village (Brown 1972) are notably devoid of or short on European material. The Tioux site, which probably also includes part of the White Earth Concession acquired by the French, yielded a small nondescript assortment of nails, glass, beads and the like. All of these locations can be demonstrated to have been occupied dur-

ing the French colonial period, despite certain stratigraphic shortcomings, and were probably disbanded along with the Grand Village in 1730.<sup>38</sup> By contrast, the Tunica on the Yazoo prior to 1706 were receiving substantial quantities of valuable trade goods (Neitzel, field notes, 1965). After this date, the flow increased and the archaeological finds for the eighteenth century from sites at the mouth of Red River are truly amazing. The best and most consistent specimen assemblage at the Grand Village is the glass, iron, brass, and faience placed with the elite burials in the floor of the temple.

At all locations inferred to be contemporaneous with the capital town, native pottery is the most convincing connecting link. *Fatherland* persists as the single most important marker. Under the same rubric, *Bayou Goula* appears in minor lots, an obvious introduction from the Delta Natchezan phase to the south, and closely identified with the brief historic contact time span there. *Grand Village* continues at its highest rate as does *Ratcliffe*, but *St. Catherine* tends to decline at the *Fatherland* site. I have explained why it was not possible for me to achieve representative counts when Addis Plain was sorted. *Greenville* continues as before, but it is also inadequately represented in the tables. A new four-lined variety of *Fatherland* has been claimed by Steponaitis (Brain and Steponaitis, personal communication). Undoubtedly, I have thrown sherds of this *unspecified* variety into the *Bayou Goula* pile during sorting. It should take varietal shape with time.

Although it is not manufactured locally, Natchitoches Engraved, *var. unspecified* appears in significant quantities and in good stratigraphic context for the most part. Although imported from the Louisiana Red River bailiwick of the Caddo people, it is to be considered a true marker of the Natchez phase. In a similar way Steponaitis (1974), and Quimby (1942) before him, have set Chickachae Combed, *var. unspecified* as a Natchez Phase marker. I have yet to find any of these distinctive sherds at the Grand Village as possible indicators of contact with the Chickasaws or Choctaws of eastern Mississippi.<sup>39</sup>

The late variant *Manchac* should also be a good marker of the historic phase. The counts in the tables include all variants, and thus are stronger than is really warranted. For this reason, I have set the two varieties aside in Table 7 so that they may be viewed as alternates that are

only grossly diagnostic of the Natchez phase. The percentages of other decorated and plain varieties are slightly different but no less useful as markers, having omitted *Plaquemine* and *Manchac*. *Emerald* is present, and I can only wonder why more of this classic variety did not appear with the temple burials. *Belzoni*, *Trudeau*, and what I have specified as *Pocahontas* maintain a minor position, perhaps signifying some connection with the large Tunica population to the south. Nodena Red and White and Avenue Polychrome continue as markers, but I have found only two sherds of the former at the Grand Village.

Simple bowl and plate forms dominate other shapes in the Natchez phase. The carinated bowl has disappeared, bottles occur sparsely, the teapot is conspicuous for its unique shape, and the well-known pedestal vessels, usually *Fatherland*, come to the fore. Jar forms tend to become round-bottomed, leaning to the characteristic Mississippian shape. A red slip (*Grand Village*) applied to decorated vessels is prominent in the Natchez Phase, the wares usually conforming to *St. Catherine*.

All of the site centers are on interior creek bottoms by this time with the exception of *Emerald*, though it is on the headwaters of Fairchild Creek. The Gordon site had been abandoned so that the concentration of population had drawn farther down south toward *St. Catherine* Creek. The populace tended to dwell in scattered hamlets, both on the hills and in the creek bottoms, adjacent to their respective mound social centers. One documented historic burial in the bluffs south of *St. Catherine* Creek from the Grand Village (the North site) probably is typical of the dispersed village funeral customs. It was in a shallow bluff-top grave accompanied by two *Fatherland* vessels and iron tools (Neitzel, field notes, 1971). Another interment reported by Moorehead (1932:163; Figures 101a, 104b) was intrusive in the Ratcliffe mound. A *Fatherland* short-necked bottle and a paint palette were with the badly decayed skeleton, but no trade goods were present nor were there any in the entire Ratcliffe Site (Grigra village?).

The burials in the temple mound at the Grand Village are obviously related to the terminal Natchez reign, as I have attempted to verify previously (Neitzel 1965:40-45, 93-95). No similar funeral display has yet been found with any of the presumed Natchez village cen-

ters located in the region, and for that matter no well-documented trade goods of any kind can be accounted for. One glass bead has been found at the Pumpkin Lake site on Coles Creek, and only European ceramics at the Thoroughbred site near Foster suggest that it may have been an eighteenth-century white dwelling. The Burthe and Oak Bend sites near Vicksburg had Natchez pottery and trade goods, but may be of a separate relationship. Phillips has placed them in the Oak Bend phase (1970:945-946), with a possible affinity to Yazoo Basin cultures. Scattered surface trade scrap has been found on Village Sauvage and Fort Farine sites near the Grand Village plaza and the presumed Tioux village mentioned above. The Wilson site, a small village area south of *St. Catherine* Creek and equidistant between the Tioux village and the Grand Village, was classified as being within the Natchez phase. Perhaps the circumstances of surface erosion and other like factors prevented the finding of trade scrap there. Thus, following Brown's summary (1973:161), there are four pyramidal mound sites, perhaps ten minor village areas, and three cemeteries (exclusive of the Grand Village) yielding European goods, which can be said to stand for the nine or five historic villages reported by the first French chroniclers. Unfortunately, erasure by essentially natural forces of the critical historic strata at Foster, *Emerald*, and possibly Ratcliffe has reduced the opportunity for finding European artifacts, the prime archaeological factor in separating the Natchez phase from earlier links in the continuum.

## SOCIOLOGICAL CORRELATIONS

Steponaitis (1974:185) has referred to the north-south axis of plaza mounds at the Foster, Gordon, and Grand Village sites and allots this characteristic to *Emerald* phase community organization. Ratcliffe probably belongs with these also, but only one mound has been recorded there.

At another time I became curious about the question of orientation of various features, including the mounds, of the Grand Village. This preoccupation became acute after I was exposed briefly to astro-archaeology in the reports of Wedel (1967), Wittry (1969), and Aveni *et al.* (1972). The map data show that the site axis bears approximately thirty degrees east of north (Figure 2), almost identical to that of the temple

and its mound (Neitzel 1965:Figures 2, 10, 12), and the house patterns of Units 4-11, 1-3, and Feature 29 (Figures 7, 8, 13). Steponaitis' assumption of a north-south alignment is thus only generally accurate. I have remarked previously that the mounds were on a low ridge or natural levee that parallels the angling course of the 1730 stream channel, and this could be the factor governing the easterly declination of the site axis.

The house units cannot possibly have been affected by this, so it is necessary to seek another reason for similarities between the placement of the temple and the above units, in contrast to the orientation of Feature 19 (Figure 13) and the Mound B house patterns (Neitzel 1965:Figures 5, 6, 7, 8). All of the latter, it is noted, are aligned to conform to the cardinal directions.

Attempts were made first to relate this placement to astronomical phenomena, but with little success. The field crew, rank laymen all, assembled at the site on 21 June 1972, just before sunrise to contemplate the summer solstice, which had been so important to the Natchez calendar. Equipped with a transit and a naive assemblage of unusable information painfully acquired from a volume of Bowditch, an attempt to record horizon measurements was made. Similar efforts were expended on the sunset too, but no possible relationship between the measurements and the site organization could be detected. The rising sun did not shine into the door of the temple, nor did its position coincide with any structural array so far uncovered.

Defeated but still intrigued, I solicited the interest of Dr. Anthony F. Aveni, Professor of Astronomy at Colgate University. His report of astro-archaeological investigations in Mexico (1972) had first stimulated my interest in the whole problem. He joined me at the Grand Village site to study the data on the grounds, and in general was extremely patient with me and my naive expectations. His evaluation is contained in Appendix VI, and those interested in the question are invited to read it and consider the regional possibilities. This kind of study, as I learned, is no simple excursion for an archaeologist. Highly exacting techniques and calculations are required in order to collate abstract cultural data with astral phenomena.

At an impasse, I looked to general ethnology for some sort of clue to aid in explaining the possible significance of the structural features at the site. Archaeologists have long been preoc-

cupied with burial orientation in their excavations. The skeletons are usually carefully mapped, and frequency charts drawn up to indicate position in the ground and other details, but little else. Studies of group burial orientation at Etowah, Moundville, and Spiro (Brown 1971) and in Pennsylvania (Gruber 1971) were concerned with the statistically derived meanings that might underlie such practices as reported. If there were solar or socially standardized reasons behind burial orientation as these studies suggest, then there might be some cause for studying the layout of the various structures at the Grand Village.

At this time I was by chance involved in some unrelated ethnological research which involved the Natchez stratified social system. This research led me to the intriguing idea that genealogy might offer some clues relative to orientation of buildings. The Natchez marriage classes and the stratified society have been a subject for comment since the first French observer thought he saw something in the customs that he could identify with his own feudal background. Since that time, and especially after Swanton (1911: 107) constructed a model of its working parts, the system has been a perennial subject for exhaustive and exhausting study and discussion by ethnologists.

Regardless of technical flaws and misunderstandings that have generated much of this scholarship, a simple ethnological factor stands out: there were actually only two principal social classes in the Natchez system. Both of these were basically hereditary, but conditioned by complicated limitations. The royal family was contained within the noble class, subject to special rules of descent, and its Suns ruled both nobility and commoners. Close Sun relatives such as the chief's mother and brother and perhaps the mother's brother, were set aside consanguinally, socially, and politically. Under the last category, the Chief's brother was the War Chief and maintained a residence on the plaza. Other political officials, hereditary and appointed, also had their dwellings near the chief's mound on the plaza. None of these were necessarily of royal lineage, but they were often noble, a degree or so removed from the royal line, or they were honored people who were appointed or acclaimed by deeds but had no hereditary distinction. The latter point was seemingly not recognized by Swanton in constructing his model and, among others, is an important disclosure

drawn from recent ethnological research that deserves wider acknowledgement (Walens 1971; White *et al.* 1971). It will never be certain, but differentials such as these may have determined the orientation of burials in the temple mound (Neitzel 1965:40–44; Figure 10).

Assuming that the abovementioned studies of Brown and Gruber do signify that burial position was determined by age or class, combined with possible astronomical factors, it is but a short step to read parallel significance into the orientation of house and mounds within a class-conscious society like the Natchez.

Briefly, the cardinal positions of all of the Mound B structures, in concert with those house patterns singled out at Feature 19, suggest a kind of unity that may have been determined by cultural demands. The stratigraphical indication of a considerable time span supporting this unity reinforces the notion that it was not the result of casual or random causes.

If the Feature 19 complex represented, wholly or in part, the hereditary residence of the War Chief or Tattooed Serpent of the royal line at any time, it must have been during the Emerald phase. There are no similarly oriented buildings to be identified through archaeology within the historic Natchez phase.

According to White *et al.* (1971:Figure 2), there are documented references for at least three Tattooed Serpents, one of whom died in 1700. This personage and any predecessors would be acceptable stratigraphically as tenants for Feature 19. The second War Chief died in 1725, a generation later, amid much personalized fanfare that has been recorded historically, and his residence on the plaza was ceremonially burned. Despite ample archaeological evidence of fire in the Feature 19 complex, stratigraphy will not permit any particular portion of the series of structures to be identified with the 1725 Tattooed Serpent.

A third Tattooed Serpent (no. 15) recorded by White *et al.* (1971:Figure 2) was the successor to the foregoing friend of the French. He appears to have been contemporaneous with the Great and Little Suns of about 1731. All of these personages disappear in the ensuing history of a myriad of misfortunes for the Natchez Indians. This last recorded War Chief could have served after 1725 and even been domiciled in Feature 1.

The case for identical orientation of structures as an indicator of close royal kinship

within collateral lines rests at this juncture. The inferred sequence for house building at Feature 19 ends at the date line 1700. The lack of trade goods in the house context sets the limit stratigraphically. Additional evidence from adjacent, unexamined deposits might alter the circumstances, but there is no reason now to think that this particular plot on the south plaza, and especially Feature 19, dates later than 1700.

Unless there is a concealed historic building in the abovementioned deposits, it is necessary to look elsewhere to find archaeological evidence that will uphold the historical record which places the famous historic French ally on the plaza as late as 1725. There is an outside chance that he occupied one of the terminal structures of Feature 19, but this means that he possessed no European trade goods as late as 1725. This seems improbable, but the archaeological record is explicit; no such scrap is identifiable with the structures.

This leaves only the houses at Units 4–11 and 1–3 as possible residence patterns. Of these two, Feature 1 seems to be the most conspicuous choice, although if building orientation meant anything to the hereditary office, neither Feature 1 nor the others are logical selections.

Based on the archaeology, the Feature 1 claim to distinction must rest first upon size, if that is a criterion. It was the largest building at the site aside from those on the mounds; moreover, its architecture was unique. The large wall posts, significantly larger in diameter than the average for all other buildings, were set in individual holes spaced one foot apart. This is a significant departure from the traditional wall trench method of anchoring posts. The shape was subrectangular; that is, the pattern had twenty-four-foot long sides, but the corners were rounded. These points suggest that the ordinary method of roof construction had changed, and that cribbed construction was used rather than the bent sapling arched construction in vogue elsewhere. There is also a narrow passage or tunnel leading to the northeast side, judging from extraneous postmolds, but it is not altogether clear that this was an entryway. The overall impression of this structure is not like any other that has been seen or spoken of in Natchez history. It must have been quite like the buildings found in the remains of the historic Chickasaw towns by Jennings and Spaulding (Jennings 1941:Figure 3). Jennings provides a sketch of how the superstructure was probably

put together, which seems to have been identical to that of Feature 1. The latest occupation at a late Mississippian village near Memphis, Tennessee had buildings of this kind on the plaza. They have been described and are reconstructed in the historical exhibit called Chucalissa. This architecture is dated there as being subsequent to A.D. 1500. A similar type of house among the Chickasaw was referred to as a winter house. Similar buildings were also seen in the historic Cherokee towns of the southern Piedmont region and were supposed to afford extra winter weather protection. No mention of such buildings among the Natchez, or the need for them, has been made.

I have deliberately eliminated the buildings of Unit 4-11 from the choices offered. Perhaps this was a mistake, as there is evidence of a promising combination of wall trenches and individual postmolds appearing in the old effaced surface at this location. The deposit would seem to date securely within the historic period, but I have noted conflicting evidence above. Some of the buildings might even have been built by French soldiers! At any rate, I was not impressed by their size or the quality of the household refuse. The ratios of marker pottery varieties are similar between Units 4-11 and 1-3, except that nearly half of the Natchitoches Engraved sherds found on the entire site were in the Unit 4-11 deposits. I cannot draw any significant conclusion from this since an equal number came from Unit BM, where there was no house pattern.

This would seem to be the end of the trail in pursuit of the remains of the residence of the famous Tattooed Serpent on the plaza. As far as archaeology is concerned, the convincing French accounts of his domicile and his presence cannot be substantiated.

I have neglected to mention this personage's presumed successor to the office and official domicile. The title appears specifically in the French chronicles that I have noted above in the genealogy chart of White *et al.* (1971:Figure 3). He seems to have been active along with the Great and Little Suns at least as late as 1731. There is no other specific mention made of this Tattooed Serpent. The new Great Sun, the Flour Chief, and St. Cosme, a collateral Sun, were at the siege on Sicily Island in 1731 after the Indians had escaped to Louisiana. They all appear to have been captured at that time. An escaped band attacked the French post near Natchitoches, Louisiana during this interval, a

fact that would imply concerted leadership. Perhaps the last Tattooed Serpent led this foray.<sup>40</sup>

At this stage in the confrontation of archaeology and history, it would appear that any correlation between the two is vague and inconclusive. I have travelled this road before, and this is not the first time I have reached the point where the practitioner falters, dispenses a few lame explanations, and then preferably remains silent. Not wont to follow this advice, I still feel compelled to raise another question of orientation that should have been mentioned before this. This is the matter of the articulated burials exposed in the floor of the temple by Chambers, which I have gone to some lengths to rationalize (Neitzel 1965:44).

Although the mound and the temple are known to be skewed easterly some thirty degrees, orientation of burials within the confines of the room varies for individuals, and none conform to wall alignment of the room or building itself (Neitzel 1965:Figure 10). The principal burial, which I have suggested might have been the Sun who died in 1728, lay with head directly toward cardinal north, as does Burial 4, fifteen feet to the west. Burial 17, a child, had its head oriented due west near the legs of the Chief. Burials 8, 18, and 16 are virtually side by side, but oriented at forty-five degrees west of north. The middle skeleton, head to the southeast, is reversed in position relative to the other two with their heads to the northwest, and Burial 20 may have been headed west, though the axis is slightly skewed. The remainder of the interments in the mound were either bundled in boxes oriented east to west, or are single skulls. I have held a private opinion that the six individuals in the larger box may well have been parts of the members of the 1725 Tattooed Serpent's funeral cortege (Neitzel 1965:83). Regardless of a number of speculations that might arise, there is still one central question. Is directional orientation a haphazard, random thing, or is there a rational social, religious, or political basis for the observable physical evidence, whether it be houses or skeletons? There is universal evidence that world quarters, celestial objects, and other phenomena which were observed and contemplated by preliterate peoples were measured in directional terms. The archaeologist's inability to match his recorded data with the hardly more reliable references in ethnography and history should be no deterrent for occasional flights of fancy by students of prehistoric systems.

## CONCLUSIONS

THE COMPREHENSIVE SURVEYS OF THE Natchez bluff hills region cultural phases made by the Lower Mississippi Survey under the direction of Dr. Jeffrey Brain during the 1971 and 1972 field seasons, together with radiocarbon dating of the Grand Village, have yielded a stable and usable site chronology. The late phases of this spectrum, ranging from A.D. 1200 to 1800, are pertinent to the Grand Village archaeology. The span of occupation there is for all of the Plaquemine period and consists of the Anna, Foster, Emerald, and Natchez phases in the Natchez district. These are coeval with the Winterville, Lake George, Wasp Lake, and Russell phases of the lower Yazoo Basin on the north and the Medora and Delta Natchezan phases to the south (Figure 8). The known details comprising the phase structure have been set forth by Steponaitis (1974) and supplemented by Brown (1973, 1974a, b, and c). I have remarked elsewhere that the Grand Village data support this general framework. A comparative summary follows.

There is a fairly reliable radiocarbon sequence at the Grand Village that conforms to the phasal structure (Appendix IV) (Neitzel 1965: 86). A brief critique of these dates is offered here, although Phillips (1970:948-949) has discussed the matter fully and has noted the misprint error that leads to confusion in the M-1378 and M-1379 samples. The dates, as I have listed them in the Fatherland report, are in correct order. The reference at the top of page 86 should read "Building Level 1, Mound C" and not "Building Level 3," since the latter is nonexistent in the mound. Considering the orderly and logical sequence of seven of the dates, it is not too difficult to refute M-1383 from beneath Mound C as being out of line. Taken by itself without the other reference points, I could also accept it by simply telescoping the sequence of mound building and other cultural changes at the site. The majority of cultural activity at the Grand Village took place within the Foster phase, which conceivably began around A.D. 1400. Nevertheless, other dates are there and must be accepted in order, and the pre-Mound

C sample (M-1383) must be regarded as a probable victim of atmospheric contamination from a nearby paper plant. I have previously stated that this contamination was first realized in 1972; therefore, the unprotected samples which were sent to the University of Georgia Geochronology Laboratory (Appendix IV) are suspect, although two of them might be acceptable under highly selective circumstances. It is only fortuitous that perhaps six or even of the 1965 dates probably were not polluted. Removal of the soil blanket in 1972 opened up all manner of opportunities for pollution from fallout. Many of the samples were flooded for days by rain water that bore the atmospheric miasma. The UGa-427 and UGa-435 samples are within the limits of reason considering their vague stratigraphic position. The first was from a pit adjacent to a historic house site. Historic and prehistoric articles were taken from both the pit and the house deposit. The second also came from deposits on the house site. The gap between A.D. 1240 and 1760 for the two is difficult to realize, but there is an outside chance that both could be real dates. Nevertheless, the remaining dates are obviously in trouble, whatever the cause.

Assuming that the date sequence is acceptable beginning with A.D. 1200 and compatible with the base line for the Anna phase of the Plaquemine culture, it is possible to fit the physical and cultural features of the site into a believable progressive cultural history that conforms to the broad structure for the region set by Steponaitis (1974). The concession that needs to be made in order to accommodate the A.D. 1200 date base to the bulk of the cultural assemblage is reasonable and supported by the site archaeology. The dates responsible for the thirteenth-century Anna phase base can be easily rationalized in terms of cultural residues from transient Anna phase occupations. Isolated Issaquena and Coles Creek types also occur in various archaeological situations that can be easily referred to the original creek bottom surface. Tchefuncte, Marksville, and even earlier cultural remnants turn up at many of the bluff hill sites nearby. There is

little indication that there was a concentrated or functioning social unit at the Grand Village site prior to the Foster phase. Previously, I would have speculated that construction of Phases I, II, and III of Mound C and Phases I and II of Mounds A and B began during the mound-building times of the Anna phase and was probably contemporary with the later stages of the mounds at the Anna, Emerald and Foster sites, as indeed the Grand Village radiocarbon dates indicate. So far, it is not possible to assemble a satisfactory ceramic and/or artifact complex to support or justify an extensive thirteenth-century Anna phase cultural unit. The dearth of Anna phase markers in the Fatherland Analysis Units (Tables 5, 7) belies the two apparently good and formerly acceptable A.D. 1200 dates from Building Level 1, Phase III of Mound C, and Phases I and II of Mound B. The degree of site culture developments at these stages would fit an A.D. 1400 date much more conveniently.

However this may be, it is necessary to contend with all of these disconformities. If it became inevitable, the four dates (M-1381 and M-1382, Mound C; M-1379 and M-1380, Mound B) could be disavowed, or at least ignored for the sake of general site conformity. This cannot be done lightly if one is to place credence in the ceramics from the floor of this Phase III surface of Mound C. The debris here from two identical, apparently immediately successive buildings, was collected separately from the mound mantles above and below. A well-defined occupational floor made this possible. The classified ceramics shown from this distinct level appear in the mound histogram (Neitzel 1965: Figure 13). The following Anna phase markers (or non-markers), as defined then, may be easily translated or identified here:

<i>Plaquemine</i> . . . . .	11%
<i>Manchac</i> . . . . .	2%
<i>Fatherland</i> . . . . .	2%
<i>Pocahontas</i> . . . . .	1+% (possibly includes <i>Greenville</i> )
<i>St. Catherine</i> . . . . .	1% (includes <i>Grand Village</i> )
<i>Anna</i> . . . . .	0.5%

This is hardly a conclusive list for setting up an Anna phase component to substantiate the thirteenth-century dates. Non-markers such as *Fatherland* expand to 5% and *St. Catherine* to 3% in the succeeding phases, an acceptable count for Foster-Emerald levels elsewhere. The low count frequency of the apparently just emerging varieties, *Fatherland* and *St. Catherine*, are not ac-

ceptable as markers, but I have used them euphemistically to reinforce the point that a full blown Foster or Emerald phase is in the stratigraphical offing. The validity for postulating a Foster or Emerald phase occupation is demonstrated so far as the Grand Village data now permits in Tables 5 and 7.

#### PHYSICAL EVIDENCE OF INTERNAL SITE CHRONOLOGY

A remaining archaeological resource for seeking internal site chronology lies in the structures identified with the three popular residential tracts on the plaza. All of these were near Mound B, and each had been used for two or more separate buildings. Those structures designated as Features 4, 5, and 11 (Figure 8) were astride the plaza between Mounds A and B. There are several possible combinations by which these patterns may have been related either contemporaneously or sequentially; however, this order cannot be determined in the soil. I think that the nested patterns of Feature 5 indicate superimposed buildings rather than repair to an original structure. The significant point, however, is that all of the structures lie virtually in the center of the north plaza, an area that would ordinarily be thought to be open and clear. This has led me to believe that the north plaza at this time no longer had ceremonial significance, and buildings of either elite or commoner had been erected there.

The map is not all clear or precise, but the one prepared by the French military engineers in 1730 (Plate IIa) shows three centrally located rectangular buildings and a possible earth embankment some fifty feet north (or east by French reckoning) of a large central mound. The area is designated "B" on the map. The buildings appear small by comparison with similar symbols drawn on the summit of two other mounds. These small structures may have been either French or native housing, though I prefer to think that they are Indian, perhaps usurped by the French troops, and possibly the same as the Unit 4-11 structural complex. The highest frequency of decorated marker ceramics from the Unit 4-11 here suggests that the occupation was in the Emerald and Natchez phases (Table 7).

Whatever the historical significance of these patterns may be, no other satisfactory chronological information is forthcoming. The yield of

artifacts was small, but a few European items were included. There appeared to have been erosion or some other form of surface erasure, possibly resulting from military excavations, that destroyed the original soil context. In addition, it will be recalled that rain and flooding of the excavations hindered the proper exposure and recording of these features.

A second building site (Figure 7), on the creek bank east of Mound B and lateral to the mound axis of the double plaza, is more acceptable to me as the site of auxiliary aboriginal plaza structures such as those that may have housed the Tattooed Serpent or other dignitaries. A rectangular wall trench building (Feature 3) had formerly stood upon the same spot. The precedence of this building cannot be determined, but the individually set, rather large postholes of Feature 1, the larger house, are much better preserved. The levels of the floor deposits could not be discerned within the one-foot-thick or less midden layer covering the patterns. The pottery and other artifacts from the area were fairly diagnostic. European objects were contained in the levels, and occasional sherds of early pottery types were present. Twelve more or less indiscriminate burials (Figure 7) were also embedded within the deposits, but whether or not they are specifically connected with the houses cannot be said. The careless disposal upon the edge of a shallow embayment of the creek bank suggests the style attributed to Anna phase burials described by Steponaitis (1974:177). The haphazard bundle and skull burials could also have been inconsequential slaves or commoners attributed to later Natchezan culture class indifference. I believe the large structure at this location to have been the residence of an important individual, such as the Tattooed Serpent or the Flour Chief. If the former, then I have had an interesting sociological theory wrecked. The second ranking Flour Chief's village was elsewhere, probably south and west of St. Catherine Creek and U.S. Highway 61 South, but he seems to have maintained a residence on the plaza (White *et al.* 1971:Figure 2, No. 12), since he was in frequent conference with the Sun and the War Chief. Regardless of personalities, Feature 1 had been a large imposing structure near the chief's mound, occupying a desirable, well-drained knoll upon the bank of the creek. Decorated marker types for the Emerald and Natchez

phases have the highest frequency in Analysis Unit 1-3 (Table 8) although the occasional early variety sherds described above tend to distort the frequency for the earlier Anna and Foster phases. Thus the deposits appear to be contemporary with Unit 4-11.

The third set of construction features (Feature 19), unlike the above, provides a veritable maze of identifiable archaeological data that might be construed to represent a substantial time lapse, and therefore a significant segment of internal site chronology. Figure 9 shows the complexity of archaeological details of extensive and repeated construction activities on this favored creek bank location. Like Feature 1, the buildings were situated near Mound B and lateral to the mound axis, albeit located on the south plaza expanse. I have chosen to confine my analysis efforts to the central portion of the Feature 19 construction area, although it is evident that there was a small rectangular building (Feature 29) adjacent on the north and numerous supernumerary wall trenches of different or related structures nearby (Figure 13). The stratigraphy that is involved has been described in detail in earlier sections of this report, but a brief review may be helpful. The building site in general consisted of the highest portion of the creek bank in the S380-430 section. Buildings were erected here and midden accumulated, although the exact order is not demonstrable. This basic midden layer (Feature 25), averaging one foot in thickness, contained a tremendous quantity of occupational debris, probably representing indiscernible telescoped floors of the former house levels. The overlying layer, Feature 24, appears to have accumulated by another means, perhaps as an artificial deposit. It contained artifact material, but there was no indication of structural disturbances such as postholes and wall trenches. As explained above, the wall trenches were grouped arbitrarily in segments on the basis of measured interior depths in the subsoil (Figure 14). It is not possible to determine whether the shallowest as opposed to the deepest co-members are the youngest or the oldest. Since the order of the superimposed patterns is dubious, we must be satisfied with less, namely that at least three condensed time levels are present within the visible stratum of Feature 25.

The two strata of Features 24 and 25 merge west of the house location and continue as a

single layer or deposit as far as the W150 line. At this approximate point the single surface subdivides, still proceeding westerly, to form the distinct and separate P-1, P-2, and P-3 plaza surfaces. Time values have been imputed for these intervals in a descriptive section above. The physical stratification exists and may be correlated with the Mound C strata, although there is no straight line relation between the radiocarbon calendrical dates for the mound. I can see no positive way to correlate the strata of either Mound C or the three plaza levels directly with the Feature 19 complex. Possible juxtapositions may be inferred from comparison of ceramic markers from each unit, and a very general estimate made of the temporal values between them. The conception of three divisions in terms of levels or time that I have devised appears to be only coincidental.

There is nothing very helpful to be derived from the pottery markers established in the series from the house and plaza levels. I expected some correlation between the ceramic frequencies of all of the levels except P-1, since it is assumed to have been historic, and all of the house levels and P-2 and P-3 are assumed to be protohistoric. Reference to Table 7 shows that the correlation is confusing to say the least. The Anna phase markers are not cooperative, registering 6% for P-1 and 3.7% for P-3, where I would expect the values to be reversed. Anna markers have their highest incidence of 54% for Unit 19-24 and 18.4% for Unit 25. Ideally, these calculations should also be reversed. Contemplating the incidence of Foster and Emerald phase markers for the same units, we see that it remains even though dropping consistently to 44% and 14.7% for Emerald. If the gross figures for *Plaquemine* and *Manchac* are included as alternates, the percentage drops some for the Natchez phase as should be expected (Table 7). Regardless of their ratios, the presence of *Emerald*, *Foster*, and *Bass* in both units suggests that they are straddling the Foster and Emerald phases. The presence of *St. Catherine* and *Barton Incised* is to be expected as support, but the expansion of *Fatherland* from 44 to 128 sherds and the exclusive presence of *Junkin* here almost clinches a terminal Foster and full Emerald position for Units 19-24 and 25. According to stratigraphic information developed by Steponaitis (1974: 119-120), *Junkin* may well be a definitive marker for the inception of the Emer-

ald phase. There were three of these sherds from the Emerald site, fifty-five from the Foster site, and at least twenty from *Fatherland*, so far as is presently known, all of which were from the Feature 19 complex. This constitutes fairly tight stratigraphy, and points up Steponaitis' connotation of exclusiveness for the variety.

Reassessment of useful markers such as *Greenville*, *Stanton*, *Pine Ridge*, and especially the proportions of the middle and late variants of *Manchac* and *Plaquemine* will undoubtedly strengthen my claim for dating Units 19-24 and 25 in the Emerald phase. A few European objects that were imbedded superficially in Feature 24 may be regarded as casual intrusions or a sparse inclusion linking the feature with the historic Natchez phase.

The disjointed chronological ceramic order recorded for the plaza levels probably should have been expected, and I believe it can be explained in three possible ways. First, the use of the plaza as a ceremonial area might prevent, in some way, the orderly accumulation of cultural material that could be interpreted through archaeology. Secondly, there is the uncertain status of the P-1 and P-2 layers, and the presumably valid temporal interval commensurate with the 1.5 feet of sterile silt that accumulated between them. In an earlier discussion I assigned an arbitrary 250 years for this depositional interval. P-3 is stable as an early stratigraphical level, relying upon several radiocarbon dates for its temporal position, and thus is not dependent upon the two succeeding levels for probity. The collections from the tests in the three-way stratification are small compared to other analysis units but can be said to be random in every sense. Thus, they are comparable to the stratigraphic samples from Emerald and Foster and therefore statistically acceptable. The third factor that may have affected the plaza collections and the assumed proper order of their deposition is, of course, the disruption caused by the French military fortification that cut through the middle of the stratified plaza area. The impact of this disturbance was not fully recognized until part of the tests had been dug. Every effort was made to screen and exclude test collections that may have been mixed by this extensive intrusion.

Generally, it may be said that there is a progression or value change of ceramic marker varieties between the individual analysis units. Although they may be only muted components of

cultural phases *per se*, this is an improvement on the conclusions that I drew from the mound histograms a number of years ago: i.e., that there was little or no cultural change manifest in the ceramics at Fatherland for a span of 500 years. In reviewing these ancient charts I am now able to discern where type-variety judgments would have altered this conclusion. For example, it is possible to detect very low counts of *Manchac* and practically no *Grand Village* sherds in the pre-mound and lowest midden layers, a very valid type-variety judgment for reporting Anna and Foster phase components.

The trend of values noted above in the analysis units may be combined with the somewhat subjective stratification I have suggested to produce a credible site stratigraphy that is listed in Tables 2, 4, and 7. Despite occasional contradictions for individual items and the more puzzling inversions in Unit BM, the analysis units may be aligned satisfactorily with the regional stratigraphy as summarized in Table 5.

The trend or order of the units in stratigraphic succession is subject to other flaws. The arbitrary date of A.D. 1450 assigned to P-2 mostly on the estimates of colluvial accretion is not easily credited. Hard and fast date lines supported by a flow of timely pottery varieties, which I should like to see, are vague and transient. Physically, P-2 correlates firmly with the Phase III ramp of Mound C, but the latter appears to be just as firmly tied to radiocarbon dates for the middle thirteenth century. There are many reasons that might be responsible for such a discrepancy, and the reader is invited to take his choice. If it were possible to correlate P-2 directly with either Unit 19-24 or 25, the disjointed relationship of plaza surfaces and analysis units would be reduced.

Lacking assurance of any such connection does not prevent further assumptions. Using the pottery frequencies derived from decorated and plain marker varieties, it seems reasonable to use the A.D. 1450 date as a baseline for the inception of the Unit 19-24 and Unit 25 continuum. Though not provable, this does set the form for applying some fragmentary Natchez ethnological data.

I have arbitrarily designated three hypothetical structural levels, identified by portions of three separate buildings included in the Feature 19 ground plan complex. Since House 1 may be the earliest or latest, depending upon

interpretation (Figure 14), the order of the three buildings remains in doubt. The notion of three stages or steps is all that is necessary to make the ethnological comparisons and perhaps some small reconstruction of the history of this building site.

Two historical references give a clue as to the use expectancy of Natchez houses. Of course, evidence in the ground indicates that localized or temporary wall repairs were made to such structures, thus prolonging the use life. Such evidence was conspicuous in the case of the Mound C temple (Neitzel 1965:Figure 10) and also in Feature 19. Regardless, Du Pratz (Swanton 1911:160) has said that the thatch on these buildings lasted twenty years. In another passage, it is said that the Tattooed Serpent's cabin was burned at his death, as were those of the chiefs. Although the evidence is not as striking as the burned clay rubble recently exposed at the Haynes Bluff site (Neitzel, field notes, 1974), large quantities of burned daub were catalogued from Feature 19, demonstrating the presence of extensive firing. Such evidence was negligible from other house units on the plaza.

Although I do not personally believe thatch will last for twenty years, the interval is believable for wood construction in this climate, especially with the occasional replacement of walls or individual supports. Practically, thatch needs to be patched or replaced about every three years. There are no actuarial tables available, but I believe most students would agree that twenty years is also a reasonable average span for a generation or reign of a particular chief or head of family. From this, we may calculate that individual houses such as in Feature 19 or the chiefs' houses on Mound B (Neitzel 1965:Figure 5) may have averaged out to have been built in something like twenty-five year intervals. On this basis, it is possible to estimate seventy-five to a hundred years for the concerted building activity at Feature 19, always assuming that the activity or occupancy was continuous. Ceramics place the units later than the Anna phase or possibly the thirteenth century; thus they may be assumed to be closer to P-2 or A.D. 1450, the date line assigned above. One hundred years, more or less, added to 1450 gives us a date of 1550 or for all practical purposes the DeSoto date line or the height of the Emerald phase. Though the reasoning is circular, it has a ring of probability and coincides with the sixteenth cen-

tury activity attributed to Phase III of Mound B, and the abandonment of the great bluff front centers. The Gordon, Foster, and Ratcliffe mound sites were well organized, and the final stages at the Emerald mound were being added. The principal discordant note comes from the thirteenth-century radiocarbon dates from Building Level 1, Phase III of Mound C at Fatherland.

This Emerald phase adjustment pattern of community organization persisted into the full historic times of the Natchez phase (Steponaitis 1974:195–204), give or take a few villages. Although many disruptive influences had entered into the social system, there were also instances of attempts at social stabilization and cooperation with other tribal bands. With the advent of the French, however, one gets the impression of stagnation and deterioration of the Indian national existence.

Despite the gratifying quantity of additional archaeological data that has accumulated at the Grand Village and throughout the bluff hills during the past two or three years, satisfactory historical reconstructions must remain in the category of an outline, buttressed at points by diverse and sometimes contradictory ethnological data.

#### GRAND VILLAGE PHYSICAL STRATIGRAPHY AND INTERNAL CHRONOLOGY

The discussion of the portent of the three-mound axis, including the supernumerary Mound A, has by now become redundant. The reasons drawn from the earlier Fatherland report (Neitzel 1965:15–16, 63–64) are still valid as far as they go. At that time, the principal evidence in favor of the argument for contemporaneous construction and use of Mounds A and B, followed “soon” after by Mound C, was the presence of ordinary sherds, bone, and stone detritus in the Mound C submound surface, no artifacts at all in the same culturally stained surface beneath Mound B, and very scant returns from beneath or adjacent to Mound A. There was a trace of small house patterns in the surface beneath Mound B and forty-three sherds from beneath Mound A. The obvious inference is that the Mound C surface was open to occupation, or at least rubbish disposal, while the other two mounds were being built and/or used. Adducing some of the newer evi-

dence (Steponaitis 1974:172–194) relative to pottery varieties as phase markers, it can be seen that there was some justification for this purely mechanical inference. Crude as it is, the histogram for the three mounds (Neitzel 1965:Figure 13) shows reliable counts of 1% *Manchac* beneath Mound C. This variety was supposedly absent during the Anna phase, with which I have identified the original ground surface at the Grand Village. The complete absence of *Manchac* in this same level was noted in unpublished histograms of strata cuts made near Mound B (Neitzel 1965:26) and is also true of the pre-mound surface at Mound A (Neitzel 1965:Figure 13). In further support, there was at least 2.5% *Fatherland* (combined Fatherland and Natchez Incised), a strong marker for the Emerald and Natchez phases, over 1% of *Bayou Goula*, a Natchez phase marker, and 7.5% *Plaquemine* beneath Mound C. The latter count would be considered light for a full Anna phase representation (Steponaitis speaks of 40–50% of decorated varieties, which would be roughly equivalent to 5% of the Fatherland total sherd computations). This count is almost exactly equal to that for the historic phase of Mound C.

I do not intend to submit these data as “proof” that Mound C was physically younger than the rest of the site, especially the other mounds, but merely to demonstrate the tight fits that are involved in correlation of stratified and chronological information. I have not lost sight of the fact that there are two perfectly good radiocarbon dates of A.D. 1240 and 1285 for the first temple level on Phase III of Mound C. Viewed strictly, these are Anna phase dates associated with significant quantities of Emerald II and Natchez phase marker varieties.

As stated above, I am not yet willing to concede that there was an integrated, functioning Anna phase cultural unit at the Grand Village contemporary with the peak or even declining Anna levels at the big centers of the Emerald, Anna, Shieldsboro, or Bayou Pierre sites, or other bluff-front ceremonial centers more or less directly associated with the thirteenth-century Anna phase course of the Mississippi River. Nor would I suggest an Issaquena or Coles Creek population on the same surface because of the few sherds from these periods that have been found. Of a total of 1224 decorated sherds of Anna phase markers including *Manchac* and *Plaquemine*, there are only twenty-two

of the tried varieties *Anna*, *Carter*, *Coleman*, and *L'Eau Noire* from the stratified plaza surfaces and the five analysis units (Table 7).

### PHYSICAL STRATA

There are mechanical or physical aspects of the deposits at the Grand Village that seem to promise interesting stratigraphical inferences, and may measure the chronology to some extent. Again, there is difficulty in achieving complete uniformity between the observable strata and the dates imposed by radiocarbon and ceramic marker timekeepers, but the circumstances deserve notice.

The colluvial deposits have been discussed in an earlier section, and Figure 3 shows schematically the import of these seemingly simple but potentially complicated deposits. The north plaza, i.e., north of Mound B and including its subsurface, has been enveloped by an average of six feet of sterile reworked loess soils derived by colluvial creep from neighboring hills. The process began there immediately after the site was abandoned in ca. 1730 and has continued until the present day. There are sufficient historical glimpses at the district landscape from time to time to explain how the forests were being stripped for lumber and agricultural purposes. The native clearings are noted by the earliest French settlers, who then contributed their own efforts to this end. In 1766-67, a Lieutenant Governor of the Province of West Florida noted the extensive clearings, attributing them to the former French habitants, and anticipated their advantage to American settlers (Petersen 1971: 231-238). Others also commented on this aspect of the landscape from the Feliciana Parishes to Natchez in the middle 1830s when lumbering and a distributive market economy had been established. The consensus was that clear sandy streams had contracted into choked, muddy bayous bordered by flat bottom lands. It was even noted sadly that the bee hunters had disappeared as the country continued to be cleared and settled (Rickels 1956: 169-197).

Since there was no evidence of interruption in this depositional process, it is safe to assume that the six feet of bedded silts had been accumulated from approximately 1700 until 1950, if I may be permitted to round off the centuries. This appears to be true for only the north plaza extending to the flanks of Mound B. A large portion of the south plaza between Mounds B and

C and extending an unknown distance west from the site proper also received an average of six feet of reworked loessial colluvium. However, an area extending from at least W150 to W350 and S400 to S550 was deposited in layers separated by culture bearing surfaces. One and one-half feet of silt had been deposited upon the original surface (P-3), for which I am assuming a minimum date line of A.D. 1200. A thin layer of aboriginal occupational material had then accumulated upon this P-2 surface, after which another 1.5 feet of sterile silt had settled, upon which a third occupational surface containing native and European materials had developed. This bears an assumed round date of A.D. 1700. After the abandonment of the site by the Natchez another three feet of sterile silt accumulated, resulting in a surface much as it was when I first excavated at the site in 1962. The terminal three feet may have ceased accumulating at any time after 1700, but it would appear reasonable that the process became dormant after 1900. The artificial shortening of the lower course of St. Catherine Creek in the latter part of the nineteenth century may or may not have had an indirect effect upon the colluvial process. Accordingly, I have assumed a rounded century date of 1950 for the culmination of the colluvial deposit for both the north and south plazas (Figure 5).

In traditional fashion, these strata suggest elapsed time, and I indulged in some simple arithmetic in an early part of this report to make the most of the case for intra-site chronology. The discussion was left up in the air at that point after establishing the basic physical stratification for the site. Collections have been made from each discrete level and are set down in Table 2 by identified pottery types and varieties for each analysis unit. These types were translated into more up-to-date nomenclature, and the same site units were compared with the Bayou Goula, Emerald, and Foster site ceramic counts in Table 4. Subsequently, these variety counts were listed as respective phase markers in Table 8 to demonstrate significant changes in type and varietal frequencies for the site units as identified with the site stratification. These data will be discussed in more detail below. For now, it is necessary to touch up on two other lines of evidence pertinent to basic site strata and internal chronology.

Several test pits put down in the vicinity of

Mound C have been described in the Zone VII excavation section. These were dug early in the project in order to locate the original Mound C excavation limits with a view toward relocating the superimposed Phase III and IV ramps. Excavation in 1962 had ceased at the S580 line where cross-sections of the strata had been drawn between the W350 and W360 coordinates. These profiles were not published, but the original drawings were available to record the condition of the mound strata at the point where the sloping ramps joined the platform. The 1972 tests intercepted the lower slopes of the ramps along the W345 line between S520–555 (Figure 6). The checkerboard pattern of the tests permitted drawing only a broken profile pattern, and a complete juncture with the terminal S580 excavations of 1962 was not attempted. However, after adjusting the 1962 datum to that established finally in 1972, I have been able to match the profiles and contours of the separate sets of records. The specific strata have been correlated as shown (Figure 6) so that the longitudinal section of the lower ramp slopes are correlated with the P-1 and P-2 plaza surfaces. The P-3 surface is indicated as being basal to the artificial mound structure. Despite the many changes resulting from earth removal, a satisfactory correlation was achieved, and the descending Phase III ramp was seen to merge neatly with the P-2 plaza and that of Phase IV with the P-1, or historic surface. The ramps conjoin with their respective plaza surfaces at the 106- and 108-foot contours. This cleared up a detail that had troubled me in 1962, but which I was unable to explore at that time.

The implications of this stratification to the

chronology are not so clear. The ramp III surface has been shown to be related directly to the A.D. 1200 Phase III surface, thereby extending this date to the P-2 plaza surface. The percentage of decorated Anna phase markers in Table 8 is also highest for the P-2 level. However, it is equal to the count for the historic P-1 surface and much higher than that for the P-3 surface with which the A.D. 1200 date should logically be assigned. Emerald and Natchez phase markers did show a proper correlation, until I undertook to include the counts of *Manchac* and *Plaquemine* in an alternate marker total for the Natchez phase (Table 7). The credibility of the correlation was lost immediately. I have assigned an inferential date of A.D. 1450 to P-2 in an earlier section of this report. This, of course, is not consonant with the thirteenth-century radiocarbon dates attributed to the Phase III mound surface. Thus it would seem that either the P-2 surface is not a significant feature in site stratification, and consequently perhaps undatable, or the basic radiocarbon dating sequence is suspect. Although I made much of the plaza superimposition during the early analysis stages of this study, I am now inclined to believe that the three-way plaza section may be a modest localized separation, and thus not datable in terms of centuries. A review of Table 4 ceramic counts does furnish a modicum of stratigraphical consistency, but P-2 is never distinguished too positively from either P-1 or P-3. Historic objects are never found with either P-2 or P-3. An attempt to discern pottery differences in the ramp test levels also failed, though the sherd counts are included in the P-2 and P-3 levels of Table 4.

## NOTES

1. The study of loess geology in Bulletin 111 of the Mississippi Geological, Economic and Topographic Survey (Snowden *et al.* 1968) is an invaluable aid to the layman.

2. The dwellings of the commoners at the Grand Village were said to have occupied such high knolls across the creek, immediately east of the mound-plaza complex (Plate la, b). This has been documented by the recovery of mixed European and native artifacts in partially plowed fields and by thin midden deposits exposed in old road cuts (Ford 1936:64). I found a trivial amount of similar material in the same vicinity in 1962, and the Lower Mississippi Survey has done some excavating there (Brain and Neitzel, field notes, 1971; Brown 1973). At the time of my original investigations the plowed fields had disappeared, but the old tenant buildings stood on mounds of dirt two feet high, in contrast to the surrounding eroded surface (Neitzel 1964:12). The Lower Mississippi Survey team discovered in 1971–72 that nearly all of these tiny open plots in the hills ranging along the various stream valleys yielded artifact material from as early as Coles Creek times and, in one or two instances, from earlier phases.

3. In June of 1976 Moreau B. C. Chambers presented to the Mississippi Department of Archives and History an archival collection of papers reminiscent of the period in the 1920s and 1930s when he, Dr. Dunbar Rowland, Henry Collins, James Ford, and others were associated with the Department. One letter from Mr. Collins, then of the United States National Museum, to Mr. Chambers is pertinent to the foregoing dispositional problems. It is dated April 12, 1932, and reads as follows:

Does Dr. Rowland have 'The Lotus' 1848, a journal published in Philadelphia? In it Dr. Dickeson [Montroville Wilson Dickeson who dug and collected from various sites in the Natchez area during the mid-nineteenth century] writes a series of accounts of his work in the Natchez district, somewhat fuller than the account given by Culin in the 1900 University of Pennsylvania museum report. The Fatherland Plantation would seem to be the one he described as the Col. A. L. Bingaman Plantation, two mi. east of Natchez—or have I forgotten my distances? He describes three mounds on the west side of St. Catherine equidistant from each other, and it is of interest that he speaks of a bank connecting them, originally eight feet high and twelve feet across which was erected by Col. Bingaman as a small levee to protect his cotton crop from high water from the creek.

Dr. Dickeson's observation was made prior to the man-made cutoff in St. Catherine's Creek, and thus the bottoms were subject to modest overflows. There is no reason to doubt that such an earthwork was utilized for protection. The question is how much of it constituted the original French works, and how much Col. Bingaman had enlarged or otherwise improved upon for his protection. The soil available would have been the colluvial silt, and his digging and loading of this material would be almost impossible to identify or distinguish from that of the French effort a century before. The height of eight feet might also be questioned as a judgment factor, but after what has been seen, considerable height could have been lost from the estimated mid-nineteenth-century figure. If it weren't for the instability of the plaza colluvium and other unknown factors, these new data from Dickeson would assist materially in estimating time factors in the history of plaza deposition. At least the course of the French works must have been well marked in the 1840s. It would also seem that a

substantial amount of the colluvial deposition (three feet) above the P-1 1700 base line occurred after 1840 on the south plaza. Perhaps all six feet of the north plaza fill also occurred after this time. Unfortunately, there are not enough specific stratigraphic data to judge the circumstances. The letter does, however, confirm the historical reference I noted in the Calvin Brown report (Neitzel 1965:9).

4. A detailed synopsis of the events relating to the initial French colonization of the Natchez Bluffs can be found in Swanton (1911:186–257) [eds.].

5. The principal source for this correspondence is Rowland and Sanders, *Mississippi Provincial Archives: French Dominion* [eds.].

6. A summary of this work has been published by North and Svehlak (1977) [eds.].

7. For further discussion and source material on Natchez ethnohistory see Swanton (1911) [eds.].

8. In the winter of 1938–39 while excavating at the Greenhouse site in Louisiana, the Acadian workmen provided my field office with a mud and stick chimney. They dug a shallow hole, circular and bowl-shaped, in which mud and Spanish moss were trampled together and then placed on a hod and used to plaster the chimney.

9. See note 3.

10. Quimby (1957:107–108) has commented similarly concerning the construction at the Bayou Goula site. He even proposed that cane and not wood posts were used.

11. Recent thin-section examination of Natchez pottery has revealed no evidence of deliberate grit inclusions. The pottery often contains sand- and silt-sized grains of quartz, but these are almost certainly natural accessories to the clay [eds.].

12. Numerous observations made at commercial excavation sites along other reaches of St. Catherine Creek yielded a general confirmation of similar creek activity and sedimentation at other points in the drainage. These observations were made subsequent to the excavation project of 1972 and the measurements can only be described in gross terms.

13. This classification has continued to be revised, and subsequent versions of it can be found in Steponaitis (1976, 1981) and Brain, Brown, and Steponaitis (n.d.) [eds.].

14. The reader should note that the assignment of Winterville Incised, *var. Winterville* sherds to the Coleman Incised, *var. Bass* is not consistent with the latter's original definition (Steponaitis 1974:132). Winterville Incised is basically a shell-tempered type, whereas Coleman Incised is conventionally reserved for grog or "clay" tempered material. For example, in the current classification of Brain (1979), the sherd illustrated in Plate XVIIIi would be referred to as Winterville Incised, *var. Tunica* [eds.].

15. An illustration of the flexibility and viability of the system is demonstrated here. Of the three varieties set by Phillips (1970:107–109), *var. Baptiste* has now been returned to *var. Emerald* (Steponaitis 1974) where it lay originally. No temporal or spatial significance has been sustained for the separation, which was based primarily upon paste characteristics.

16. As these current data were assimilated by Dr. Brain and his students, Ian Brown and Vincas Steponaitis, during their academic sessions at Cambridge, it became evident

that several changes in Phillips' basic formulations would be necessary. They were adjustments of the system to integrate the accumulating knowledge of the Natchez district, really a new "culture area." Again I sat in attendance while history repeated itself—the second instance of reconciliation of established local terminology with the older regional nomenclature.

17. The final report on this fieldwork appears in Brain *et al.* (n.d.) [eds.].

18. Brain (1978) has provided the most recent summary of cultural development during these phases. Also see Figure 18 on p. 119 [eds.].

19. A special test of the content of a thin but rich midden was made in an experimental plot of two ten-foot squares near the benchmark. Precise levels and coordinates of each scrap of artifact were plotted and recorded in the manner recommended for the nearest-neighbor analysis. The program proceeded beautifully for several days, until it became obvious at a depth of 0.5 to 0.75 foot that peculiar plotting data were emerging. Briefly, the program was recognized as a recording of strips of concentrations of artifacts that had been displaced along with the soil itself when the heavy machinery had squeezed the one-foot-deep or more occupation layer into alternate linear hollows and ridges. The spongy, extruded overlay of sediment had settled back as drying progressed, and subsequent rains evened out the surface. The basic deformity of the subsurface occupation layer and its contents persisted. I became doubtful of the usefulness of the data accumulating from these wheel tracks, and the effort was abandoned. Later, infrared photography revealed that nearly the entire unexcavated surface midden was similarly deformed.

20. Originally, the late prehistoric sequence in the Natchez region consisted of two phases—Anna and Emerald (Brown 1973). Subsequently, the Emerald phase was divided into two subphases, called Emerald I and Emerald II (Steponaitis 1974). Since then, each of these subphases has been recognized as a phase in its own right: Emerald I has become the Foster phase, and Emerald II is simply referred to as the Emerald phase (Steponaitis 1976, 1981; Brain 1978). It is the most recent usage that is employed throughout the present monograph [eds.].

21. The reader may also find useful the alphabetical glossary of type and variety names which appears in Appendix I [eds.].

22. The Tunica rim mode generally occurs on shallow carinated bowls. Its distinctive feature is a deep groove or step that encircles the *interior* of the rim, just below the lip. Good examples of this mode have been illustrated by Ford (1936:Figures 19e, 21d) [eds.].

23. The Haynes Bluff rim mode is also associated with shallow carinated bowls. The treatment consists of a notched or scalloped lip accompanied by an incised horizontal line on the inside of the rim (e.g., Ford 1936:Figure 19; Phillips 1970:Figures 14, 98, 99, 214) [eds.].

24. Vessels of Barton Incised are not uncommon on eighteenth-century sites known to have been occupied by the Tunica (e.g., Brain 1979:238–240) [eds.].

25. In a later conversation with Dr. Brain (1977) concerning this problem, he proffered the suggestion that there is a late, probably historic type that resembles *Mott* closely by definition, but should probably have a name of its own whenever its genesis on the historic time level becomes clearer.

26. More recently, Steponaitis (1976 [1981—eds.]) called it *var. Nancy*, but I am uncertain whether all of the

specimens I have singled out would conform to his specific terminology.

27. See also Brain (1979:224–233) [eds.].

28. A National Park Service unit investigated a small, probably French *habitant* house site east of U. S. Highway 61 north and probably not too far from the St. Catherine Concession. The location was first discovered in 1973 by Ian Brown and Vincas Steponaitis while on an off-season reconnaissance trip. Among the French household goods there was one indisputable sherd of Chickachae Combed. The location may not be too far from the camp of the Choctaw allies plotted on the French military map (Plate IIa).

29. See Brain (1979:234–237) [eds.].

30. See Brown (1979a:201, 102) [eds.].

31. Type and variety definitions for the projectile points discussed here can be found in Williams and Brain (n.d.) and in Brain, Brown, and Steponaitis (n.d.) [eds.].

32. Additional information on Fort St. Pierre and surrounding sites can be found in the works of Brown (1976, 1979b) [eds.].

33. Also see Brain (1979) [eds.].

34. Continued excavations at Fort St. Pierre as late as 1977 have caused me to disavow this statement. Numerous and contextually significant European ceramics have been found there.

35. Through sheer fatigue I have finally succumbed to persuasion by those who seem to know much more about these things than I do. These are thought to be fortuitous fragments of mirrors, from which the backing has long since disappeared.

36. T. M. Hamilton's definitive study "Firearms on the Frontier" (1976) unfortunately was not available when this report was being written. Given the rather simple inventory of gun and flint parts present in the Fatherland collection, Mr. Hamilton has kindly reassured me that the lay opinions I have ventured, based on his and Witthoft's earlier works, are probably acceptable in general. In detail there is something to be desired, especially since considerable quantities of data continue to appear from similar French colonial situations across the country.

37. Revised versions of these theses are incorporated in Brain, Brown, and Steponaitis (n.d.) [eds.].

38. During 1976 and 1977 a scant but constant stream of glass beads and appropriate Fatherland Incised sherds has been eroded out of an oil well location (Rice Road site) a mile or so west of the Emerald site. Though badly disturbed, this seems to be burial residue, possibly from a historic aboriginal homestead, and the first nearly legitimate claim that can be made for a historic position for the Emerald locality.

39. In the spring of 1977 a National Park Service field party excavated a location one and one-half miles north of the Grand Village. The site was first discovered by Brown and Steponaitis and is thought to be the location of a French *habitant's* homestead. One sherd of Chickachae Combed was retrieved along with typical French trade scraps. The location is not too far from the archaeologically unverified site of the St. Catherine Concession, and is probably one of the scattered *habitants* indicated on sketch maps made in 1730 (Plate 1b).

40. New evidence from French archival sources (Archives des Colonies, série C13A, Correspondance Générale, Louisiane, vol. 13, folios 57–75v: Perier to Maurepas, December 10, 1731) shows that the Flour Chief was the leader of the Natchitoches attack and was killed during its course [eds.].

# APPENDIX I.

## GLOSSARY OF CERAMIC TYPES AND VARIETIES

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COMPILED HERE IS AN ALPHABETICAL GLOSSARY of all the ceramic type and variety names used in this report. It is intended mainly as a convenient reference in helping the reader sort through the rather intricate ceramic nomenclature which (for better or worse) Lower Valley archaeologists have come to employ. It is not meant to replace the detailed type descriptions already presented elsewhere. Hence, the definitions it contains are deliberately brief, and bibliographic references are kept to a minimum. In general, only the most recent published definition is cited; in cases where no published definition exists or the published definitions have been outmoded, the most relevant unpublished source is given. (Fortunately, one of the most frequently cited unpublished sources, the Lake George site report [Williams and Brain n.d.], is in press and should soon be widely available.) All taxonomic designations are presented in the conventional Lower Valley format: variety names are italicized, whereas type names are not.

**Addis Plain:** The principal late prehistoric plainware in the Natchez region. It is invariably tempered with grog, sometimes in combination with shell, bone, or other organic matter (Steponaitis 1974: 116–118).

**Addis:** A variety of Addis Plain with a smoothed or lightly burnished surface finish. The paste is medium-textured and contains grog but no shell (Steponaitis 1974: 118). Phillips earlier described it as a variety of Baytown Plain (1970: 48–49).

**Alligator Incised:** A decorated type characterized by rectilinear incisions on a ware equivalent to Baytown Plain (Phillips 1970: 38–40).

**Angola:** A variety of Winterville Incised defined originally by Phillips (1970: 173). It is marked by a distinctive guilloche design and is closely related to *Tunica*.

**Anna Incised:** This type includes shallow bowls with designs incised on the interior. The paste is generally equivalent to Addis Plain (Williams and Brain n.d.).

**Anna:** This variety of Anna Incised is marked by rectilinear and/or curvilinear designs on the interior of shallow bowls. The design is typically carried out in a leather-hard or dry paste (Williams and Brain n.d.). Phillips originally defined *Anna* as a variety of L'Eau Noire Incised (1970: 102).

**Arcola:** This variety of Barton Incised is decorated with closely-spaced parallel incisions which form a band of line-filled triangles on the vessel's shoulder (Phillips 1970: 45). The execution of the design is much more careful in this variety than in *Estill*.

**Australia:** This variety includes shallow flaring-rim bowls decorated with multiple parallel incisions encircling the interior of the rim (Phillips 1970: 102). Ware is equivalent to *Addis* or *Greenville*. Originally set up by Phillips under L'Eau Noire Incised, the variety now fits more comfortably into the newly resurrected type Anna Incised.

**Avoyelles Punctated:** A type exhibiting zones of punctation enclosed by incised lines. The ware is equivalent to Baytown Plain or Addis Plain (Phillips 1970: 41–43).

**Avoyelles:** The earliest variety of Avoyelles Punctated, in which the incised and punctated design occurs on a ware equivalent to Baytown Plain (Phillips 1970: 42).

**Barton Incised:** This type encompasses shell-

- tempered vessels that are decorated with rectilinear incised motifs (Phillips 1970: 43–47).
- Bass:** A variety of Coleman Incised in which the design consists of broad, trough-shaped incisions 2–3 mm wide. This is the grog-tempered counterpart of Winterville Incised, var. *Belzoni* (Steponaitis 1974: 132).
- Bayou Bourbe:** A variety of L'Eau Noire Incised set up by Phillips (1970: 102–103) to describe certain incised wares found at the Medora site. This category is now for the most part obsolete and in need of reformulation, since much of the material it originally subsumed would now fall into the types Carter Engraved and Anna Incised.
- Bayou Goula:** A variety of Fatherland Incised marked by scrolls consisting of five or more closely-spaced parallel lines (Steponaitis 1974: 137). Earlier described by Phillips as a variety of Leland Incised (1970: 104–105).
- Baytown Plain:** This type subsumes all the grog- or “clay”-tempered wares that are earlier in time than Addis Plain. It has numerous varieties, most of which are described by Phillips (1970: 47–57).
- Bell Plain:** A polished plainware tempered with very fine shell, often mixed with grog (Phillips 1970: 58–61). The type, as currently defined, still has a very wide distribution in space and time, although some of the varieties formerly falling within it are now subsumed within Addis Plain (e.g., *St. Catherine*).
- Belzoni:** This variety of Winterville Incised is marked by broad, shallow incisions making up the curvilinear design. The lines tend to be trough-shaped in cross-section (Phillips 1970: 173–174).
- Bethlehem:** Chronologically the earliest variety of Leland Incised. Sorting criteria include crudely executed, broad-line incisions on a ware equivalent to *Addis* or *Greenville*. Designs often consist of scrolls or guilloches enclosed in vertical panels (Williams and Brain n.d.).
- Blakely:** A variety of Coles Creek Incised that occurs on a ware equivalent to Baytown Plain, var. *Vicksburg*. Characteristically, the four or more parallel lines which make up the design are widely spaced (Phillips 1970: 70–71).
- Blanchard:** This variety of Leland Incised includes carinated or flaring rim bowls which are decorated with trailed festoons or other curvilinear designs placed on the rim interior (Phillips 1970: 105).
- Braxton:** A variety of Evansville Punctated in which the design consists of hemiconical punctations, formed with a cylindrical stylus held at an acute angle to the vessel wall (Phillips 1970: 79–80).
- Carter Engraved:** A type which includes vessels, usually bowls or beakers, decorated with fine, dry-paste incisions on the exterior surface. Designs usually consist of multiple parallel lines forming broad zones of curvilinear and sometimes rectilinear patterns. The ware is equivalent to Addis Plain, vars. *Addis* or *Greenville* or Baytown Plain, var. *Vicksburg* (Williams and Brain n.d.).
- Carter:** This variety of Carter Engraved includes finely-incised vessels having an *Addis* or *Greenville* paste (Williams and Brain n.d.). Phillips originally defined *Carter* as a variety of L'Eau Noire Incised (1970: 71–72).
- Chase:** This variety of Coles Creek Incised is marked by a narrow exterior rim strap on which are incised two, three, or four parallel horizontal lines (Phillips 1970: 71–72).
- Chevalier Stamped:** This type includes vessels decorated with unzoned rocker-stamping on a ware equivalent to Baytown Plain or Addis Plain (Phillips 1970: 64–65).
- Chicot Red:** A type which includes red-filmed vessels whose ware is equivalent to any variety of Addis Plain (Steponaitis 1974: 128–130).
- Churupa:** Sherds of this category exhibit hemiconical punctations in zones defined by grog, trailed incisions. The ware is generally equivalent to a Marksville period variety of Baytown Plain (Phillips 1970: 67–68). *Churupa* is a variety of Churupa Punctated (see Phillips 1970: 67).
- Coleman Incised:** In this type are placed grog-tempered vessels decorated with curvilinear, wet-paste incisions. The ware may be comparable to the *Addis* or *Greenville* varieties of Addis Plain (Phillips 1970: 69; Williams and Brain n.d.; Steponaitis 1974: 130–132).
- Coleman:** A variety of Coleman Incised in which the decoration is carried out with a narrow pointed tool in a wet paste. The characteristically curvilinear incisions are usually

- about 1 mm wide (Williams and Brain n.d.; Steponaitis 1974: 131–132).
- Coles Creek Incised:** This type subsumes vessels on which the principal decoration consists of one or more horizontal incisions encircling the exterior of the rim. The ware is invariably grog tempered, comparable to Baytown Plain or Addis Plain (Phillips 1970: 69–76).
- Coles Creek:** A variety of Coles Creek Incised in which the multiple parallel lines at the rim are incised with a flat-ended stylus held at an acute angle to the vessel wall. The resulting effect is that of “overhanging lines” (Phillips 1970: 70).
- Dabney:** A late, “broken down” variety of Leland Incised, marked by scroll designs that are less carefully executed and surfaces that are not as nicely burnished in comparison to *Leland* (Phillips 1970: 105). Recently, this variety has become obsolete, as the material it once described has been subdivided into two new varieties, *Russell* and *Williams* (Williams and Brain n.d.).
- Deep Bayou:** In this variety of Leland Incised, the design consists of running scrolls made up of bands of closely-spaced parallel lines. The lines themselves tend to be relatively broad (Phillips 1970: 106).
- Dupree:** A variety of Avoyelles Punctated that is marked by rectilinear zones of punctations on a ware equivalent to Addis Plain, *var. Addis* (Phillips 1970: 42).
- Ellison:** A variety of Nodena Red and White that occurs principally in the eastern portions of the Yazoo Basin and its adjacent bluffs (Phillips 1970: 143–144).
- Emerald:** The common variety of Maddox Engraved found in the Natchez Bluffs. The incised and crosshatched design typically occurs on a paste equivalent to *Addis* or *St. Catherine* (Steponaitis 1974: 146). The surface is invariably burnished, but generally not to as high a degree as one commonly finds in *Silver City*.
- Estill:** A variety of Barton Incised in which the design consists of line-filled triangles, generally placed on the rims and shoulders of jars (Phillips 1970: 45–46). The lines are not as closely spaced or carefully executed as in *Arcola*.
- Evangeline:** A variety subsuming shallow flaring-rim bowls decorated with incised rectilinear patterns on the rim’s interior. Ware is similar to the *Addis* or *Greenville* varieties of Addis Plain. This variety was originally set up by Phillips (1970: 103) under the heading of L’Eau Noire Incised, although nowadays it is best regarded as a member of Anna Incised.
- Evansville Punctated:** Vessels of this type are decorated with numerous closely-spaced punctations, often confined to a zone in the upper half of the vessel near the rim. The ware may be equivalent to certain varieties of Baytown and Addis Plain (Phillips 1970: 78–81).
- Evansville:** A catchall variety within Evansville Punctated, it is characterized by fingernail or stylus impressions on a ware comparable to Baytown Plain (Phillips 1970: 78–79). Essentially, it subsumes all the earlier examples of this type that do not fall into the more specifically defined varieties, such as *Braxton* or *LaSalle*.
- Fairchild:** This variety of Chicot Red includes red-filmed vessels of ware equivalent to Addis Plain, *var. Addis* (Steponaitis 1974: 129–130).
- Fatherland Incised:** This type is closely related to Leland Incised, differing only in line width. It is distinguished by curvilinear scroll designs made up of fine, dry-paste “incisions, usually no more than 1 mm wide.” The ware may be comparable to any variety of Addis Plain (Steponaitis 1974: 134–138).
- Fatherland Plain:** an obsolete name formerly applied to the material now sorted as Addis Plain, *var. St. Catherine*.
- Fatherland:** A variety of Fatherland Incised in which the design consists of two- to three-line running scrolls (Steponaitis 1974: 136–137). Note that this variety, as currently defined, subsumes the material originally sorted by Phillips as Leland Incised, *vars. Fatherland* and *Natchez* (1970: 106–107).
- Ferris:** A variety of Leland Incised decorated with spiral whorls made up of numerous closely-spaced incisions (Phillips 1970: 106). This is the broad-line equivalent of Fatherland Incised, *var. Pine Ridge*.
- Foster:** A variety of Leland Incised which occurs commonly in the Natchez region and is very similar to *Leland*, differing only in subtle attributes of paste and rim form. *Foster* is marked by relatively open scroll designs, bur-

- nished vessel surfaces, and bowl forms which lack a rounded exterior rim strap (Steponaitis 1974:144–145). The paste is generally equivalent to *Addis* or *St. Catherine*.
- French Fork Incised:** An elaborately decorated type marked by curvilinear incisions which are used to define zones filled with punctuation or hatching. The ware is equivalent to Baytown Plain (Phillips 1970:83–87).
- Grace Brushed:** This type encompasses shell tempered vessels with the surface treatment of brushing (Williams and Brain n.d.).
- Grace:** The principal variety of Grace Brushed, characterized by an overall surface treatment of brushing on jars of a ware equivalent to Mississippi Plain (Williams and Brain n.d.). Phillips earlier defined this variety as belonging to the type Plaquemine Brushed (1970:153).
- Grand Village:** A variety of Chicot Red which is marked by red filming on a paste equivalent to *St. Catherine* (Steponaitis 1974:130). Phillips originally defined this taxon as a variety of Old Town Red (1970:146).
- Greenhouse:** This variety of Coles Creek Incised has a design consisting of two or three widely spaced lines encircling the rim. The paste is comparable to Baytown Plain, *var. Vicksburg* (Phillips 1970:72–73).
- Greenville:** A variety of Addis Plain that is tempered with moderate to coarse-grained grog and shell (Steponaitis 1974:118–119). It was originally described as a variety of Bell Plain by Williams and Brain (n.d.).
- Hardy Incised:** This is an obsolete name formerly given to what is now called Coles Creek Incised, *var. Hardy*.
- Hardy:** The variety of Coles Creek Incised which occurs on an *Addis* paste. The design consists of multiple parallel lines at the rim; the incisions are typically narrow, and fairly sloppily executed in a wet paste (Phillips 1970:73–74).
- Harrison Bayou Incised:** A grog-tempered type whose principal decoration consists of widely-spaced crosshatched incisions (Phillips 1970:87–88).
- Harrison Bayou:** The only recognized variety of Harrison Bayou Incised. Its diagnostic features are oblique rectilinear incisions forming a cross-hatch pattern on a ware equivalent to the *Addis* variety of Addis Plain (Phillips 1970:87–88).
- Holly Bluff:** A burnished plainware tempered with a mixture of grog and fine shell, common in the lower Yazoo Basin. Phillips (1970:60) originally listed it under Bell Plain, but given its close relationship to *St. Catherine* it could just as easily be sorted as a variety of Addis Plain.
- Hollyknowe Pinched:** A type which encompasses grog-tempered wares decorated with pinched-up ridges of clay (Phillips 1970:88–90).
- Hunt:** A variety of Coles Creek Incised decorated with two or three parallel lines crudely incised on the rim. The ware is typically a thick, rather coarse variant of Baytown Plain (Phillips 1970:74–75; Williams and Brain n.d.).
- Iberville:** A variety of French Fork Incised that is reported from southern Louisiana and is similar to *Larkin* and *McNutt* (Phillips 1970:84–85).
- Junkin:** A thin variety of Addis Plain, generally having a wall thickness of 4 mm or less, with an extraordinarily high polish on its exterior surface. In paste composition and texture it is similar to *St. Catherine* (Steponaitis 1974:119–120).
- Kings Point:** This variety of Mazique Incised is distinguished by line-filled triangles on a ware comparable to Baytown Plain, *var. Vicksburg*. The incisions making up the design tend to be closely spaced and carefully executed in a relatively dry paste (Phillips 1970:129).
- Kinlock Simple Stamped:** A rare Lower Valley type which exhibits simple stamping (and sometimes incising) on a shell-tempered ware equivalent to Mississippi Plain (Phillips 1970:97).
- Kinlock:** The only recognized variety of Kinlock Simple Stamped. The design consists of short vertical lines arranged in horizontal rows on the vessel's exterior (Phillips 1970:97).
- Laborde:** A French Fork Incised variety with curvilinear incised designs that are set off against a hatched background (Phillips 1970:85).
- Larkin:** A variety of French Fork Incised characterized by curvilinear incised motifs filled with punctations (Phillips 1970:85).
- LaSalle:** A variety of the Evansville Punctated type, decorated with horizontal rows of small triangular punctations on the exterior of the

- rim (Phillips 1970:80).
- L'Eau Noire Incised:** Vessels of this type are decorated on the exterior with complex interlocking patterns of incision, basically rectilinear in character. The ware is grog tempered, equivalent to Baytown or Addis Plain (Williams and Brain n.d.). It should be noted that the current definition is somewhat more restricted than the one earlier supplied by Phillips (1970:100–104).
- L'Eau Noire:** The most common variety of L'Eau Noire Incised, in which the design occurs on a ware similar to *Addis* or *Greenville* (Phillips 1970:101).
- Leland Incised:** A type marked by curvilinear designs carried out with broad (ca. 2–4 mm) trailed incisions on a paste equivalent to Addis Plain, Bell Plain, or (rarely) Mississippi Plain (Steponaitis 1974:143–145). Bowl and bottle forms predominate, and vessel surfaces are highly burnished. The present concept of Leland is somewhat more restricted than the one proposed earlier by Phillips (1970:104–107), in that the fine-line varieties have been split off into a separate type, *Fatherland Incised*.
- Leland:** This is the established variety of Leland Incised which occurs commonly in the lower Yazoo Basin. Its main characteristics include a fairly open, carefully executed running scroll design; a highly burnished surface; and a hemispherical bowl form with a rounded exterior rim strap (Phillips 1970:104).
- Lulu Linear Punctated:** An obsolete type designation; the material it once subsumed is now called *Chevalier Stamped*, var. *Lulu*.
- Lulu:** Now a variety of *Chevalier Stamped* (Williams and Brain n.d.), this category was formerly referred to as the type *Lulu Linear Punctated* (Phillips 1970:107). The characteristic design is formed by “walking” a two-pronged instrument over the vessel’s surface.
- Maddox Engraved:** A type which includes vessels that are decorated with zones or bands defined by broad incisions and filled with fine cross-hatching. In Lower Valley contexts, the ware is almost always a variety of *Addis* or *Bell Plain* (Phillips 1970:107–109).
- Manchac:** The design on this variety of *Mazique Incised* usually consists of line-filled triangles positioned in a band along the rim. The incisions are made in a very wet paste and tend to be broader and more widely spaced than in *Kings Point* or *Preston*. Ware is equivalent to the *Addis*, or (rarely) *Greenville* varieties of *Addis Plain* (Phillips 1970:129–130; Steponaitis 1974:151).
- Mazique Incised:** This type is the grog-tempered equivalent of *Barton Incised*. Its defining features are rectilinear designs made up of multiple oblique line segments—often line-filled triangles—on a ware equivalent to Baytown or *Addis Plain* (Phillips 1970:129–130).
- Mazique:** The established and chronologically the earliest variety of *Mazique Incised*. The design consists of a band at the rim filled with parallel oblique lines—often “overhanging” in the manner of *Coles Creek Incised*, var. *Coles Creek* (Phillips 1970:129).
- McNutt:** A variety of *French Fork Incised* exhibiting curvilinear decorative elements filled with hatching (Phillips 1970:86).
- Medora Incised:** A grog-tempered type closely related to *Mazique Incised*, in which the design consists of vertical or oblique line-filled bands alternating with zones lacking decoration (Phillips 1970:130).
- Medora:** The only variety of *Medora Incised* currently recognized, it occurs on a ware equivalent to *Addis Plain*, var. *Addis* (Phillips 1970:130).
- Menard:** This variety of *Owens Punctated* has a design consisting of punctate-filled bands alternating with undecorated ones. The patterns may be either curvilinear or rectilinear (Phillips 1970:149–150).
- Mississippi Plain:** A coarse, shell-tempered plainware with a surface that shows little or no burnishing (Phillips 1970:130–135).
- Mott:** This variety of *Coles Creek Incised* exhibits multiple parallel lines, very closely spaced, on a ware comparable to Baytown Plain, var. *Vicksburg*. In contrast to *Coles Creek*, the lines show little or no overhang (Phillips 1970:75–76).
- Mound Place Incised:** A shell-tempered type which includes bowls decorated with two or more parallel lines which form a horizontal band encircling the rim (Phillips 1970:135).
- Mound Place:** One of the few recognized varieties of *Mound Place Incised*, this category includes shell-tempered bowls which have a multilinear band at the rim but lack adornos or other effigy features (Phillips 1970:135).

- Mud Lake*: A variety of Carter Engraved in which the lines are arranged in curvilinear or rectilinear patterns which incorporate zones of fine punctations. Execution is unusually fine and the ware is equivalent to Baytown Plain, *var. Vicksburg*.
- Mulberry Creek Cord Marked*: Vessels of this type are grog-tempered and decorated principally with cord impressions, the latter usually applied as an overall surface treatment (Phillips 1970:136–139).
- Natchez Incised*: A type name that became obsolete when Phillips set up Leland Incised, *var. Natchez* (1970:107). Currently, even the latter designation has fallen into disuse, as the material it described has been lumped into Fatherland Incised, *var. Fatherland*.
- Natchez*: A two-line variant of Fatherland (originally Leland) Incised, separated by Phillips (1970:107) but now subsumed within *var. Fatherland*.
- Natchitoches Engraved*: A shell tempered type common in portions of the Caddoan culture area. Its intricate engraved designs are made up of closely-spaced lines which are often accentuated with small perpendicular ticks (Suhm and Jelks 1962).
- Neeley's Ferry*: A variety of Mississippi Plain which occurs commonly in the St. Francis-Little River Lowland and northern Yazoo Basin (Phillips 1970:133–134).
- Nodena Red and White*: This name refers to shell-tempered vessels which are decorated with red and white pigments applied to the surface (Phillips 1970:141–144).
- Nodena*: A variety of Nodena Red and White marked by alternating bands of red and white slip forming curvilinear or—more rarely—rectilinear designs (Phillips 1970:142). This category occurs most commonly in northeast Arkansas, northwest Mississippi, and western Tennessee.
- Old Town Red*: The type name used to describe red-filmed pottery whose ware is equivalent to Mississippi Plain or Bell Plain (Phillips 1970:144–147). It should be noted that *Grand Village*, formerly of this type, is now considered a variety of Chicot Red.
- Owens Punctated*: This type subsumes shell-tempered vessels decorated with zones of punctations enclosed by incised lines (Phillips 1970:149–150).
- Oxbow*: A variety of Alligator Incised in which the design consists of seemingly haphazard rectilinear incisions (Phillips 1970:39–40).
- Patmos*: The variety of Hollyknowe Pinched which occurs on ware equivalent to the *Addis* or *Greenville* varieties of Addis Plain (Phillips 1970:90).
- Pine Ridge*: A variety of Fatherland Incised decorated with multiple parallel lines arranged in a spiral whorl pattern (Steponaitis 1974:137–138). The decorative idea is identical to that represented by Leland Incised, *var. Ferris*, the only difference being in the width of the incisions.
- Plaquemine Brushed*: A grog-tempered ware decorated with brushing. Formerly, this type also included shell-tempered ceramics (Phillips 1970:152–153), but these are now sorted separately as Grace Brushed.
- Plaquemine*: As a variety of its namesake type, this taxon subsumes all brushed vessels having a ware equivalent to Addis Plain, *vars. Addis* or *Greenville* (Phillips 1970:153).
- Pocahontas*: This variety of Mississippi Plain encompasses most of the undecorated, shell-tempered ceramics found in the Natchez region (Phillips 1970:134).
- Poor Joe*: A variety of Owens Punctated in which incisions are made across fields of punctates with no obvious attempt at patterning (Williams and Brain n.d.).
- Preston*: This variety of Mazique Incised is intermediate, both temporally and stylistically, between *Kings Point* and *Manchac*. Like the former, the incisions making up the line-filled triangles are closely spaced. Like the latter, these incisions are done in a wet Addis paste. On the whole, *Preston* is very difficult to separate from *Manchac* (Hally 1972; Steponaitis 1974:151–152).
- Quafalorma Red and White*: An early type exhibiting red and white painted decoration on a grog-tempered ware equivalent to Baytown Plain (Phillips 1970:155–156).
- Quafalorma*: This is the only recognized variety of the type with the same name. The usual design consists of alternating zones of red and white pigment separated by broad incisions (Phillips 1970:156).
- Ratcliffe*: A coarse variety of Addis Plain, marked by a chunky paste having large grog inclusions. Paste color usually has a distinctly reddish cast (Steponaitis 1974:120–121).
- Rhinehart*: This variety of Evansville Punctated is distinguished by triangular, lunate, or circular punctations on a ware comparable to

- certain Coles Creek period varieties of Baytown Plain (Phillips 1970:80–81).
- Russell*: A Leland Incised variety marked by broad curving lines, crudely executed on a ware comparable to late varieties of Addis Plain (Williams and Brain n.d.). Designs generally consist of single- or multiple-line scrolls.
- St. Catherine*: A variety of Addis Plain tempered with fine grog and (usually) fine shell. The surface is typically burnished (Steponaitis 1974:121–122). Earlier described by Phillips (1970:61) under the rubric of Bell Plain.
- Sharkey*: A variety of Evansville Punctated that occurs on a ware comparable to *Addis* or *Greenville*. The punctations usually consist of fingernail impressions, which cover a broad field on the vessel's exterior (Phillips 1970:81). This variety is virtually indistinguishable from *Wilkinson*.
- Shell Bluff*: A variety of Carter Engraved that includes thin-walled vessels which exhibit particularly fine execution in the design (Williams and Brain n.d.). Originally included by Phillips in the type L'Eau Noire Incised (1970:103–104).
- Silver City*: This variety of Maddox Engraved is found mainly in the lower Yazoo Basin. The design consists of curvilinear zones filled with very fine crosshatching; the zones themselves are bounded by broad trailed incisions (Phillips 1970:109). The vessel surfaces tend to be highly burnished, somewhat more so than in the related variety *Emerald*.
- Smith Creek*: A distinctive variety of Mulberry Creek Cord Marked which exhibits cord impressions on the body and multiple horizontal incisions on the rim (Phillips 1970:138–139). The latter are usually executed in the "overhanging" manner typical of Coles Creek Incised, *var. Coles Creek*.
- Stanton*: This is a variety of Fatherland Incised in which the scroll design is carried out in single rather than multiple lines (Steponaitis 1974:138).
- Stoner*: A variety of Coles Creek Incised characterized by a single overhanging line which encircles the rim well below the lip (Phillips 1970:76).
- Troyville*: This variety is marked by simple (non-dentate) rocker stamping that occurs in bands outlined by broad, trailed incisions.
- The ware is equivalent to Baytown Plain (Phillips 1970:125–127). Phillips considers *Troyville* to be a variety of Marksville Stamped (see Phillips 1970:119–120).
- Tunica*: A late variety of Winterville Incised often found in historic contexts. Designs characteristically consist of multilinear whorls covering much of the vessel's exterior surface. The top of the design field is often marked by a horizontal band of punctations. Occurs almost exclusively on jars without handles (Brain 1979:234–237).
- Vicksburg*: A variety of Baytown Plain that dates to the Coles Creek period. It has a compact paste texture and a highly burnished surface (Phillips 1970:56–57).
- Wilkinson Punctated*: An obsolete designation applied to what are now the *Wilkinson* or *Sharkey* varieties of Evansville Punctated.
- Wilkinson*: This variety of Evansville Punctated is marked by fingernail or other stylus impressions on a ware equivalent to Addis Plain, *var. Addis* (Phillips 1970:81). For all intents and purposes, sherds that can be placed in this category are indistinguishable from those classified as *Sharkey*; hence, which of these two names one uses to describe the punctated, *Addis*-like sherds in the Natchez region is largely an arbitrary matter.
- Williams*: This variety of Leland Incised exhibits very crudely executed curvilinear designs on a shell-tempered ware equivalent to Mississippi Plain (Williams and Brain n.d.).
- Winterville Incised*: A broadly-defined type which includes vessels decorated with curvilinear, wet-paste incisions on a ware equivalent to Mississippi Plain (Phillips 1970:172–174). In essence, this is the shell-tempered counterpart to Coleman Incised.
- Winterville*: An early variety of Winterville Incised in which the curvilinear design is made with a pointed stylus on the vessel's exterior (Phillips 1970:173).
- Yazoo*: A variety of Mississippi Plain which includes most of the coarse shell-tempered plainwares found in the lower Yazoo Basin (Phillips 1970:134–135).
- Yokena*: Sorting criteria include broad, trailed incisions on a grog-tempered ware comparable to certain Marksville period variants of Baytown Plain (Phillips 1970:117–119). It is considered a variety of Marksville Incised (Phillips 1970:110–111).

## APPENDIX II. FAUNAL REMAINS

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FOR THE LAST FIFTY YEARS some archaeological reports have included lists of animals which have occurred in prehistoric sites. The process involved has been to identify bone material by comparing it to recent specimens of known species. Early faunal studies included little more than a listing of the species present. White (1953) formulated a method for predicting edible meat per individual present. By the use of this method one can determine which animals were most important in the aboriginals' diet. Animal remains can also indicate changes in climate through time (Cleland 1966). Olsen (1971) has argued that by indicating which elements are present and observing trends, the interpretation of animal remains can be carried even further. This intensive research is more than mere faunal identification, and the term "zooarchaeology" has been used to describe such a discipline.

Zooarchaeological studies in the Lower Mississippi Valley are limited; Cleland's (1965) report on the Fatherland Site is one of the most extensive. This report will attempt to follow the examples set by previous research. Further, an attempt will be made to determine the extent to which domestic animals influenced the aboriginal population, if indeed animals were brought from Europe.

### PROCEDURE

The faunal remains recovered from the 1972 excavation, which are the basis for this study, represent eight species of fish, eight different reptiles, thirty-one birds, thirteen mammals, and three invertebrates (Table A.1). The figures in Tables A.2-A.5 indicate the total counts of each species within the above mentioned groups, except for the few invertebrates. In cases where the remains are identified only to family and there is a possibility of their belonging to a species already identified for that particular family, then no minimum number of individuals was computed (e.g., suckers and mud/

musk turtles: Tables A.2 and A.3, respectively). Those elements identifiable only to genus (e.g., undetermined gar: Table A.2) are calculated as to the number of individuals possible if they have an element in common with other individuals identified to species within that genus. In some instances species identity is not possible due to the nature of particular bones. Therefore, species identification is determined on relative size differences (i.e., *Lepisosteus spatula*, alligator gar, is larger than *L. osseus*, longnose gar). In all cases minimum numbers of individuals are tabulated by counting the maximum number of a particular element within that species. Total figures represented in Table A.6 indicate that fish represent the greatest numbers of pieces and individuals for the vertebrates. However, it would be misleading to assume that these figures indicate hunting preference, as will be shown later when meat weight is taken into consideration.

Unidentified pieces are assigned to the categories on Table A.6 based on structure and size. As with the identified material, fish remains represent the greatest quantity of material. The condition of the material (Table A.6) was such that at least 37.8% could be identified. Since the bone material was recovered from moist clay-type soils which are highly destructive to bone material, the percentage identified can be considered high. The presence of cartilage rings from the esophagus of a bird in Find 521 and fish scales from Find 1238 indicate exceptional preservation in some areas.

Taxonomic nomenclature used is based on the most recent sources. A list of the vertebrate fauna present appears in Table A.1. Terminology for the fishes (Osteichthyes) is from Bailey *et al.* (1970); reptiles (Reptilia) from Schmidt (1953); birds (Aves) from American Ornithologist Union (1957); and mammals (Mammalia) from Miller and Kellogg (1955). Generic names for some birds have changed since the A.O.U. publication in 1957. Revisions which

were made when necessary are based on Blair *et al.* (1968). In some cases common names are not included in literature which is concerned particularly with nomenclature. This is true for the family categories for reptiles and common names for species of mammals. Thus, some of

the common names are from other sources. Common names for reptiles are from Conant (1958) and the Committee on Herpetological Common Names (1956). The common names for certain mammals are derived from Burt (1964).

TABLE A. 1  
FAUNAL LIST OF VERTEBRATES PRESENT IN THE VILLAGE REFUSE

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Class Osteichthyes

Order Semionotiformes

Family Lepisosteidae

*Lepisosteus osseus* (longnose gar)  
*spatula* (alligator gar)

Order Amiiiformes

Family Amiidae

*Amia calva* (bowfin)

Order Cypriniformes

Family Catostomidae

*Ictiobus cyprinellu* (bigmouth buffalo)  
*niger* (black buffalo)

Order Siluriformes

Family Ictaluridae

*Ictalurus punctatus* (channel catfish)  
*Pylodictis olivaris* (flathead catfish)

Order Perciformes

Family Sciaenidae

*Aplodinotus grunniens* (freshwater drum)

Class Reptilia

Order Chelonia

Family Kinosternidae

*Sternotherus* sp. (mud turtle)  
*Kinosternon* cf. *subrubrum* (Mississippi mud turtle)

Family Emydidae

*Terrapene carolina* (box turtle)  
*Pseudemys* sp. (cooter turtle)

Family Trionychidae

*Trionyx* sp. (soft-shelled turtle)

Order Crocodylia

Family Crocodylidae

*Alligator mississippiensis* (alligator)

Order Serpentes

Family Colubridae (colubrids)

Family Crotalidae (pit vipers)

Class Aves

Order Pelecaniformes

Family Phalacrocoracidae

*Phalacrocorax auritus* (double-crested cormorant)

- Family Anhingidae
  - Anhinga anhinga* (anhinga)
- Order Ciconiiformes
  - Family Threskiornithidae
    - Eudocimus albus* (white ibis)
- Order Anseriformes
  - Family Anatidae
    - Branta canadensis* (Canada goose)
    - Anser caerulescens* (blue goose)
    - Aix sponsa* (wood duck)
    - Anas platyrhynchos* (mallard)
      - rubripes* (black duck)
      - crecca* (common teal)
      - discors* (blue-winged teal)
    - Lophodytes cucullatus* (hooded merganser)
- Order Falconiformes
  - Family Accipitridae
    - Buteo jamaicensis* (red-tailed hawk)
    - Buteo lineatus* (red-shouldered hawk)
    - Haliaeetus leucocephalus* (bald eagle)
- Order Galliformes
  - Family Phasianidae
    - Gallus gallus* (chicken)
  - Family Meleagrididae
    - Meleagris gallopavo* (turkey)
- Order Gruiformes
  - Family Gruidae
    - Grus americana* (whooping crane)
  - Family Aramidae
    - Aramus guarauna* (limpkin)
  - Family Rallidae
    - Porzana carolina* (sora)
- Order Columbiformes
  - Family Columbidae
    - Ectopistes migratorius* (passenger pigeon)
- Order Stringiformes
  - Family Tyonidae
    - Tyto alba* (barn owl)
- Order Piciformes
  - Family Picidae
    - Colaptes auratus* (yellow-shafted flicker)
    - Melanerpes erythrocephalus* (red-headed woodpecker)
    - Centurus carolinus* (red-bellied woodpecker)
- Order Passeriformes
  - Family Corvidae
    - Cyanocitta cristata* (blue jay)
    - Corvus brachyrhynchos* (common crow)
  - Family Ploceidae
    - Sturnella magna* (eastern meadowlark)
    - Agelaius phoeniceus* (redwinged blackbird)

*Cassidix mexicanus* (boat-tailed grackle)  
*Quiscalus quiscula* (common grackle)

Class Mammalia

Order Marsupialia

Family Didelphiidae

*Didelphis marsupialis* (opposum)

Order Lagomorpha

Family Leporidae

*Sylvilagus floridanus* (eastern cottontail)  
cf. *aquaticus* (swamp rabbit)

Order Rodentia

Family Sciuridae

*Sciurus carolinensis* (eastern gray-squirrel)  
*niger* (fox-squirrel)

Family Cricetidae

*Peromyscus* sp. (white-footed mouse)  
*Sigmodon hispidus* (hispid cotton-rat)  
*Neotoma floridana* (eastern wood-rat)

Order Carnivora

Family Ursidae

*Ursus americanus* (black bear)

Family Procyonidae

*Procyon lotor* (raccoon)

Order Perissodactyla

Family Equidae

*Equus caballus* (horse)

Order Artiodactyla

Family Cervidae

*Odocoileus virginianus* (white-tailed deer)

Family Bovidae

*Bos taurus* (cow)

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## INDIGENOUS FAUNA

### INVERTEBRATES

Three species of invertebrates are identified from various proveniences. *Quadrula postulosa*, a freshwater clam (Finds 154 and 330D) is represented by two individuals. Two land snails are also present. They are: *Mesodon thyroidus* (Find 599) and *Punctum minutissimum* (three individuals in Find 496). The latter specimens are probably intrusive, since due to their size (1 mm diameter) they probably would not have been a useful food source. In various areas there were unidentifiable shell fragments. Approximately 149 freshwater clam shells and two gastropod shells are from these areas.

### FISHES

Gar seem to have been important in the diet of the Natchez as their number is significant (Table A.2). The longnose gar prefers quiet lakes, rivers, and pools and spends most of its time on the surface. Adults may attain a length of five to six feet (152.40–182.88 cm). The alligator gar may reach a greater length at maturity than the longnose, averaging from six to ten feet (182.88–294.80 cm). Alligator gar are distributed through the Lower Mississippi Valley and normally occur as far north as St. Louis (Cook 1959: 54, 60). Catfish were also of great value as food. The channel catfish, *Ictalurus punctatus*, inhabits all parts of the state. It prefers warm water for breeding, and after hatch-

ing, the young school in shallow water. Adults, however, are bottom feeders, and come to the surface only at night (Cook 1959:136). The flathead catfish is similar to the channel cat in that it feeds near the bottom. Their range is limited to rivers and large lakes. The flathead can easily be taken on a hook, and specimens of over a hundred pounds (4359 gm) are not uncommon (Cook 1959:140-141). Fish of the sucker family, Catostomidae, feed on the bottom, but can be taken on hooks during spawning season. The principal food of suckers is small aquatic plants and animals (Cook 1959:74). Du Pratz (1947:17) mentions carp of "monstrous size" in comparison to those of France. Du Pratz probably mistook the carp-sucker (*Carpiodes*) or some similar-looking fish for the Old World carp (*Cyprinus carpio*), for the two are similar in appearance (Cook 1959:93).

Catfish, "carp," and suckers were hunted with arrows rather than caught in nets. Points were barbed to prevent the arrow from being dislodged. A wooden float, which prevented the fish from diving and becoming lost, was attached to the arrow with a cord (Swanton 1911:58).

Because of their small size, the thirty-two individuals of *Ictalurus punctatus* in Find 1238 probably indicate a summer catch of young individuals which were cooked in a large pot along with several other animals. Small fishes, particularly sardines (probably shiners *Notropis*), were taken with nets (Swanton 1911:72).

Two other fishes are present archaeologically but are not mentioned in the French documents. The bowfin lives in sluggish bodies of water and can survive in ponds which are only deep enough to cover the individual. Mississippi specimens range statewide, and are about two feet (61 cm) in length with an average weight of eight to twelve pounds (3629-5443 gm). Since they feed on almost any kind of fish and crayfish, they are easily caught on hooks with almost any kind of bait (Cook 1959:64-65). It is not recorded how the Natchez secured either the bowfin or the gar present at Fatherland, but it is quite possible that since the two fish do not discriminate as to food, they were probably taken on hooks.

Another fish not mentioned in the historic accounts is the freshwater drum, which breeds from April to May. Immature individuals spend some time near the surface feeding on insects, crayfish, and other invertebrates while adults live in the lower reaches and feed almost entirely on molluscs. Adults may weigh from fifty to sixty pounds (21-27 kg) (Cook 1959:211-212).

One particularly useful product rendered from fish was "fish glue." This substance, which was probably prepared in a manner similar to bear oil, was particularly useful in affixing feathers to arrow. Bone points which were used for hunting large game were attached to the arrow shaft with fish glue (Swanton 1911:58).

TABLE A.2  
IDENTIFIED FISH REMAINS

Species	Number of pieces	Percent	Minimum number of individuals	Percent
Longnose gar	289	8.71	5	7.38
Alligator gar	508	15.38	4	5.48
Undetermined gar	430	13.01	2	3.19
Bowfin	155	4.65	3	4.78
Undetermined sucker	5	.11		
Bigmouth buffalo	4	.09	4	5.48
Black buffalo	1	.02	1	1.60
Undetermined buffalo	1	.02	1	1.60
Channel catfish	1680	51.14	39	60.93
Flathead catfish	117	5.28	3	4.78
Undetermined catfish	44	1.28	1	1.60
Freshwater drum	11	.31	2	3.18
TOTAL	3245	100.00	64	100.00

## REPTILES

All of the reptiles from the archaeological record (Table A.3) inhabit the area in modern times.

Cook (1942:3) states that one of the largest alligator populations in Mississippi today is in the Mississippi-Yazoo Delta, which is approximately 120 km (75 miles) north of the Natchez area. Alligators prefer to eat alligator gar, catfish, freshwater drum, turtles, cotton rats, and to a lesser extent, beaver. All of these animals are recorded archaeologically from Fatherland (for beaver see Cleland 1965:99) indicating a supply of food favorable to the alligator. References are available on alligator hunting, and it would seem that the Indian groups of the Mississippi Valley had little fear of this reptile. One account (1797) is for the Natchez area but is not of a Natchez Indian *per se*. However, it is conceivable that the Natchez could have used a similar technique:

He [the Indian] goes armed with a strong hickory stick, about two feet long, barbed at each end, and which he holds in the middle as tight as possible. In the other hand he takes some article of food to attract them, and to induce them to open their enormous mouths. . . . The alligator makes the attempt to seize it, then the Indian snatches *that* arm away and presents the *other* furnished with the double dart. The alligator, unconscious of this, closes his mouth upon his supposed prey; and unable to extricate himself or open his jaws, the Indian drags him to shore. . . . (Bailey 1969:152).

Du Pratz (1947:19) relates that on their way to the Grand Village from New Orleans, his

Chitimacha slave girl killed a five-foot alligator with a stick. Both Bailey and the slave realized that a musket ball could not penetrate the reptile's skin, and therefore it is probable that firearms had little influence on the Natchez' method of taking alligators.

One non-poisonous snake (Colubridae) is present in the site; however, since only vertebrae remain, it could not be identified to species. The mud snake (*Farancia abacura*), coachwhip (*Masticophis flagellum*), rat snake (*Elaphe obsoleta*), and the common king snake (*Lampropeltis getulus*) all fall into the size range of the vertebrae present (Cook 1954:20, 21, 24, and 28 respectively). These vertebrae are of little value as environmental indicators, for the mud snake occupies moist riverine environments while the rat snake inhabits high farmland areas (Cook 1954:20, 24).

Three vertebrae are present from a snake of the pit viper family (Crotalidae). Due to their size they are probably either copperhead (*Agkistrodon contortrix*), cottonmouth (*A. piscivorus*), timber rattlesnake (*Crotalus horridus*), or eastern diamondback rattlesnake (*C. adamanteus*), all of which have a known distribution in present-day Mississippi (Cook 1954:31-37). All of these poisonous snakes have a statewide range and seem to occupy all environments; therefore, they do not serve to show hunting preference in a particular area.

Turtle remains represented are mostly shell fragments, due to preservation factors rather than cultural ones. Since the ends of reptilian long bones remain cartilaginous (Romer 1956:

TABLE A.3  
IDENTIFIED REPTILE REMAINS

Species	Number of pieces	Percent	Minimum number of individuals	Percent
Mud/musk turtle	17	7.08		
Musk turtle	5	2.08	1	7.14
Mud turtle	2	.83	2	14.29
Box turtle	136	56.66	5	35.70
Cooter turtle	67	27.92	2	14.29
Soft-shelled turtle	4	1.67	1	7.14
Alligator	2	.83	1	7.14
Non-poisonous snake	4	1.67	1	7.14
Pit viper snake	3	1.25	1	7.14
Total	240	100.00	14	99.99

50-51), many features which are diagnostic of a species are lost in archaeological materials where this type of matter is not preserved.

The musk turtle remains are of the genus *Sternotherus*. Two species, the stinkpot (*S. odoratus*) and the keel-backed musk turtle (*S. carinatus*), inhabit the area today. They prefer river and swamp areas (Conant 1958:36-37).

Archaeologically, the mud turtle (*Kinosternon*) is present and, as its name implies, is found in river systems with muddy bottoms, lagoons, and swamps. Two species, the yellow mud turtle (*K. flavescens*) and the Mississippi mud turtle (*K. subrubrum hippocrepis*), are present in the Delta area today (Conant 1958:39-41).

The animal with the greatest number of individuals in the class Reptilia is the box turtle. These turtles are essentially terrestrial; however, they will frequent moist areas. The three-toed box turtle (*T. c. triunguis*) inhabits the Mississippi Valley (Conant 1958:44-45).

The cooter or slider turtles (*Pseudemys*) live in permanent streams. Two species (*P. concinna* and *P. floridana*) and several subspecies live in the Natchez area (Conant 1958:60-62).

The smooth and spiny softshells (*Trionyx muticus* and *T. spinifer* respectively) are indigenous to the Delta area. They are aquatic, with the former preferring flowing streams and the latter, lakes (Conant 1958:70).

None of the turtle remains exhibited perforations and thus it cannot be assumed that the shells were used as rattles. Also, no documented evidence could be found for turtles or snakes as to their method of capture or any uses other than as a food source.

## BIRDS

The bird remains represent the greatest number of species. Of the thirty-one bird species present, ten are winter residents, with the remainder being year-round residents. Cleland (1965:97) notes that the birds present in the mound refuse are all aquatic. Most of the birds from the village area are also aquatic (Table A.4). Of the migratory birds present, the Canada goose, blue goose, blue winged teal, hooded merganser, and sora are considered transient in the Mississippi Valley and would probably not occur there in any abundance in the winter months (Coffey 1936:2, 3). The mallard (*Anas platyrhynchos*) and black duck (*A. rubripes*) would, however, be abundant in the Delta re-

gion throughout the winter. It should be noted here that one duck was present which is considerably larger than the present-day mallard and that this one individual is possibly the black duck. Admittedly, domestic mallards would be larger than the wild ones; however, since there are no records of domesticated ducks in the Delta region it is appropriate to assume that the large mallard-like duck is a black duck. Specific determinations of bones of the genus *Anas* are at times impossible to arrive at and at best are difficult.

Ducks were not only an important food source but their feathers were used for ornamentation as well. Women of the Honored class wore mantles made of Indian duck feathers (Swanton 1911:63). It is not known, at least by this writer, what is meant by "Indian duck," for Du Pratz (1947:259) states that the Indian duck is "so called because it came originally from that country." However, he does not record domesticated ducks as being introduced into the New World. It would seem, therefore, that identification of the Indian duck in terms of modern taxonomy would be mere conjecture. In the decoration of pipes the "neck skin" of the "perching duck" was used (Du Pratz 1947:260-261). This bird is probably the wood duck which nests in trees; the male is particularly noted for its bright, colorful plumage and elaborate head crest (Lowery 1955:170).

Eagle feathers were also important, for they were rare but necessary in the ceremonial life of the Natchez. Du Pratz (1947:257) reports that the natives would purchase "at a great price the large feathers of his wings, with which they ornament the Calumet, or Symbol of Peace. . . ." Du Pratz gives other references to the eagle as being the "white eagle" (1947:42) whose feathers are used to make peace pipes. Due to the remains present at Fatherland and the fact that the adult bald eagle is the only eagle with a tail and head that are entirely white, this must be the "white eagle." Other birds of prey were used in ornamentation also, for the belts which some Natchez wore had claws from "birds of prey like eagles" attached to them (Swanton 1911:53). Three birds of prey, the red-tailed hawk, the red-shouldered hawk, and the barn owl, are present at Fatherland.

As in the case of the ducks and birds of prey, turkeys were an important bird for ornamental purposes. Dumont recorded that French women

used fans which the Natchez made of turkey tail feathers (Swanton 1911:63). Mantles (capotes or cloaks) were made of small turkey feathers (Swanton 1911:63). Turkeys were hunted with dogs (Swanton 1911:72) and there are indications that tribes in the surrounding area raised the young birds, for Du Pratz (1947:264) states that his slave "told me that in his nation they brought up the young turkeys. . .". Since the domestication of the turkey had come about by at least A.D. 900 in the Southwest (Schorger 1966:20), it is not inconceivable that this tradition had found its way into the Mississippi Valley by contact. The probability of the use of domesticated turkeys by the Natchez themselves is low in that there are few remains present (one female) and there are no known records of this practice. Swanton believes that this translation refers to the Chitimacha slave girl, and that if turkeys were domesticated it was after the introduction of the chicken (Swanton 1911:73). There is some possibility of a mistranslation. Further, it does not seem as though the bird was a preferred game animal by the Natchez in that they were plentiful in prehistoric times (ten per acre) throughout the Lower Valley area (Schorger 1966:59,60), but there are few remains present.

There are three birds present which have either unverified distribution or are unknown in Mississippi during modern times. These are the limpkin, whooping crane, and passenger pigeon, all of which deserve special note.

The remains of one limpkin were found (Finds 316, 493). The present-day range of this species of wading bird is the swamps of Florida and south Georgia (Peterson 1947:58). Lowery (1955:226) cites an incident of one bird being taken in Louisiana. This specimen was not preserved, and Lowery discounts the sight record, for the limpkin feeds on *Ampullaria* snails (or genus *Pomacea*), which are not known to live in present-day Louisiana. The farthest north that the bird has been recorded is South Carolina, where it is considered a casual resident (Burleigh 1958:213). Gandy (1966:29) records limpkins on a hypothetical list for Mississippi but notes that sightings are not confirmed.

For several reasons it is thought that the presence of a limpkin at the Fatherland site indicates a greater range for this particular bird in prehistoric times. The absence of the snail *Pomacea* does not seem to restrict the range of the limp-

kin, for this snail is not the exclusive item in the bird's diet (Sprunt 1954:141). Thus, the sightings in Louisiana and Mississippi should be given more credence. Limpkins are dark brown in color blotched with white, attain a length of twenty-seven inches with a wingspread of forty-two inches (Sprunt 1954:138), and by the standards of our society would not be considered particularly beautiful. Therefore, their feathers or other body parts would not seem to have enough value to warrant their aboriginal transportation from Florida. There are no records known to this author of limpkins serving a ceremonial function. The questionable value of this bird as to ceremonial importance and the sightings of birds in Mississippi and Louisiana leads to the conclusion that the limpkin ranged into the Natchez area in early historic times. The draining of freshwater marshes and cutting of lowland trees since 1700 could have altered the limpkin's habitat to the extent that this species moved south in search of more suitable surroundings. The draining of land in south Florida in recent years has caused the limpkin to give up residence in areas where it was previously considered "abundant" (Sprunt 1954:138-139).

The whooping crane is recorded for the Gulf Coast of Mississippi (Burleigh 1944:35) but none is recorded inland. Records from the nineteenth century indicate that southwestern Louisiana was a popular winter habitat for whooping cranes (Lowery 1955:223). Sightings were recorded for Alabama during the last century, but it was not considered a regular resident (Imhof 1962:204-205). The protohistoric occurrence of the whooping crane at this site is not unusual, for the Mississippi Valley was one of the flyways for the birds during migration (Sprunt 1954:134).

To date, the passenger pigeon (*Ectopistes migratorius*) has not been recorded in Mississippi, although specimens have been recorded for Louisiana (Lowery 1955:307) and Georgia (Burleigh 1958:308). Imhof (1962:294) states that the birds were sighted in Alabama, but there have been no records of passenger pigeons nesting there, although they were known to "nest in Mississippi and Georgia." The individual from Fatherland seems to be the first concrete evidence of this bird in the state. Gandy (1966:32) indicates that the birds were known to have existed in the state but are now extinct;

they were probably a year-round resident (Sprunt 1954:243).

Swans (presumably the whistling swan, *Cygnus columbianus*) were valued for their feathers but are not present archaeologically. Women of the Honored Class wore mantles made of duck feathers, as previously mentioned. Swan feathers were also valued for this use (Swanton 1911:63), and it seems as though only duck and swan feathers could be worn as robes by important females. Likewise the crowns of "sovereigns" were constructed of swan feathers. *Trip-pets* (wipers or possibly brushes) were made by "young people of both sexes. . . from the skin ornamented with its down" (Swanton 1911:63).

Feathers, which could have come from any of those birds present archaeologically, were used also in the manufacture of blankets, particularly for winter use (Du Pratz 1947:41). Prior accounts have not specified what weapons were used to take birds. Only turkeys seem to have been hunted with dogs, and other birds were "never shot on the wing" (Swanton 1911:72).

#### MAMMALS

The mammal remains (Table A.5) present indicate a high utilization of this class of animals by the Natchez. The presence of several of these animals indicate hunting by the aboriginals in

TABLE A.4  
IDENTIFIED BIRD REMAINS

Species	Number of pieces	Percent	Minimum number of individuals	Percent
Cormorant	3	2.91	2	5.55
Anhinga	1	.97	1	2.78
Ibis	4	3.88	2	5.55
Canada goose	13	12.62	2	5.55
Blue goose	2	1.94	1	2.78
Mallard/black duck	13	12.62	3	8.30
Common teal	3	2.91	1	2.78
Blue-winged teal	1	.97	1	2.78
Wood duck	2	1.94	1	2.78
Merganser	3	2.91	1	2.78
Red-tailed hawk	2	1.94	1	2.78
Red-shouldered hawk	7	6.80	1	2.78
Eagle	2	1.94	1	2.78
Chicken	2	1.94	1	2.78
Turkey	7	6.80	1	2.78
Crane	1	.97	1	2.78
Limpkin	3	2.91	1	2.78
Sora	1	.97	1	2.78
Pigeon	3	2.91	1	2.78
Owl	1	.97	1	2.78
Flicker	4	3.88	1	2.78
Red-bellied woodpecker	1	.97	1	2.78
Red-headed woodpecker	1	.97	1	2.78
Undetermined perching bird	2	1.94	1	2.78
Jay	6	5.82	1	2.78
Crow	4	3.88	1	2.78
Meadowlark	1	.97	1	2.78
Blackbird	5	4.84	2	5.55
Boat-tailed Grackle	1	.97	1	2.78
Common Grackle	4	3.88	1	2.78
TOTAL	103	100.00	36	100.00

TABLE A.5  
IDENTIFIED MAMMAL REMAINS

Species	Number of pieces	Percent	Minimum number of individuals	Percent
Opossum	19	2.04	3	6.82
Cottontail	44	4.72	6	13.64
Swamp rabbit	12	1.29	2	4.55
Gray squirrel	41	4.39	9	20.46
Fox squirrel	1	.11	1	2.27
Mouse	6	.64	2	4.55
Cotton-rat	9	.96	2	4.55
Wood-rat	3	.32	1	2.27
Bear	171	18.33	5	11.35
Raccoon	2	.21	1	2.27
Horse	1	.11	1	2.27
Deer	266	28.51	7	15.91
Cow	338*	36.23	4	9.09
TOTAL	933	97.86	44	100.00

\*323 pieces (34.62%) are present in Find 548, which represents one individual.

certain types of environments. The fox and gray squirrel remains indicate forest hunting practices. The fox squirrel is found in upland hardwood and conifer regions while the gray squirrel prefers mixed forests in the Delta (Wolfe 1971:5). The cottontail rabbit would have been most successfully hunted in the upland bushy area, while the swamp rabbit, like the gray squirrel, finds its ideal conditions in the bottomlands (Wolfe 1971:5). The raccoon also dwells in the bottomlands, where it finds its food source of crawfish and molluscs (Wolfe 1971:7).

Two species of the mouse genus *Peromyscus* occur in the Delta. However, neither is a good indicator of hunting preference by the Natchez, for the white-footed mouse (*P. leucopus*) is most abundant in upland hardwoods and the cotton mouse (*P. gossypinus*) is most abundant on the lower ground (Wolfe 1971:6,7). The cotton rat likewise is not a good indicator for hunting preference, for it is found in areas with good ground cover statewide (Wolfe 1971:7). The wood rat, as its name implies, lives in wooded areas, as well as a variety of other niches such as caves and rock outcrops (Wolfe 1971:7). Even though the mice and rats are not exceptional indicators of hunting in particular areas, their presence is evidence that small mammals were part of the Natchez diet.

The opossums enjoy a statewide distribution and inhabit almost any environment (Wolfe 1971:2). The Natchez used their fur, after it was spun and dyed red, for making garters (Swanton 1911:68).

The present-day status of bears is that they are rare and probably would be extinct within the state without concerted efforts to restock the population (Wolfe 1971:9). The archaeological record, however, indicates that the bear population was greater in prehistoric times. Historical accounts also indicate that the bear was prevalent and sought after as a food and oil source. At the end of March and beginning of April the bear is hunted for its cubs and its fat. The Natchez would find a hollow tree which might be the den of a bear. The tree was struck to see if an animal was present and if so, then a native would fire a burning arrow into the hollow. As the bear descended the tree to escape the fire, it was shot (Swanton 1911:68). Du Pratz (1947:248) notes that the bear is fattest at the end of December, while Dumont specifically states that the bear is hunted for its fat during March and April. This would indicate that the animals were being exploited from December to April for their fat.

Bear fat was rendered into oil by boiling it. The oil was stored in deerskins and traded to the

French (Swanton 1911:68–69). Bear meat was also an important food source, for as Dumont relates: “the savages feed willingly on the flesh of this animal, but for their purposes it must be thin. In any other condition only the four feet can be eaten” (Swanton 1911:67). Since 83% of the bones identified for bear are foot bones and the presence of the calcaneum and other larger foot bones indicates that these are not the remains of rugs, it is assumed that a greater number of individuals present (2 of 5) were taken at some time between the months of December and April. The greatest concentrations are in Feature 9 (30.07%), Find 933B (15.38%), Find 939C (6.99%), Find 316 (5.59%), Find 924A (4.90%), and Find 718A (3.50%). These six areas, which represent 66.44% of the total number of foot bones, indicate strong activity in these areas during late fall, winter, and early spring months. Further, the presence of the migratory Canada goose in Feature 9 would narrow the use of the pit to the fall months.

If the Natchez obtained cubs during the bear hunt, they would tie ropes around their necks and “it is thus that they were tamed” (Swanton 1911:68). There is no archaeological evidence for bear cubs; in fact, most of the remains were larger than the 400-pound (181 kg) comparative specimen used to determine the archaeological materials.

Bear skins were used as mattresses and for making carrying devices similar to a tump line or back pack (Swanton 1911:61, 65).

Cleland (1965:100) found in his analysis of the mound refuse that deer hunting was the most important aspect of hunting. Deerskin was either tanned white or dyed black in making moccasins, clothing (Swanton 1911:53), and for carrying bear oil (Du Pratz 1947:42). Elaborate methods for hunting deer were used also. One method was to skin a deer and leave the skull attached to the skin. The vertebrae were taken out so that the brain could be removed, then the vertebrae were replaced. The Natchez could then cover himself with the deerskin and move among a deer herd. He would mimic the movement of the members of the herd, and when they would move close enough he would shoot his arrow into the closest animal (Swanton 1911:69).

On hunting trips where the Great Sun was present, the hunters would encircle one or two deer and run them to exhaustion. These animals

would be taken before the Sun, who would then order that they be quartered and portions distributed to the leaders of the hunt (Swanton 1911:70–71). Animals taken alive in this manner were also used in the “dance of the deer” (Du Pratz 1947:244) which the Sun also attended. The exact purpose of this function is not known, but it does indicate some ceremonial usage of the deer.

The present deer population in Mississippi is concentrated along the western border of the state (Wolfe 1971:10), in the Natchez area.

Flying squirrels (*Glaucomys volans*) were kept as captives and apparently were “tamed” (Du Pratz 1947:253). These, however, did not appear in the archaeological material.

Dog (*Canis familiaris*) remains are present in Mound C (Cleland 1965:97). However, none appear in the village. Since dogs were used in hunting turkeys, and Du Pratz (1947:244–245) refers to them as being close in comparison to wolves in size and stature, it is yet unexplained why only one element has been found to date.

A beaver (*Castor canadensis*) was also found by Cleland (1965:97). However, there is only one element from Mound B. This, like the dog remains, seems unusual, for beaver were used in making robes (Swanton 1911:53).

Porcupine (*Erethizon dorsatum*) is conspicuously absent from the archaeological collection. Porcupine quills were cut into small sections and dyed yellow, black, and red, or left undyed (white) and used in bead work (Swanton 1911:65; Du Pratz 1947:253). Du Pratz (1947:253) records that the porcupine is “large and fine” and usually inhabits the area of the Illinois River. He also notes that porcupine quills are used to trim deerskin clothing and the skin is used as a lining in bark boxes. Parmalee (1963:267–268) has found porcupine remains in northwestern Alabama, which is approximately 150 miles (240 km) southwest of their known recent range. He postulated that the domain of this animal probably extended the length of the Appalachian Plateau during the prehistoric period, and a later find in Tennessee near Chattanooga (Parmalee and Guilday 1967:81–82) substantiated this hypothesis. The Alabama occurrence is approximately 300 miles (480 km) northeast of Natchez in an area of high rocky bluffs above river beds. Thus, due to the physiography of the Natchez area, it is

possible to assume that the bluffs of St. Catherine Creek would not be an unfavorable natural environment for the porcupine. A population of porcupines in the Mississippi Valley of a variety not as "large and fine" as those farther north could be what Du Pratz (1947:253) refers to as the "hedge-hog of Louisiana [present-day Louisiana and Mississippi]," which is "in every respect the same as that of Europe."

Du Pratz writes concerning the bison (*Bison bison*) that the "buffalo is the chief food of the natives," and that the shoulder is the best part (1947:240). Also, we are told that the females are preferred because their meat is less fragrant (Swanton 1911:71). Bison were hunted in a manner similar to that employed for gathering deer (the assumption is that the decoy method discussed for deer hunting was used). Accord-

ing to Swanton (1911:71), bison had ranged to the mouth of the Mississippi River, and a Spaniard, Peña, saw bison on the Apalachicola River in 1708 (Smith and Gottlob 1973:17). However, by the time of Du Pratz's travels (1718-1720) they had retreated from the Natchez area. The bison is best adapted for grazing in grassland areas, particularly river flood plains (Guilday 1971:33), rarely in mountain areas or upland forests (Guilday 1971:34). Since bison would migrate along the river corridors, habitation of these areas by humans would block the bison's path (Guilday 1971:34). The movement into some of the Lower Valley areas could, then, account for the absence of bison by 1718. Even though the bison had retreated from the immediate area, the Natchez still hunted them (Swanton 1911:71). Possibly the Natchez were trav-

TABLE A.6  
VERTEBRATE REMAINS

Identified Remains				
Class	Number of pieces	Percent	Minimum number of individuals	Percent
Mammalia	933	20.64	44	28.21
Aves	103	2.28	36	23.08
Reptilia	240	5.31	14	8.97
Osteichthyes	3245	71.77	62	39.74
TOTAL	4521	100.00	156	100.00

Unidentified Remains		
Class	Number of pieces	Percent
Mammal	2,572	34.66
Bird	316	4.26
Reptile (turtle)	291	3.92
Fish	4,242	57.16
TOTAL	7,241	100.00

Total Remains		
Condition	Number of pieces	Percent
Identified	4,521	37.86
Unidentified	7,421	62.14
TOTAL	11,942	100.00

eling north where the extent of the Delta region is greater and thus could support more animals, and where there would be less chance of settlements along the river bank, blocking the bison's migration routes. Wolfe (1971) does not record bison as inhabiting modern Mississippi.

Not only were bison a major food source, but the inedible parts were also used to a great extent. Bison skins were used for the top and bottom covering for beds. One would sleep with the hairy side next to the body during the winter and vice versa in the summer. On hunting expeditions bison or deerskin robes were carried to be used as a bed (Swanton 1911:61). Bison and deerskins were tanned with the animal's own brain being cooked and used to soften skins. Bison skins were worked in such a way as to retain the fur, while deerskins were not (Swanton 1911:64). Hair was removed by soaking the skin and then scraping it with the "flattened bones of a bison" (Swanton 1911:65). The Bayougoula broke ground for cultivation with a bison bone, probably a scapula since this bone was commonly used as a hoe elsewhere. This method was also used by other groups in the Lower Mississippi Valley, including the Natchez (Swanton 1911:51, 64). Even though the bison is recorded by several chroniclers and considered important for its meat and by-products, no bison remains have been recovered from Fatherland.

#### DOMESTICATED ANIMALS

By the time Du Pratz reached the Grand Village in 1720, the "horses, oxen, sheep, goats, dogs, cats and others" which had been previously brought from France or New Spain had "multiplied and thriven perfectly well" (Du Pratz 1947:240). The statement by Du Pratz is significant in that introduced fauna were surviving quite well and in some cases were in the possession of the aboriginals by the early eighteenth century. The cow, horse, pig, and chicken are present archaeologically, but due to the few dog remains reported it would be impossible to indicate whether the one individual present was introduced or not.

#### CHICKEN

The chicken in Plate A.I is compared to a Plymouth Rock male with a total weight of 3.7 pounds (1734.0 gm). This comparison is not an inference as to breed, but it is more for a relative size comparison. Archaeologically, the oc-

currence of the chicken is also known at the French occupation at Ft. Michilimackinac (Michigan) from refuse material dating *ca.* 1720-1734 (Cleland 1970:8, 11). The one individual present at Fatherland would indicate that the chicken was of minor importance as a food animal. The ethnographic record, however, would indicate otherwise:

These women also raise many hens without having need of a henhouse. Their hens and their cocks go to roost in the evening on trees near the cabin, where they pass the night, and in the morning at the cry uttered by their mistress all present themselves at the door, where she gives them food. This [meal] lasts for all day. . . . With respect to the eggs, as the savages make no use of them, the hens are left at liberty to lay where it pleases them. . . . when they are hatched, they lead their chicks in the morning to the cabin to let the mistress see that without her caring for them her property has increased. . . . (Dumont in Swanton 1911:73)

Swanton also indicates (1911:73) that chickens were obtained from a European shipwreck on the Atakapa coast before Iberville's travels (1700).

A current theory supported by Carter (1971:178-218) holds that chickens were introduced into the New World in pre-Columbian times. This theory has not been documented in North America and it is therefore assumed that chickens were introduced into the Mississippi Valley from Europe around 1700.

#### HORSE

The mandibular angle of the horse from Find 316 compares closely in size to a 1200 pound (544 kg) thoroughbred (Plate A.I). The presence of this material in the Grand Village would indicate that the Natchez had acquired at least one horse from the French. Du Pratz (1947:10) also notes horses in the Spanish land concession as he was making his first trip north to the Natchez area.

#### COW

The cow in Find 548 is probably one of the most impressive faunal recoveries from Fatherland. This individual was situated on a knoll and seems to have been only half buried. There was no skull present; however, because of the position of the body (Figure 10), the animal seems to have been butchered on this location. There is some possibility that the animal is lying on the edge of a post-1729 rampart constructed

by the French. If this is the case, then the individual was killed in 1730. Even though this date is after the Natchez occupation of Fatherland, it is a good indicator of the size of French cattle. A comparison is made between Find 548 and a Holstein female (Z-586) weighing 1300 pounds (590 kg). As Plates A.II-A.V and Table A.7 indicate, the archaeological specimen has a shorter tibia and metatarsal but a longer radius and metacarpal than the Holstein. In addition, all of the bones of the French cow are more robust, indicating a weight somewhat greater than 1300 pounds (590 kg).

Cow remains are present in Finds 3, 93G, 155A, 611, 718A, 908, and 986. All of these remains are smaller than or equal to the age of the individual in Find 548. There are no skull pieces in any of the material; however, Du Pratz (1947:16) speculates that Horn Island on the Gulf Coast was so named for the *horned* cattle placed there by the Canadians in 1719. It can be assumed that the Canadians' route of travel took them past the Grand Village on their way to the coast, and there is a possibility that cattle with horns were present at Fatherland.

Du Pratz (1947:240) gives the size of bison as "about the size of our largest oxen." Therefore, if it is assumed that Find 548 is representative of the "largest oxen," then an inference can be made as to the size of eighteenth century bison in the Natchez area. Since Find 548 weighed a minimum of 1300 pounds, and is the largest cow present, bison of that same weight can be inferred. This weight would probably be average in relation to the 800-2000 pound range for present-day North American bison (Burt 1964:236).

#### PIG

The single pig incisor from Mound "C" (Cleland 1965:97) is the only element representative for this particular domesticate. Cleland (1965:100) was unable to determine whether the pig was introduced by the French or possibly earlier by De Soto (1534). Since Du Pratz (1947:241) relates that "male stags and wild boar have their testicles cut off as soon as they are killed," the pig had been in the area long enough to become feral by 1720.

The coastal area was also favorable to pigs,

TABLE A.7  
METRIC COMPARISONS OF *BOS TAURUS* ZP586 AND THE  
ARCHAEOLOGICAL *BOS TAURUS* FIND 548

Element*		Find 548	Z-586
Left Metacarpal	Length, proximal to distal	23.4 (cm)	22.5 (cm)
	Width, anterior to posterior at nutrient foramen	3.0	2.7
	Width, medial to lateral at nutrient foramen	5.1	5.1
Left Tibia	Length, proximal to distal	35.0	36.6
	Width, anterior to posterior at nutrient foramen	5.5	5.0
	Width, medial to lateral at nutrient foramen	5.1	5.7
Left Metatarsal	Length, proximal to distal	25.1	26.0
	Width, anterior to posterior at nutrient foramen	3.3	3.0
	Width, medial to lateral at nutrient foramen	5.0	5.0
Left Tibial Tarsal	Length, proximal to distal	8.3	7.5
	Width, anterior to posterior	4.8	4.3
	Width, medial to lateral	6.0	4.8
Left Fibular Tarsal	Length, proximal to distal	15.2	14.6
	Width, anterior to posterior	6.5	5.6
	Width, medial to lateral	5.7	5.0
Left Central and 4th Tarsal	Length, proximal to distal	4.9	4.5
	Width, anterior to posterior	6.8	5.5
	Width, medial to lateral	6.8	5.8
Left Radius	Length, proximal to distal	32.0	31.5
	Width, anterior to posterior at nutrient foramen	2.9	2.8
	Width, medial to lateral at nutrient foramen	5.3	4.9

\* Terminology from Sisson and Grossman (1953:148, 154).

for M. de Bienville bred hogs on Cat Island. By 1722 the pigs were in such great number that they destroyed the "cats" (raccoons), and "no other creatures were to be seen" (Du Pratz 1947:16).

#### ABSENT DOMESTICATED ANIMALS

The sheep, goats, and cats which Du Pratz describes as flourishing in their new environment at the Grand Village are not present archaeologically. One cat is present at the Bynum Mounds near Houston, Mississippi (about 365 miles or 576 km northeast of Natchez), but it is listed as intrusive (Setzer 1951:49). The absence of these animals from Fatherland is yet unexplained.

#### BURNED, WORKED AND DISEASED BONE

If one were to consider all of the remains as being the product of meals, then the amount of burned bone is surprisingly small. A total of 2.79% of the unidentified bone shows signs of burning, while only .05% indicated butcher marks. Of the identified material, the fish represented the largest group of animals with burned elements:

Species	Number Burned	Percentage of Total for Class
longnose gar	3	0.69
alligator gar	5	0.98
gar	1	0.23
channel catfish	<u>51</u>	<u>3.04</u>
TOTAL	60	4.94

In addition, four deer elements were burned. Two of these are longbones (two left femur fragments from Find 638D and one left tibia fragment from Find 364A) and one is a toe (second phalanx from Find 350). None of the identified bird or reptile elements was burned. This low number of burned pieces suggests that most meat was stewed, a process which would not create enough heat to carbonize bone material.

Bones with butcher marks are not present in quantity, either. For the unidentified material there are only four examples (.05% of the total). These four are all mammal.

Four of the identified pieces exhibit cuts. All of these are mammal and include one right fibular tarsal (calcaneum) from Find 1239A (Plate A.Vf, lower), one left mandibular condyle from

Find 330D, one tibial tarsal (astragalus) from Find 302 (Plate A.Vb, lower), all of which are deer, and one left femur from a squirrel (*S. carolinensis*) from Find 93F.

Due to the small number of butchered bones an inference as to butchering technique would not be accurate. The lack of cuts may be due, however, to the use of cane knives (Swanton 1911:58) which could have been incorporated in butchering even after the introduction of iron knives by the French.

Three bone artifacts are present in the sample. Two of these are awls. One of the awls measures 10.5 cm × 1.5 cm (Plate A.Vc, lower) and seems to be made from a deer-size long bone. The second (Find 1239A) is smaller, being 4.5 cm × 0.5 cm, and also could have been fashioned from a long bone (Plate A.Vd, lower).

Bison bones seem to have been used exclusively as tools, as has been previously discussed. Swanton (1911:56, 65) also records that tattooing was done with "a needle or a little bone well sharpened. . ." and that sinew was used to sew two pieces of hide together after the skin was perforated with the "sharpened bone from the leg of a heron."

One article of bone work which is not considered to have been a tool is from a bear. This one item is an upper right incisor (Find 105F) which was cut below the cingulum in such a way that a piece of cord could be attached. This in turn, could have been worn as an amulet (Plate A.Va, lower).

The comparison of the Fatherland bone assemblage to sites of comparable age in other regions would indicate little bone working by the Natchez. This would seem the case for at least one other Mississippi site, for at Bynum there was a complete absence of bone tools and only three worked shells (Cotter and Corbett 1951:55). At Fatherland the reverse is the case, for no shell working was observed.

Bone pathologies and anomalies are also present to some extent. One deer first phalanx with nodular growth from Find 1213 is the only occurrence of diseased bone. Infectious arthritis is one cause for this type of growth on human toes (Morse 1969:55). The mudfish vertebra illustrated (Plate A.Ve, lower) is one of the two exhibiting diplospondyly. This is a normal condition, though it looks pathological. In early embryological development one set of dorsal

and ventral arches develops on two bodies. This is particularly evident in the caudal region (Jollie 1962:160-161).

An extra foramen is present on the acetabular branch of the left ilium for one of the deer present (Find 613). This pelvis is particularly large, and the foramen could possibly be an anomaly due to the increased space requirement for the obturator nerve or vessels.

### HUNTING PREFERENCE

One important aspect of faunal research in archaeology is to determine hunting preference of the group under study. The methodology for this type of study was established by White (1953:396-398), who recognized that neither number of pieces nor number of individuals gives an accurate representation of which animal contributes most to the diet.

White's research was carried out in the Plains region where many of the animals present in this study do not occur. Thus, the work by Cleland (1966 and 1970) in the Great Lakes area has also been incorporated. Even with these three sources there are animals present in the Mississippi Valley that are not found in the other areas. Therefore, many of the total live-weight figures in Tables A.8-A.9 are provided from private collections. In the tables, the "Source" is that reference which gives the percent of usable meat for a species. In some cases,

such as the alligator in Table A.9, there was no published calculation for dressed weight, so the percentage figure for turtles was used. In most cases live weight was provided by the reference listed as "Source;" the exceptions are footnoted. In some instances, for those animals whose live weight is not published, a species of similar size is substituted and so noted. Where no data were available, the species were omitted from the relevant table. Those animals that are not represented at all are few in number, or are small individuals and will not adversely affect the general meaning of the meat weight tables.

The fishes in the greatest quantity (Table A.8) are the alligator gar and channel catfish, indicating that these were the most important food fishes. Cleland (1965:100) records that alligator gar and flathead catfish (in that order) were the most abundant fishes in the mounds and that black buffalofish (*Ictiobus niger*), large-mouth bass (*Micropterus salmoides*), and shovelnose sturgeon (*Scaphirhynchus platorhynchus*) are also present but represent less than 2% of the total meat consumed. Thus, it would appear that alligator gar, channel catfish, and flathead catfish were the three most utilized fish.

The two most hunted reptiles (Table A.9) were the soft-shelled turtle and alligator. The 0.70 pounds of meat figure for the alligator may be misleading in that the archaeological specimen could have been larger than the one-year-

TABLE A.8  
MEAT WEIGHT FOR FISHES

Species	Live Weight	Percentage of Usable Meat	Pounds of Meat	Number of Individuals	Total Pounds	Source
Longnose gar	2.0	80	1.60	5	8.00	Cleland (1970)
Alligator gar	150.0 <sup>1</sup>	80	120.00	4	480.00	Cleland (1970)
Undetermined gar	2.0 <sup>2</sup>	80	1.60	2	3.20	Cleland (1970)
Bowfin	2.5	80	2.00	3	6.00	Cleland (1966)
Sucker	6.7 <sup>3</sup>	80	5.36	3	16.08	Cleland (1966)
Channel Catfish	4.0	80	3.20	39	124.80	Cleland (1970)
Flathead Catfish	30.0 <sup>4</sup>	80	24.00	3	72.00	Cleland (1970)
Catfish	4.0 <sup>5</sup>	80	3.20	1	3.20	Cleland (1970)
Freshwater Drum	2.0	80	1.60	2	3.20	Cleland (1970)
<b>TOTAL</b>					<b>716.48</b>	

<sup>1</sup> Cook (1959:62); eight-foot (243.84 cm) specimen from Jackson County.

<sup>2</sup> *Lepisosteus osseus* data used.

<sup>3</sup> Cook (1959:81); data for *Ictiobus niger*, black buffalo.

<sup>4</sup> Cook (1959:140).

<sup>5</sup> *Ictalurus punctatus* data used.

TABLE A.9  
MEAT WEIGHT FOR SOME REPTILES

Species	Live Weight	Percentage of Usable Meat	Pounds of Meat	Number of Individuals	Total Pounds	Source
Musk Turtle		NO DATA		1		
Mud Turtle	.30 <sup>1</sup>	20	.06	2	.12	Cleland (1966)
Box Turtle	.35 <sup>2</sup>	20	.07	5	.35	Cleland (1966)
Cooter Turtle	.70 <sup>3</sup>	20	14.00	2	.28	Cleland (1966)
Soft-shelled Turtle	50.00	20	10.00	1	10.00	Cleland (1966)
Alligator	3.50 <sup>4</sup>	20	.70	1	.70	Cleland (1966)
Colubrid Snake	.20 <sup>5</sup>	20	.04	1	.04	Cleland (1966)
Pit Viper Snake		NO DATA		1		
<b>TOTAL</b>					<b>11.49</b>	

<sup>1</sup> *Kinosternon subrubrum s.* from private collection.

<sup>2</sup> *Terrapene carolina triunguis* from private collection.

<sup>3</sup> Average weight of two *Pseudemys floridana pineninsularis* from private collection.

<sup>4</sup> *Alligator mississippiensis* from private collection.

<sup>5</sup> *Coluber constrictor* from private collection.

old comparative example used in Table A.9, for those fragments present did not allow for accurate size comparisons. Since the comparative specimen is thirty-two inches (83 cm) and present-day lengths average from six to twelve feet (Conant, 1958:32) the specimen taken by the Natchez could have been of a much greater weight than Table A.9 indicates. Even though box and cooter turtles were hunted to a great extent (Cleland [1965:100] records five cooter turtles), the soft-shelled turtle and alligator represent the greatest amount of meat for reptiles in the village area.

The birds which were relied upon most extensively are the Canada goose and turkey, with the cormorant and bald eagle being of equal, but lesser importance than the goose and turkey. According to Cleland (1965:100) the Canada goose (17.50 pounds [7 kg.] meat weight) and cormorant (12.80 pounds [5 kg] meat weight) were the birds of greatest ceremonial importance. In general, it can be said that the Canada goose, cormorant, and turkey were most hunted. The Canada goose was probably taken during its migration in the fall or spring.

The most sought after mammals (Table A.11) were the deer and bear, according to the analysis of the village remains. Analysis of the mound refuse (Cleland 1965:100) has shown that this was the case in the ceremonial areas also, for the deer represents the greatest meat

source, and the bear is the second most important mammal.

Since only three of the five bear present in the village area have been used for meat the importance of bear is strengthened, for the two individuals represented only by foot bones were probably rendered into oil at the kill site, and only the feet taken to camp for food. Thus the two individuals not represented on the meat weight chart were a source for the oil which seems to have been an integral part of a Natchez ceremony.

Cleland (1965:100) has noted that the deer was the most important animal in the hunting economy of the Natchez. Since much of this material is from prehistoric occupations it can be assumed that deer were the preferred meat source at Fatherland before French contact. Further, the importance of deer is not as great in the historic village material as it was in the prehistoric mound refuse. The cattle represent 42.15% of the total meat, deer only 13.72%. Even if the questionable Find 548 cow is excluded, the total meat for the remaining cows is 33.70%.

In general it can be seen (Table A.10) that the mammals represent the greatest amount of meat, followed by fish, birds, and reptiles in that order of importance. Shellfish were also an integral part of Natchez fare as indicated by the quantity of fragments present. Because much of

the mollusc material was not identifiable, meat calculations were not available.

### SUMMARY AND CONCLUSIONS

The Fatherland site, which is believed to be

the Grand Village of the Natchez, is situated on bluffs overlooking a tributary of the Mississippi. This location provided the Natchez several different environments from which they could obtain food. According to the archaeo-

TABLE A.10  
MEAT WEIGHT FOR SOME BIRDS

Species	Live Weight	Percentage of Usable Meat	Pounds of Meat	Number of Individuals	Total Pounds	Source
Cormorant	5.00	80	4.00	2	8.00	Cleland (1970)
Canada Goose	8.00	80	6.40	2	12.80	Cleland (1970)
Blue Goose	5.20	70	3.50	1	3.50	White (1953)
Mallard	2.50	80	2.00	3	6.00	Cleland (1970)
Common Teal	.90 <sup>1</sup>	80	.70	1	.70	Cleland (1970)
Blue-winged Teal	.90	80	.70	1	.70	Cleland (1970)
Wood Duck	1.50	80	1.20	1	1.20	Cleland (1970)
Merganser	1.50	80	1.20	1	1.20	Cleland (1970)
Red-shouldered Hawk	2.50	70	1.75	1	1.75	Cleland (1970)
Eagle	10.00	80	8.00	1	8.00	Cleland (1970)
Chicken	2.80	80	2.24	1	2.24	Cleland (1970)
Turkey	12.00	80	9.60	1	9.60	Cleland (1970)
Pigeon	1.00	80	.80	1	.80	Cleland (1970)
Flicker	.50	70	.35	1	.35	Cleland (1966)
Jay	.80	80	.60	1	.60	Cleland (1970)
Crow	2.00	80	1.60	1	1.60	Cleland (1970)
Boat-tailed Grackle	.30 <sup>2</sup>	80	.24	1	.24	Cleland (1970)
<b>TOTAL</b>					<b>59.28</b>	

<sup>1</sup> *A. carolinensis* weight is used.

<sup>2</sup> From private collection.

TABLE A.11  
MEAT WEIGHTS FOR SOME MAMMALS

Species	Live Weight	Percentage of Usable Meat	Pounds of Meat	Number of Individuals	Total Pounds	Source
Opossum	12.00	70	8.50	3	25.50	White (1953)
Cottontail	3.50	50	1.75	6	10.50	White (1953)
Gray Squirrel	1.20 <sup>1</sup>	70	.84	9	7.56	White (1953)
Bear	300.00	70	210.00	3	630.00	White (1953)
Raccoon	25.00	70	17.50	1	17.50	White (1953)
Horse	1200.00 <sup>2</sup>	50	600.00	1	600.00	White (1953)
Deer	200.00	50	100.00	7	700.00	White (1953)
Cow	1000.00	50	500.00	3	1500.00	Cleland (1970)
	1300.00 <sup>3</sup>	50	650.00	1 <sup>4</sup>	650.00	Cleland (1970)
<b>TOTAL</b>					<b>4141.06</b>	

<sup>1</sup> Hall and Kelson 1959:368.

<sup>2</sup> Horse from private collection.

<sup>3</sup> Cow from private collection.

<sup>4</sup> Find 548.

logical record, they used animals from all of the adjacent environments. Further, several species were very popular as food, with deer, bear, alligator gar, and channel catfish (Table A.12) providing the greatest part of the wild meat present. Such domesticated animals as cow, horse, and pig were also important food sources, and chickens were present.

According to the ethnographic record, the skins of particular animals were used to symbolize certain events or social situations. Some of these animals are present archaeologically and it can be inferred that their presence is not due to their being used exclusively as a food source. The ethnographic record has stated that specific uses were made of worked animal bone, though the quantity of bone tools is low. This circumstance is probably due more to an act of preservation than to inaccuracies in the records, for minute signs of alteration could be lost on bones which have passed through a state of anything less than ideal preservation.

At least one animal is present in the archaeological record which does not range into the area today. This is the limpkin and its presence seems to indicate a far greater prehistoric range.

Since about 75% of the Fatherland site has been excavated, the fifty-nine species of animals present in the village area represent a reliable sample with regard to animal economy. Therefore, the assemblage of fauna present indicates that the Natchez inhabitants exploited both riverine and upland environments for food. Furthermore, they relied heavily on migratory birds, since the Canada goose represents the greatest quantity of bird meat from the village area and the Blue goose for the mound area (Cleland 1965:100).

The faunal assemblage unique to the mound areas, namely the beaver, gray fox, dog, bass, and sturgeon (Cleland 1965:100), does not seem to indicate that these species were preferred by the aristocracy, for they were not exploited to any extent. (One individual was present for each.)

The deer remains from the mound refuse are mainly from the fore and hind quarters (Cleland 1965:101); their location would indicate that these portions were prime cuts which may have been eaten by the nobility. Cleland thought that the presence of these elements could also be due to an act of preservation. In the village sam-

TABLE A.12  
RANKING OF IMPORTANCE OF SOME VERTEBRATES  
ACCORDING TO MEAT WEIGHT

Species	Total Meat Weight (Pounds)	Percentage of Total
Cow, <i>Bos taurus</i>	2150.00	42.15
Deer, <i>Odocoileus virginianus</i>	700.00	13.72
Bear, <i>Ursus americanus</i>	630.00	12.35
Horse, <i>Equus caballus</i>	600.00	11.76
Alligator gar, <i>L. spatula</i>	480.00	9.41
Pig, <i>Sus scrofa</i>	171.50*	3.36
Channel Catfish, <i>I. puactatus</i>	124.80	2.44
Flathead Catfish, <i>P. olivaris</i>	72.00	1.41
Opossum, <i>Didelphis marsupialis</i>	25.50	.50
Raccoon, <i>Procyon lotor</i>	17.50	.34
Sucker, <i>Ictiobus</i>	16.08	.31
Canada Goose, <i>Branta canadensis</i>	12.80	.25
Cottontail, <i>Sylvilagus floridanus</i>	10.50	.20
Soft-shelled turtle, <i>Trionyx sp.</i>	10.00	.19
Turkey, <i>M. gallopavo</i>	9.60	.18
Bald Eagle, <i>H. leucocephalus</i>	8.00	.15
Cormorant, <i>P. auritus</i>	8.00	.15
Longnose gar, <i>L. osseus</i>	8.00	.15
Gray Squirrel, <i>S. carolinensis</i>	7.56	.14
TOTAL	5061.84	99.16

\*Cleland (1970:21)

ple, however, there is no indication of girdle elements and long bones outnumbering the other bones which might not be as easily preserved. Therefore, the abundance of scapula, pelvis, and long bones in the mound refuse suggests that these were the preferred cuts of meat eaten by the nobility.

The absence of bison in the mound material seems to be due to the small sample (411 identified pieces) present. Bison remains (ten fragments) are in evidence at Bynum (Setzer 1951: 49). The bison was also absent at the sites in Coahoma County explored by Peabody (1904: 51) and at Troyville, Louisiana (Walker 1936: 38). The lack of bison remains at these other sites might be explained as food preference or, in the case of Troyville, a possible absence of bison in the area at the time of occupation, ca. A.D. 300–700, Baytown period (Phillips 1970: 7). Neither of these explanations is possible for determining the cause for the absence of bison in the archaeological record at Fatherland. Guilday (1971: 35) feels that the presence of bison at the historic Kaskaskia site on the Illinois River and its absence on earlier time levels indicates a change in hunting practices. He thinks that with the acquisition of the horse the hunter could carry bison from the kill site to the village more easily than he could while on foot.

A change in hunting practices is indicated at Fatherland also, but for other reasons. It would seem that the acquisition of cattle brought an end to the need for traveling long distances for large game animals such as bison. This seems to be the case with deer also, for as Table A.10 indicates, beef is the principal meat source, not deer. Thus it appears as if domestic stock has replaced both of the larger game animals to some extent. Due to the size of French cattle in comparison to bison, the natives would have found the bones and skins of the former suitable for the byproducts they could provide.

At a Mohegan Indian site in Connecticut, Daly (1969: 151) found that domesticates amounted to 15.9% of the meat for the total animal assemblage in the "Early Historic" levels (1620–35), while in the upper levels (1710–20) this percentage increased to 51.3%. Since the Natchez incorporated the introduced fauna

into their diet and these new animals flourished in their new environment, it is logical that native dependence on the new food source would steadily increase. A similar situation probably existed at Fatherland as in the Connecticut example; however, a time level comparable to Daly's Early Historic could not be isolated. The percentage of domesticates equaling 57.33% (51.09% if Find 548 is not considered) of the meat diet shows that the Natchez, as well as the Mohegan, were relying more on domesticates than on wild game. This introduction of animals by the French and acceptance of the new food source by the Natchez undoubtedly resulted in changes in the hunting practices of the latter. Also, this assimilation of a new food source implies acculturation to French methods of livestock raising. This process is documented in the case of chickens, of which great numbers were presumably raised for food, even though the eggs were not eaten. Though these food sources derived from the French were not utilized exactly as they had been in the Old World, their introduction caused changes in the hunting practices and diet of the people of the Grand Village of the Natchez.

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## APPENDIX III. FLORAL REMAINS

Hugh C. Cutler  
Missouri Historical Garden

ALTHOUGH NO ADEQUATELY CHARRED or otherwise preserved specimens of corn or other vegetal material were recovered through ordinary excavation procedure, save some fragile deposits of radiocarbon specimens, there was some small return of vegetal samples from flotation processing. Eleven categories were identified through Dr. Hugh C. Cutler and staff, of the Missouri Historical Garden in St. Louis, Missouri. Most of these were from some of the shallow bowl-shaped features that have been identified as aboriginal anomalies, probably daub mixing bowls. Two small pieces of unidentified wood were recovered from Feature 18, which was a midden exposure revealed by the excavation of the French sap trench, and thus probably not an entirely aboriginal exposure. Quantities of small fish scales, bones and the like were associated with the wood samples.

Not far from this and associated with the same French excavation Find 73 was recovered, consisting of charred beans. These were identified as follows by Dr. Cutler: "Carbonized, cultivated common beans (*Phaseolus vulgaris*) is somewhat distorted by charring, but most still have their skins." He added that these beans were small, and compared them with specimens that did not have skins from other archaeological sites. Their length runs from 2 to 4 mm shorter and 2 mm narrower than the specimens from other sites. Comparative measurements are given below. The botanical specimens are itemized as follows:

Find 376, Feature 2, Unit 1-3 area: one small nutshell, possibly hickory; two

small pieces of corn grains, one of which is 6.6 mm wide.

Find 321, Feature 8, Unit 1-3 area: one-half teaspoon of carbonized hickory nut shell.

Find 496, Feature 6, Unit 1-3 area: six small pieces of hickory nut.

Find 397, Unit 1-3 area: charred wood bits.

Find 496, Feature 7, Unit 1-3 area: two teaspoons carbonized hickory nut shell; five pieces black walnut shell (*Juglans nigra*); three carbonized corn cupules up to 8.5 mm wide. This is within the range for protohistoric and historic maize.

Find 497, Feature 7, Unit 1-3 area: one teaspoon carbonized hickory nut shell pieces; one and one-half teaspoon black walnut shell; small piece of charred cane.

Find 512, Feature 7, Unit 1-3 area: three tablespoons carbonized hickory nut shell; one and one-half teaspoon black walnut shell; three fragments carbonized corn, medium width; one piece of cane.

Find 521, Feature 8, Unit 1-3 area: one-half cup hickory nut shell; eight small pieces of black walnut shell; four fragmentary corn grains, one from a twelve-rowed ear, and cupule 8.5 mm in width; two small pieces of large cane.

Eight pollen samples were punched from postholes and wall trenches associated with Feature 1. None of these yielded any data.

## APPENDIX IV. RADIOCARBON DATES

FIVE SAMPLES OF CHARCOAL were selected from some thirty-one collected, and were sent to the Geochronology Laboratory at the University of Georgia. Data on these is listed below, but the potential for pollution carried on the prevailing southwest wind from a large, nearby paper mill should be kept in mind. The possibility of pollution was greater in 1972 than it had been under 1962 conditions, in that the protective earth mantle over the site had been stripped, and radiocarbon samples were open to contamination both from direct air contact and from rain saturation. This was especially marked in open features in which rainwater accumulated. All but one of the five samples seem to have been affected by the contamination.

UGa-426: Find 992, wood 3 to 3.5 inches below surface in disturbed soil of Feature 16, S160-163, the French sap dug in 1730.  $85 \pm 80$  B.P., 1865 A.D.

UGa-427: Find 500, Feature 6, pit in Unit 1-3 area.  $710 \pm 415$  B.P., 1240 A.D.

UGa-428: Find 499, Feature 7, pit in Unit 1-3 area. This and the above pit con-

tained European trade goods and should be coeval.  $50 \pm 105$  B.P., 1900 A.D.

UGa-429: Find 113, Feature 20, fire hearth in Feature 19 (protohistoric house pattern).  $90 \pm 90$  B.P., 1860 A.D.

UGa-435: Find 350, Feature 1, old humus (historic house pattern).  $190 \pm 70$  B.P., 1760 A.D.

Although all of the samples were taken under historic or barely protohistoric circumstances, there is a possibility that the wood is older in one of the pits than say the glass beads next to it. The site was certainly well-blanketed by Civil War times, so that there is no possibility of the nineteenth-century readings having been placed then. My longtime friend, Dr. Philip Phillips, expressed his opinion with his customary nonchalance. He especially favored UGa-428 because 1900 was the year of his birth. The 1760 date could well be valid, for the area was open to anyone who might pass during that period, since the Indians had abandoned the site thirty years previously.

## APPENDIX V. RESISTIVITY SURVEY AT THE FATHERLAND SITE

John D. Combes  
University of South Carolina

THE WRITER WAS CONTACTED IN AUGUST OF 1973 by Mr. Robert S. Neitzel concerning the feasibility of a resistivity survey of the Grand Village site.\* Two objectives were mentioned; the first was to locate the route of the eighteenth-century French fortification ditch and the second was to inspect the 'shadows' revealed on an infrared photo of the site area prepared by NASA. Details of the visit were worked out and approved by Mr. Elbert R. Hilliard, Director, Mississippi Department of Archives and History.

Arrangements were made with Mr. Neitzel to visit the site on November 12 and 13. The investigator, assisted by Mr. Marshall W. Williams of the University of Georgia, spent these two days traversing the suspected route of the fortification ditch and inspecting the areas revealed by the infrared photo. The route of the fortification was successfully located, followed, and staked out. Figure A.1 is a sketch of the site locating the ditch and locations of the resistivity traverses. Figures A.2-A.16 are the individual traverses keyed to Figure A.1.

In general, the resistivity equipment used by the geologist is not satisfactory for use by the archaeologist. The lack of a suitable unit and the seemingly complicated nature of its use has kept it from being widely employed in archaeology. Although new models for archaeology have been introduced, they are still far from being generally accepted. Recently, at the Institute of Archaeology and Anthropology at the University of South Carolina, the writer and Marshall Williams have developed a new soil resistance measuring device.

The unit consists of a small, lightweight, self-contained metal box containing the electrical components, two lead wires, and two stainless steel probes. There are two main uses for this apparatus. The first or "low level" use is designed to detect rapidly, by chance, an archaeological feature in a large unknown area. One

merely measures the resistance at given intervals along a line across the field of interest. By inserting the probes and recording the resistance measurements on a graph, a resistance profile through the field is obtained. The number and placement of these lines is up to the judgment of the archaeologist and would be based on the situation at hand. A quick inspection of the graph will indicate the presence of a resistance anomaly. In most cases a decrease in resistance will show up where there is evidence of human occupation such as a burial, an ancient house floor, or a midden deposit.

The "high level" use of the instrument is designed for use after the site has been located and a rather detailed "picture" or "plan view" is desired. Measurements are taken at one-foot intervals across a ten-foot square in both directions. This enables a three-dimensional view of the subsurface phenomena.

The unit is basically a resistance bridge circuit, with the unknown resistance (the soil) forming one of the four bridge legs. The output of the bridge is fed into a very sensitive amplifier, which drives the indicator meter. When the probes are inserted into the ground, the null control is used to null the meter. This setting of the null control is recorded, and another probe insertion is made in the test sequence. If the meter had moved, the null control is used to bring the needle back toward zero. The new reading is recorded. In this manner an entire series of tests may be plotted.

The dark locations which were revealed by infrared photography (see Figure A.1) were also carefully inspected. These were found to be areas that were stripped or almost stripped of the lighter colored loess which covers the entire site, allowing the underlying old dark colored surface to affect the infrared film. Verification of this was obtained by chaining these areas of interest and then scaling them to the air photo. Perfect correlation was realized, concluding then that they resulted from the differential thickness of loess remaining after the site had been scraped by Mr. Neitzel some time ago.

\*Further information on the equipment and techniques of resistivity prospecting may be found in Aitken (1974) and Carr (1982) [eds.].

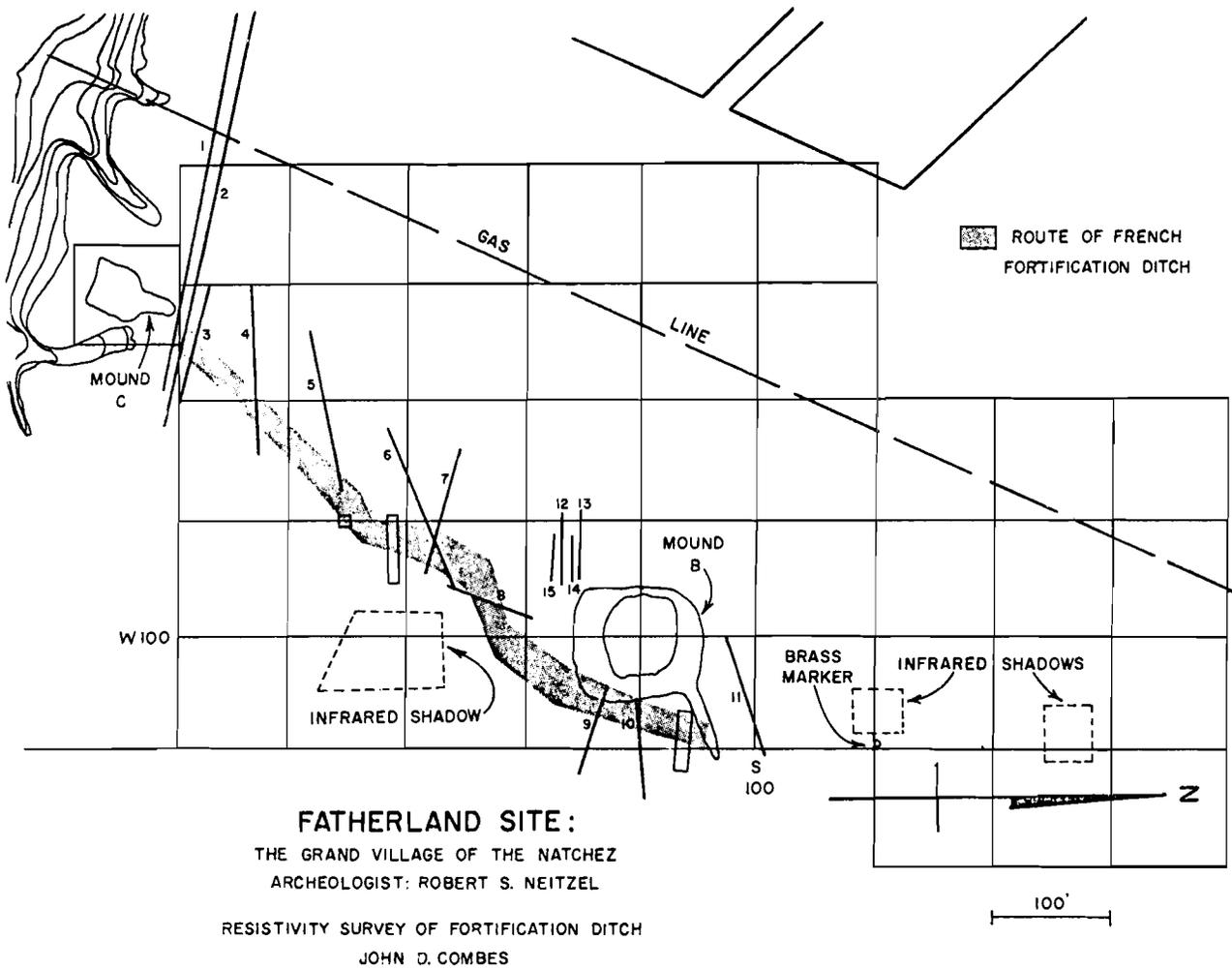


FIGURE A. 1. Location of resistivity survey traverses.

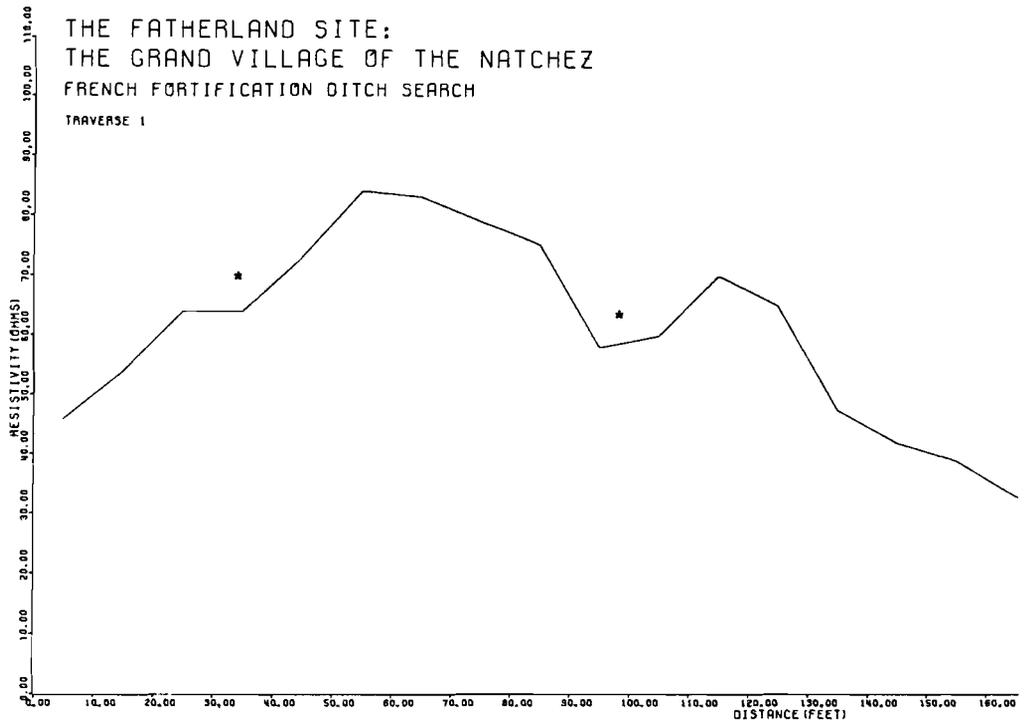


FIGURE A.2. Resistivity traverse 1.

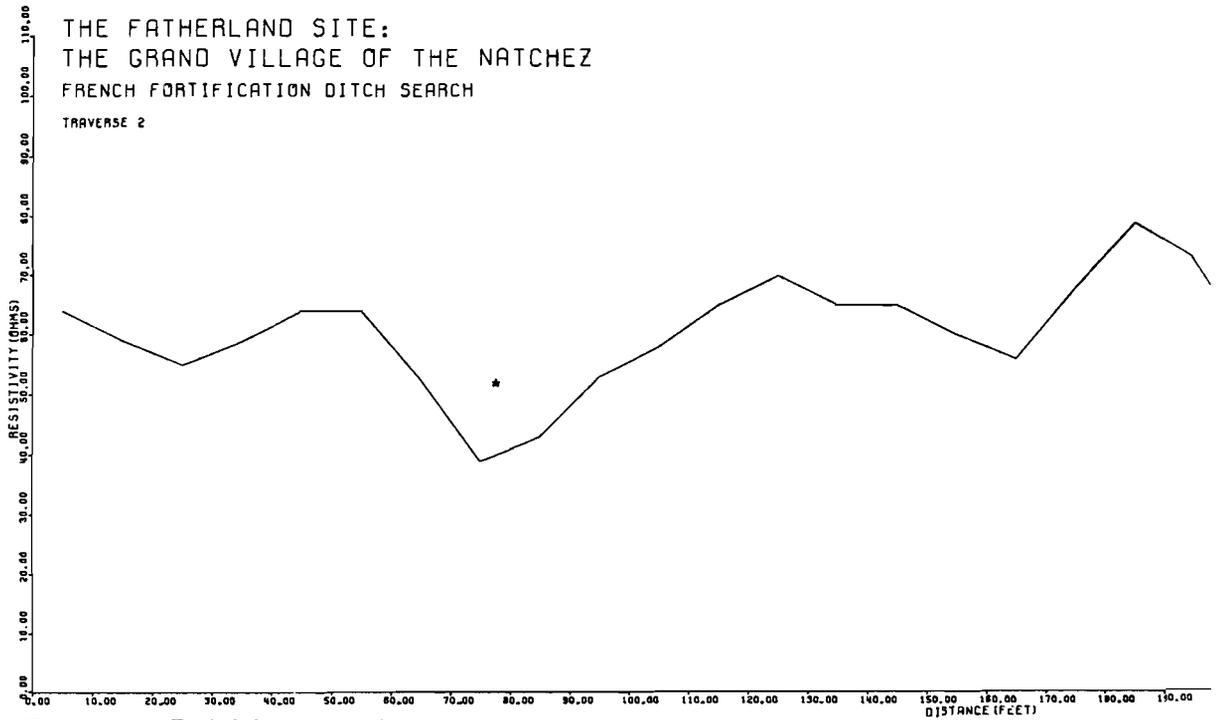
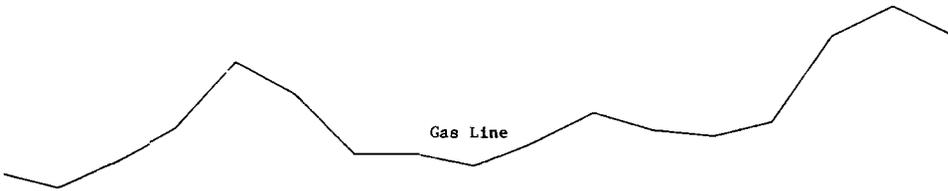
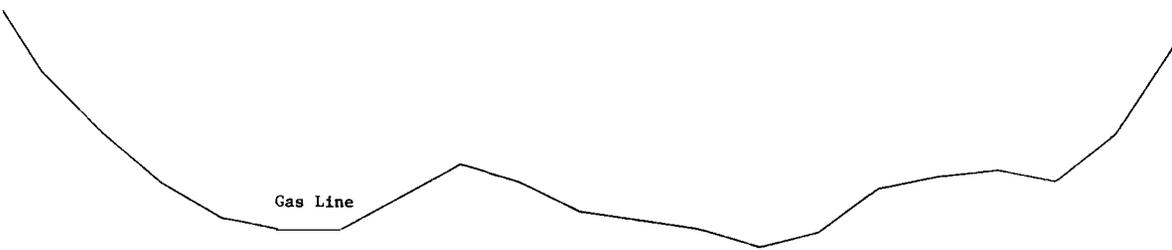


FIGURE A.3. Resistivity traverse 2.



170.00 180.00 190.00 200.00 210.00 220.00 230.00 240.00 250.00 260.00 270.00 280.00 290.00 300.00 310.00 320.00



200.00 210.00 220.00 230.00 240.00 250.00 260.00 270.00 280.00 290.00 300.00 310.00 320.00 330.00 340.00 350.00 360.00 370.00 380.00 390.00

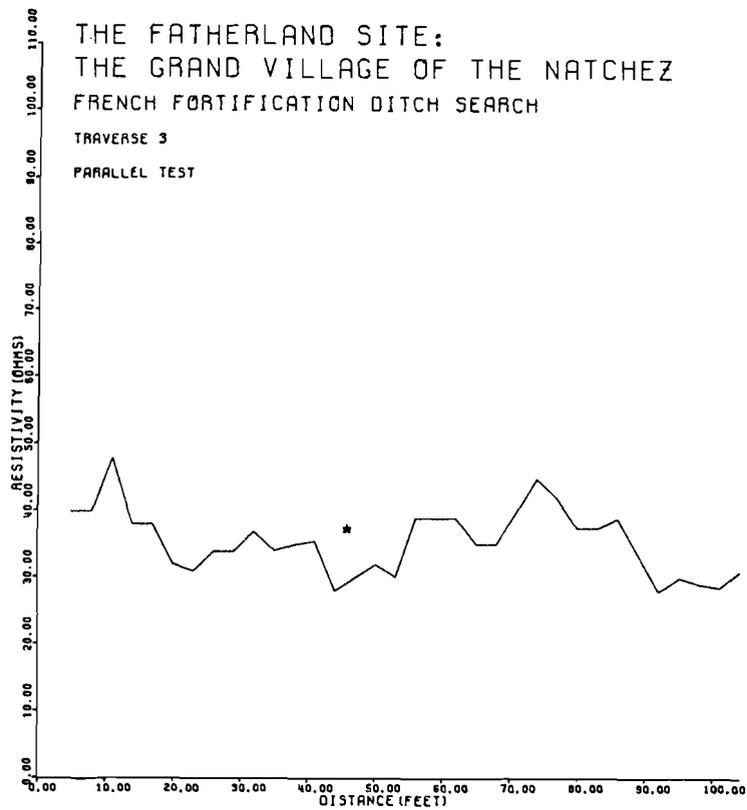


FIGURE A.4. Resistivity traverse 3.

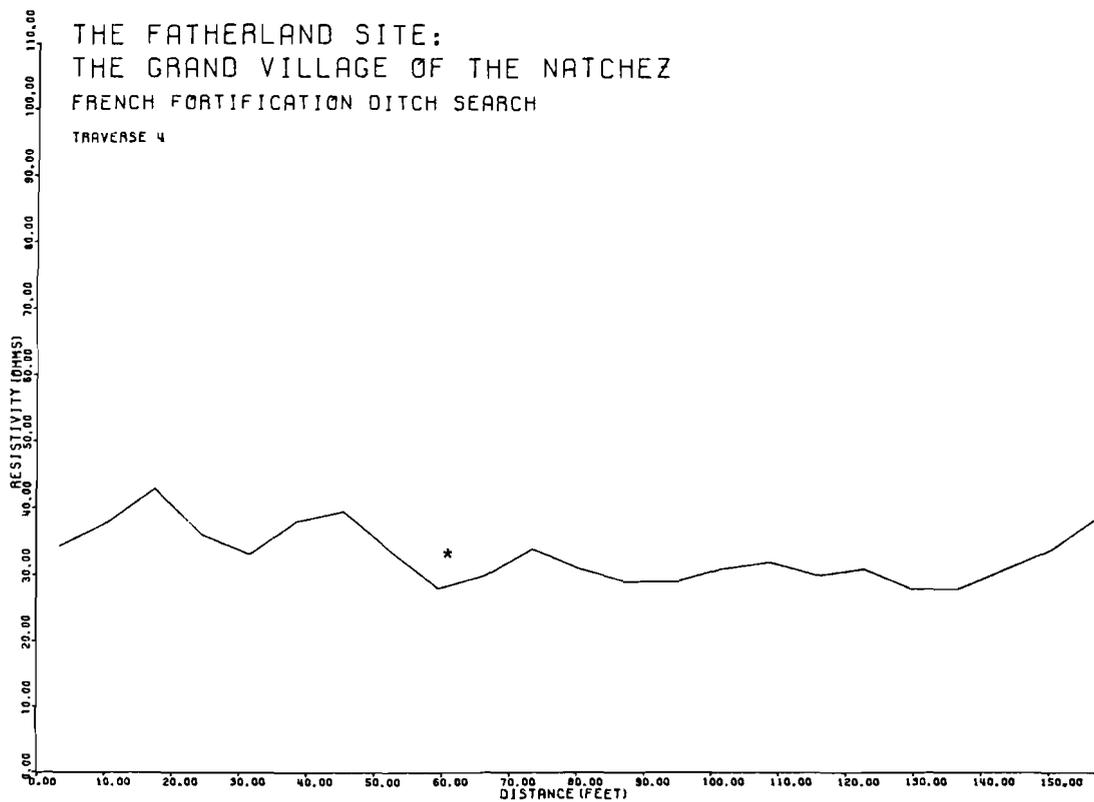


FIGURE A.5. Resistivity traverse 4.

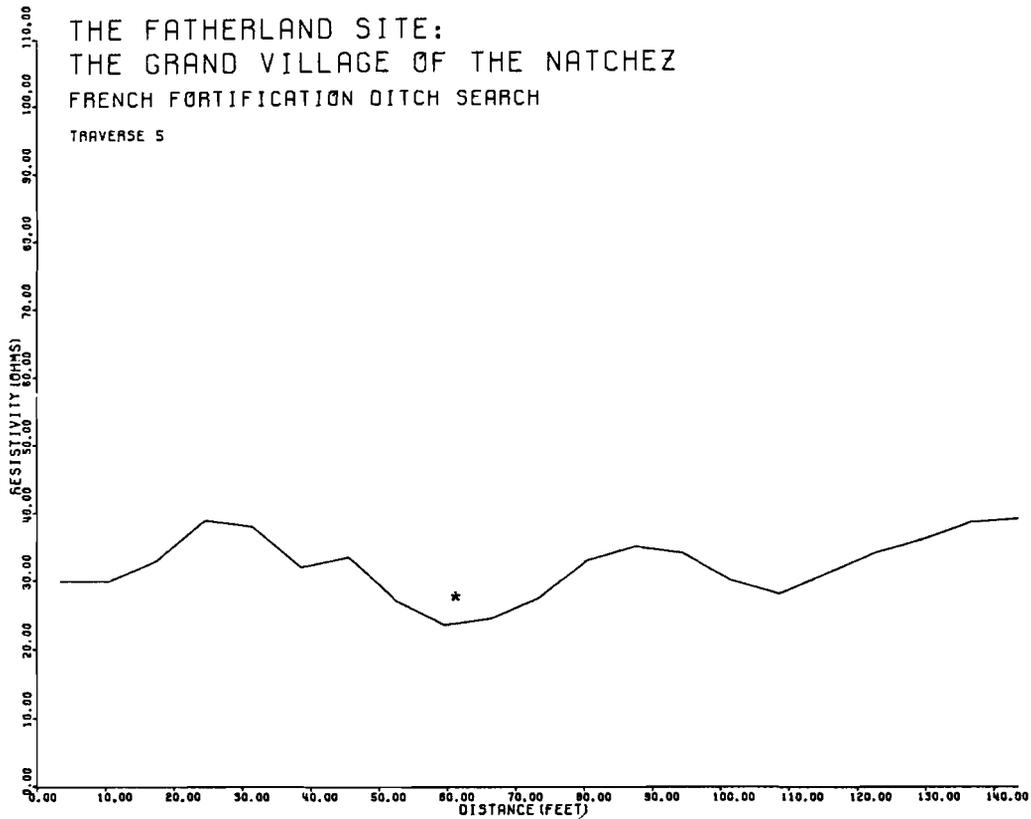


FIGURE A.6. Resistivity traverse 5.

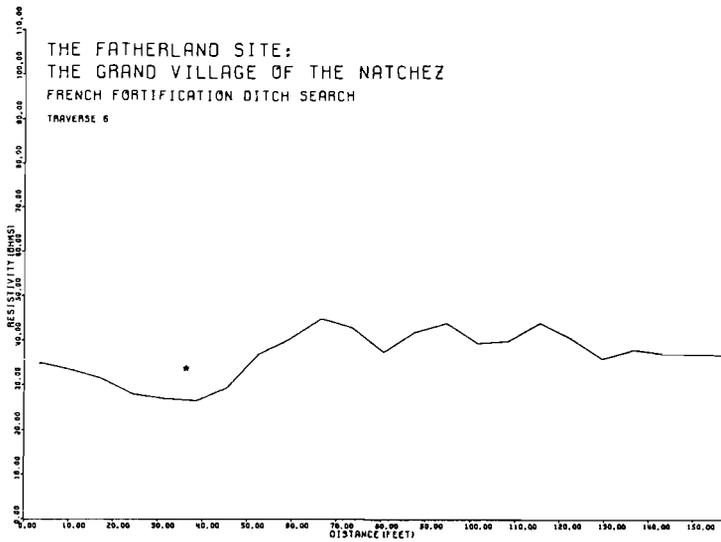


FIGURE A.7. Resistivity traverse 6.

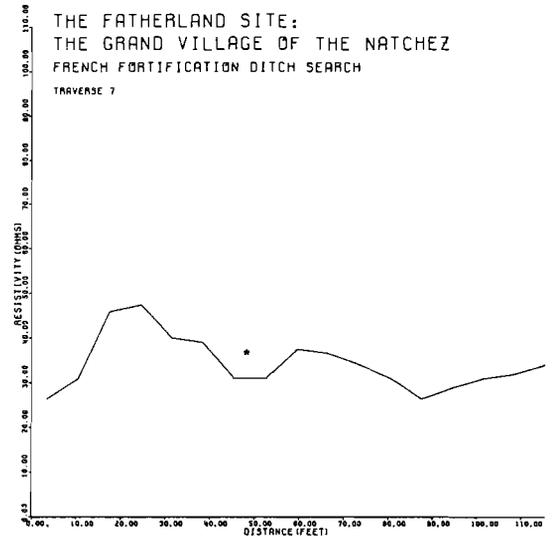


FIGURE A.8. Resistivity traverse 7.

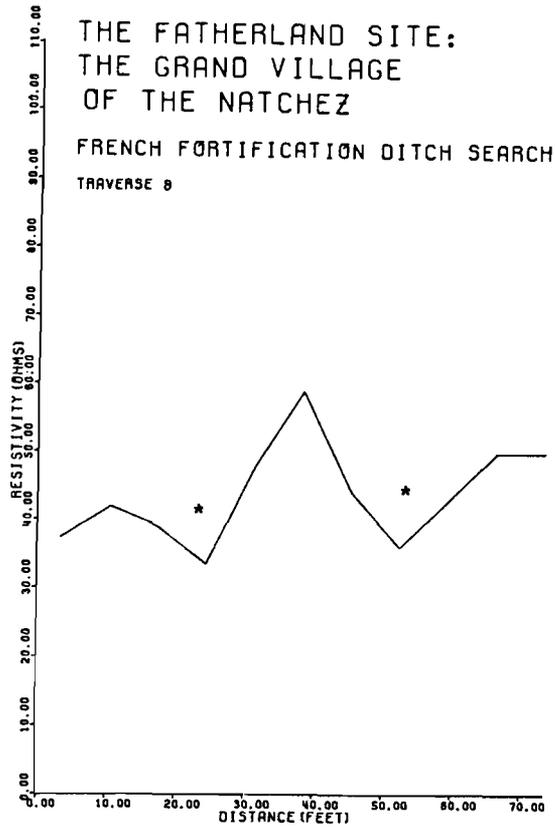


FIGURE A.9. Resistivity traverse 8.

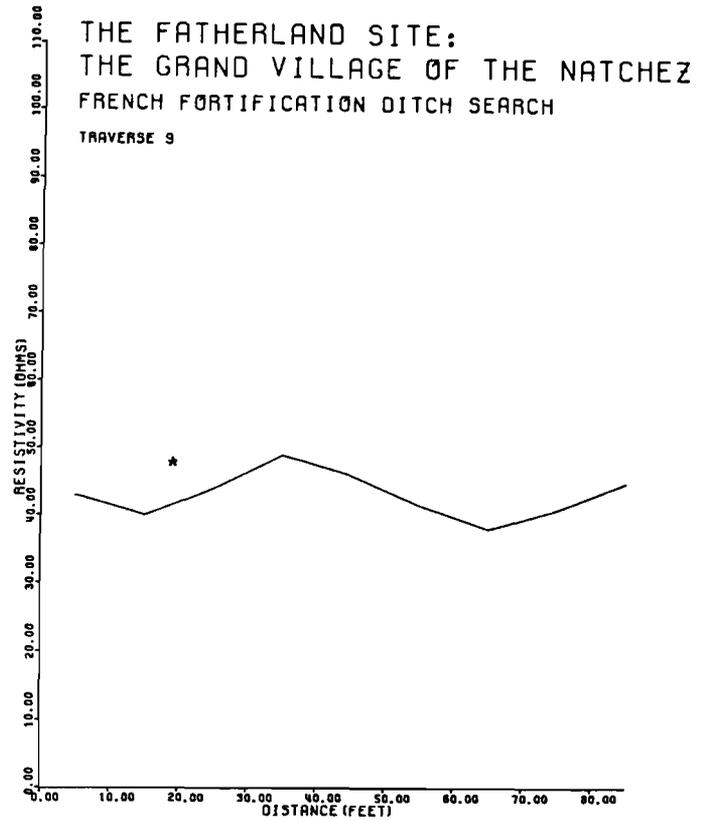


FIGURE A.10. Resistivity traverse 9.

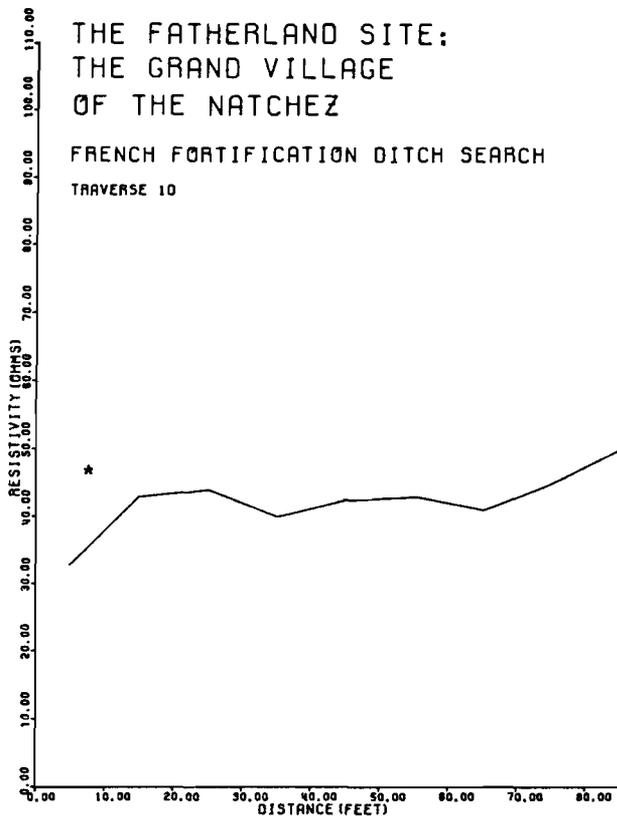


FIGURE A.11. Resistivity traverse 10.

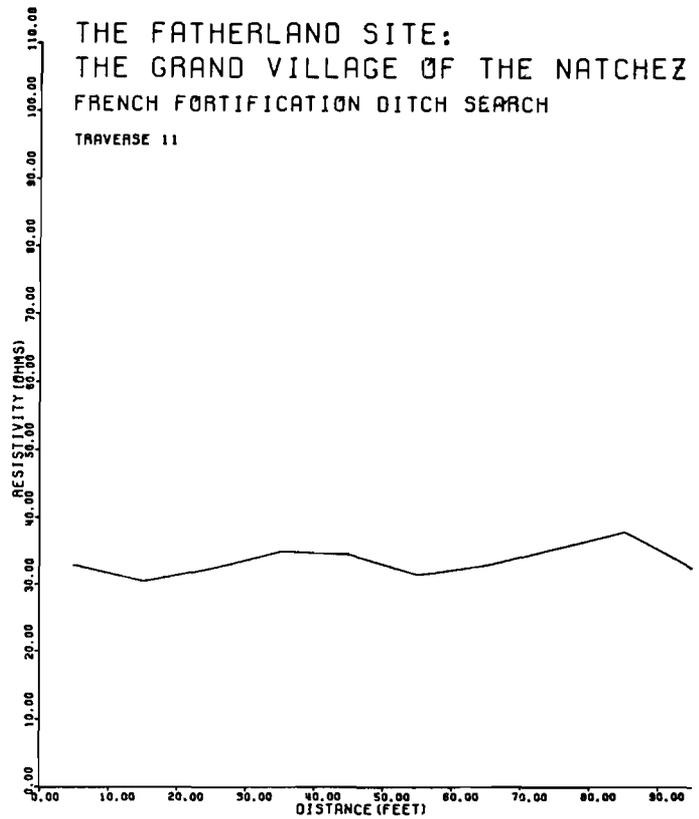


FIGURE A.12. Resistivity traverse 11.

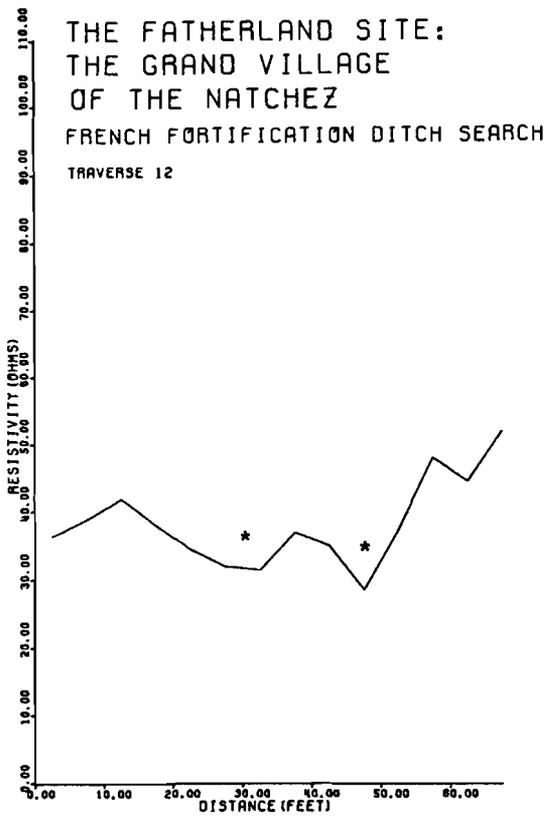


FIGURE A.13. Resistivity traverse 12.

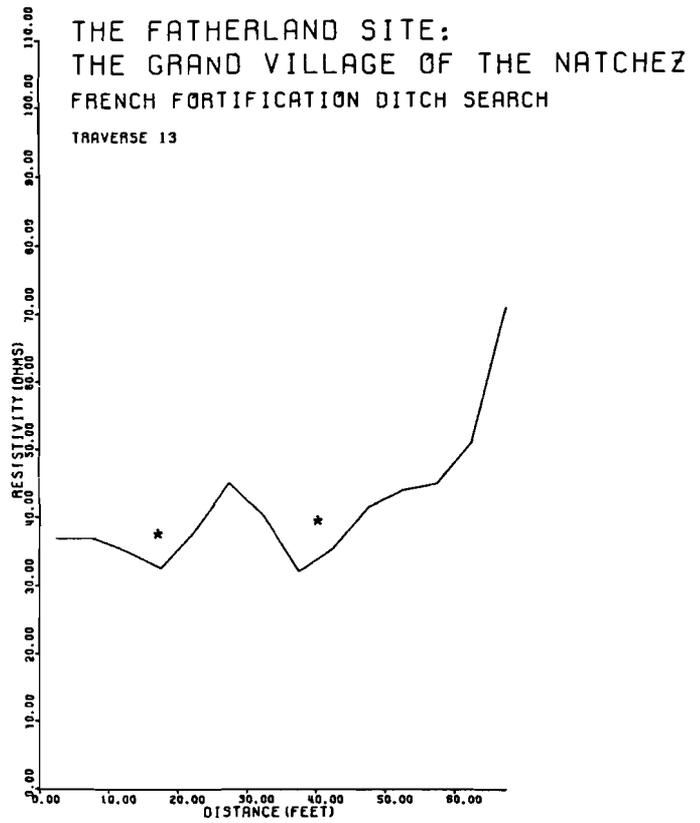


FIGURE A.14. Resistivity traverse 13.

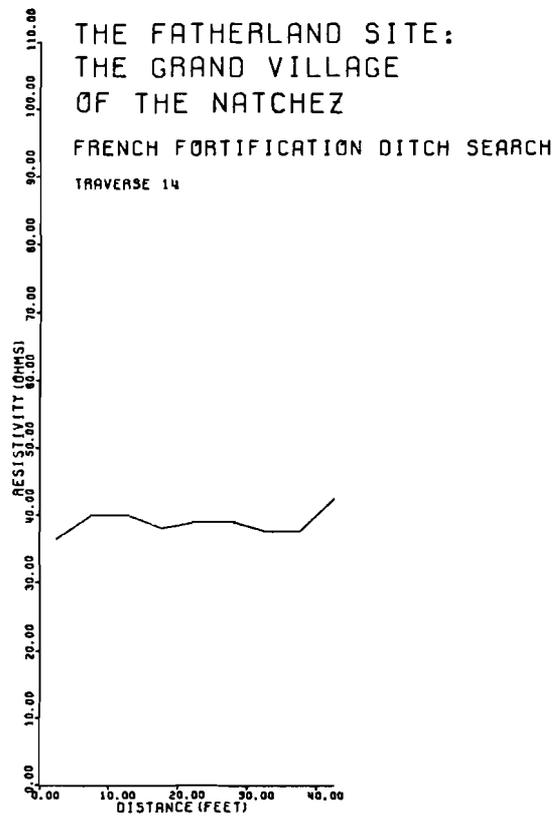


FIGURE A.15. Resistivity traverse 14.

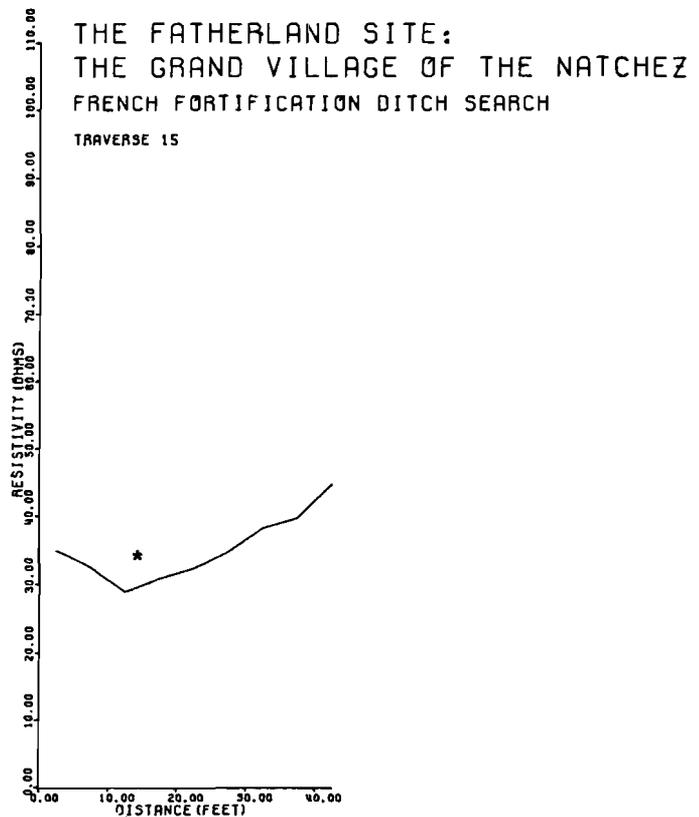


FIGURE A.16. Resistivity traverse 15.

## APPENDIX VI. ASTRONOMICAL ORIENTATIONS AT THE FATHERLAND SITE

Anthony F. Aveni  
Colgate University

ON 18-20 APRIL 1974, this investigator was invited by Mr. Neitzel to visit the Fatherland site for the purpose of determining the extent to which the mounds there might be astronomically oriented. Though the present state of the ruins precluded any accurate astronomical measurements' being made, there are, nevertheless, two points which can be stated regarding the relative placement of the mounds and the orientation of the faces of one of the mounds:

a) The centers of the three site mounds are located along an axis running approximately  $30\frac{1}{4}$  to  $35\frac{1}{4}$  E of N, to  $30\frac{1}{4}$  to  $35\frac{1}{4}$  W of S. Allowing for the elevated tree-line, a perpendicular to this axis would pass close to the direction along which the winter solstice sun rises and the summer solstice sun sets.

b) The orientation of Mound B appears to be true east-west so that it faces the sunrise on the equinoxes.

It is worth noting that at several places in

Neitzel's (1965) report historical references are made to solar observations by the Great Sun. It is possible that other astronomical measurements were made by inhabitants of the Grand Village (e.g., the changing of the guard at the perpetual fire seems to be regulated by the phases of the moon).

It is hoped that the mere mention of possible astronomical orientations at Fatherland site in this report will encourage archaeologists to be mindful of the possibility that site orientation and the situation of buildings within a site may have been motivated by astronomical considerations. Of particular interest to this investigator is the possibility that astronomical principles embodied in the architecture of the great civilizations of ancient Mexico (Aveni 1975) may have carried over into the southeastern United States. An examination of the evidence of southeastern sites by the archaeologist, historian, and astronomer might prove as fruitful as the studies currently being conducted in Mexico.

## APPENDIX VII. CONSERVATION REPORT

Elizabeth Sanford  
University of South Carolina

A NUMBER OF ARTIFACTS from the Fatherland site—some of iron, some of lead, some of copper alloy—were sent to the Institute of Archaeology and Anthropology in 1973 for conservation. Some of the objects were treated by Mr. Wayne Neighbors in the spring of 1974. The rest were treated by me in the period between December, 1974 and February, 1975.

Those iron artifacts now having a gray color were treated by Mr. Neighbors as follows: they were mechanically cleaned with aluminum oxide in the airbrasive machine, reduced electrolytically in a sodium carbonate electrolyte, vacuum-dried with heat, coated with clear Rustoleum spray paint, then coated with clear lacquer.

The iron artifacts treated by me were first cleaned mechanically with hand tools and with the airbrasive machine. They were then boiled in successive baths of distilled water until the silver nitrate test proved little or no chlorides present. The objects were then placed in an alcohol bath, followed by drying under infrared lamps. After drying they were immersed in hot micro-crystalline wax, then air-dried, to provide a protective coating. Any necessary joins were made with Eastman cyanoacrylate resin. The scissors (Find 1020) having a brass handle and iron blades was cleaned only mechanically, without further treatment.

The pocket knife (Find 148), consisting of iron, copper alloy, and mother-of-pearl parts, came to the laboratory covered with a synthetic resin, probably a polyvinyl acetate or polybutyl acetate resin, no doubt to protect it from falling apart. The knife was immersed in acetone to remove the resin, and taken apart, all the parts being cleaned mechanically. It was then re-joined with a cellulose nitrate adhesive, and the

mother-of-pearl coated with soluble nylon, a synthetic resin suitable for preventing the flaking of delicate surfaces.

The copper alloy objects were cleaned mechanically with hand tools and the airbrasive machine. They were then washed in an acetone bath and placed in a solution of 3% benzotriazole (this chemical has proven successful in the chemical stabilization of copper alloy objects to prevent further corrosion) in isopropyl alcohol under vacuum until all bubbling ceased. The objects were dried under infrared lamps and coated with Incralac, an acrylic co-polymer containing some benzotriazole. Numbers were replaced with india ink on these objects where it was possible; others were tagged with their numbers. All the iron objects were tagged.

A number of iron objects were not treated, as they were judged stable or too fragile to undergo treatment. Some small iron objects fragmented or partially disintegrated in treatment. These fragments have been placed together with their numbers.

The lead objects were not treated, as treatment would not improve their appearance substantially, and the gray-white lead carbonate corrosion is a stable, protective coating.

The brass belt buckle (Find 814) had fragments of fiber remaining within it. Preliminary examination proved these fibers to be plant rather than animal, but further analysis will have to be carried out if more information on this is desired.

These treatments do not absolutely guarantee that further corrosion will not occur, but the objects now have a better chance of survival than before.

## APPENDIX VIII. PALYNOLOGICAL REPORT

James Schoenwetter  
Arizona State University

TWO SEDIMENT SAMPLES representing the occupational horizon of the Fatherland site, Find 382 and Find 382a, were submitted to the Palynological Laboratory of the Department of Anthropology at Arizona State University. The samples did yield some pollen, but as there was too little for a quantitative analysis no results are reported.

The samples comprised small volumes of sediment (less than 10 cc) such as are appropriate for the pollen analysis of lacustrine or bog deposits. There seems little question that their lack of pollen was a function of the ratio of inorganic to organic detritus trapped over the period of sediment deposition. Palynologically productive samples from floodplain depositions (e.g. Martin 1963; Schoenwetter 1962a) or archaeological contexts (Schoenwetter 1962b, 1974; Hill and Hevly 1968; Bohrer 1970) tend to involve much larger volumes of deposit. A field manual designed for southwestern archaeological work (Dittert and Wendorf 1963) calls for collection of *ca.* 300 cc volume sediment samples for pollen analysis. It is to be expected, in any case, that a sizable proportion of samples from ar-

chaeological contexts may be too deficient in pollen to allow analysis. Archaeological contexts of deposition (e.g., sheet midden, pit fill, house floors, wall trench fill, vessel fill) normally have unusual sedimentological histories which have been complexly affected by human behavior. Thus they do not constitute optimal environments for the incorporation and preservation of pollen "rains" characteristic of vegetational and climatic patterns. The special conditions under which palynological records are recoverable from sites in the eastern United States are only partly understood (Schoenwetter 1963; King *et al.* 1975) and, to my knowledge, no samples have so far proved productive from terrestrial sites in the southern states, though King and Wyatt Gish (1974) have recovered pollen from underwater sites. Greater ability to predict the kinds of archaeological contexts which are palynologically productive will best be afforded by the experience gained through further and more intensive programs of sampling and attempted analyses. The allocation of funds and energy to this end is therefore highly encouraged.

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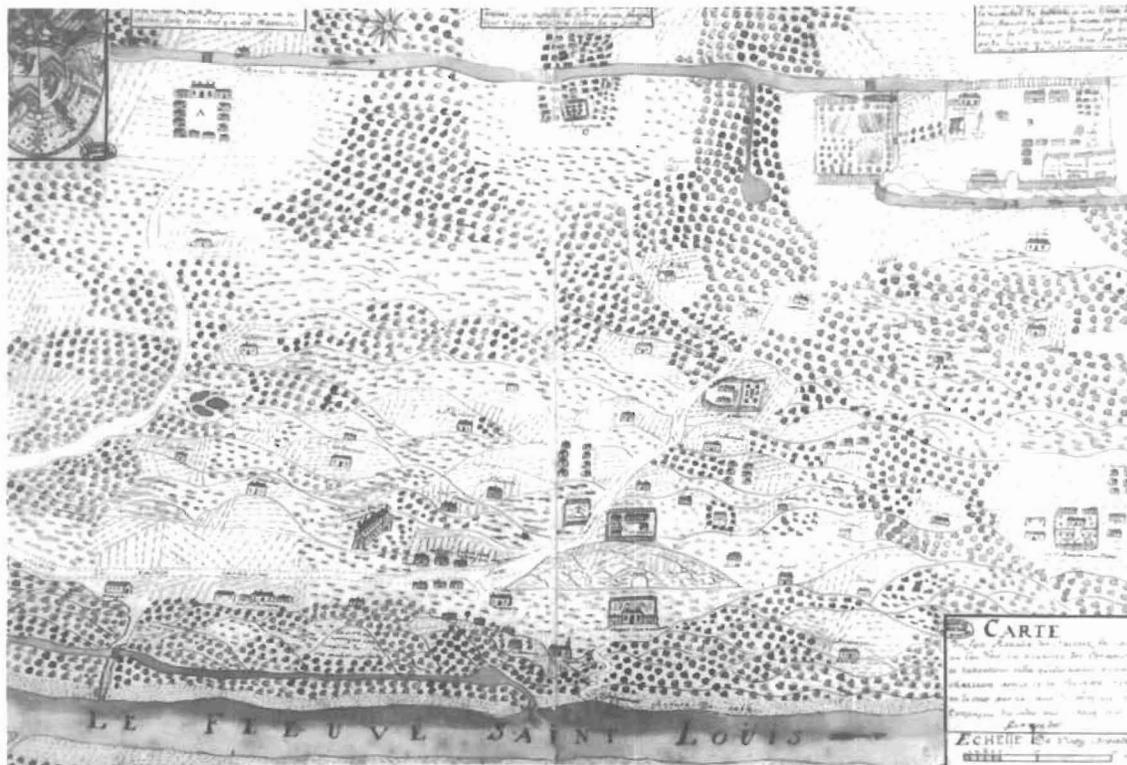
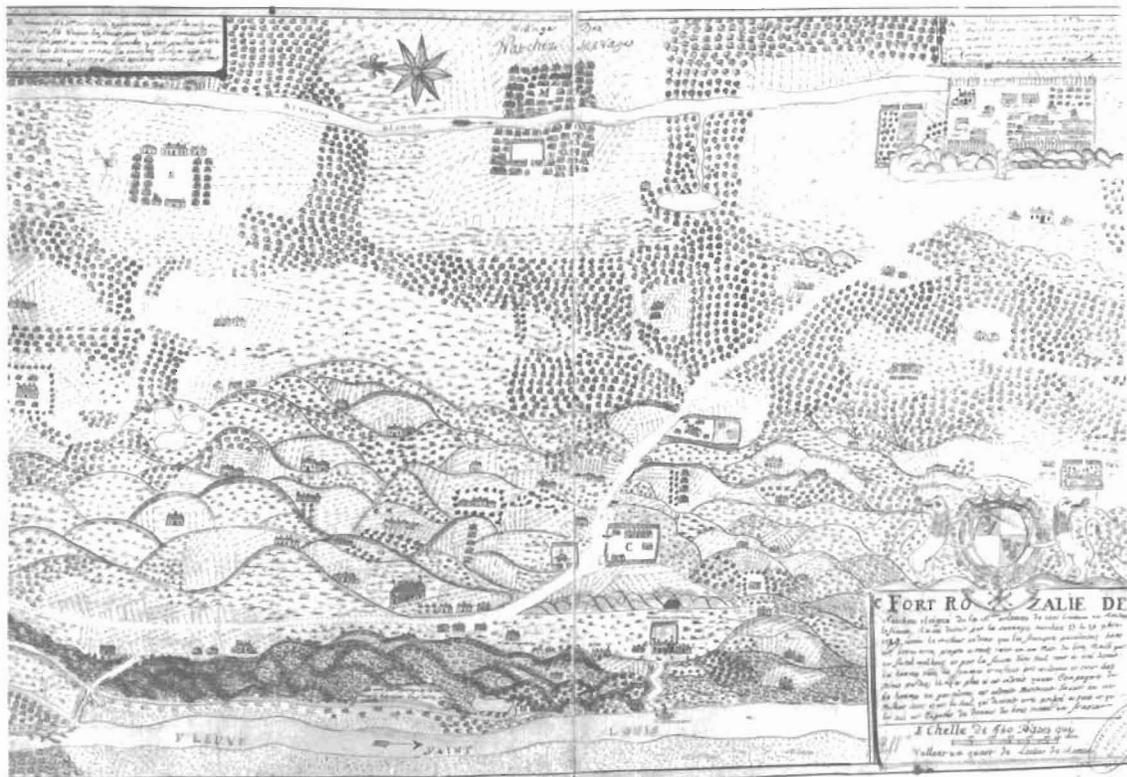


PLATE. I. a. Fort Rosalie landscape, French concessions of Terre Blanche and St. Catherine, and the Natchez Grand Village, *ca.* 1730. Courtesy of Ministère de la Guerre, Musée de l'Armée, Archives des Cartes, Paris. b. Carte de Natchez, showing Fort Rosalie, the Terre Blanche and St. Catherine concessions, and the Grand Village of the Natchez, *ca.* 1730. Courtesy of the Archives Nationales, Paris.



PLATE II. a. French military map of the Grand Village mound-plaza complex, showing French siege trenches and Natchez forts on either side of St. Catherine Creek. The map is oriented true north; French north as indicated by the compass rose on the map is actually west. Courtesy of the Bibliothèque Nationale, Paris. b. Brush and tree clearing on the south plaza.



PLATE III. a. Dirt loading equipment on the north plaza. b. Rebuilding Mound B.



PLATE IV. a. View of south plaza toward Mound C. b. Bulldozer cut between Mound B and Feature 1, looking east.



PLATE V. a. Looking across north plaza from Mound B to Mound A; Unit 4-11 and Unit BM. b. South plaza S410-415, W235-240 profile, showing P-1, P-2, and P-3 surfaces from top to bottom. The P-1 and P-2 surfaces show wheel tracks of earthmoving equipment.



PLATE VI. a. North plaza N60-70, E20-25, showing striations caused by heavy equipment. b. Feature 1, north plaza; house pattern with individual postmold construction.

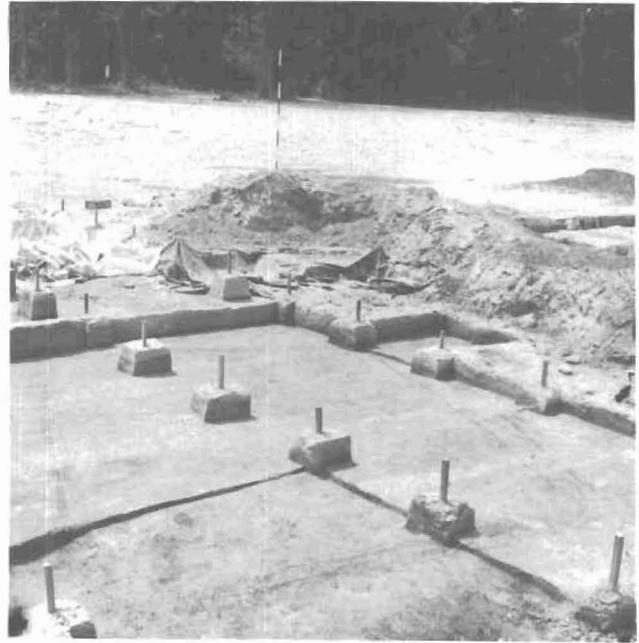


PLATE VII. a. Feature 2, bowl-shaped pit, near Feature 1 on north plaza. b. Feature 5, north plaza, looking north; house pattern with wall trenches.



PLATE VIII. a. Feature 10, north plaza; trash pit. b. Feature 14, north plaza; trash pit with small countersunk central pit.



PLATE IX. a. Feature 15, near Unit 4-11, north plaza; small midden pile on subsoil surface. b. Features 8, 6, and 2 (left to right) looking north toward Mound A.

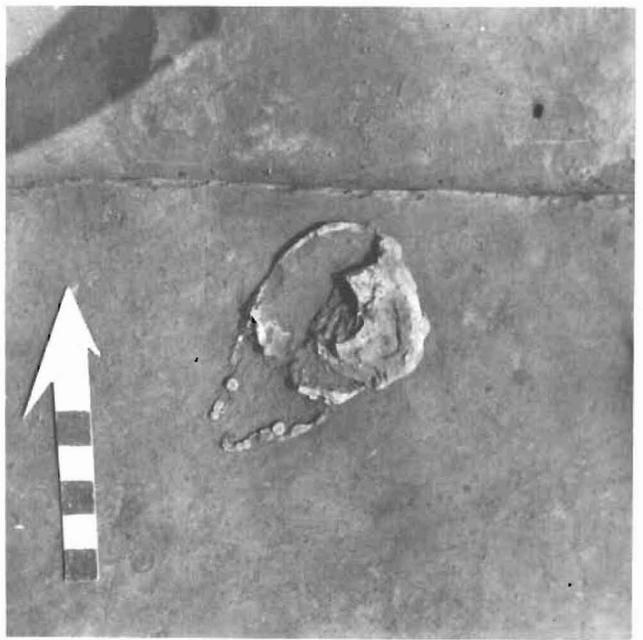


PLATE X. a. Burial 6, head to the northeast. b. Burial 7, southwest of south corner of Feature 1.

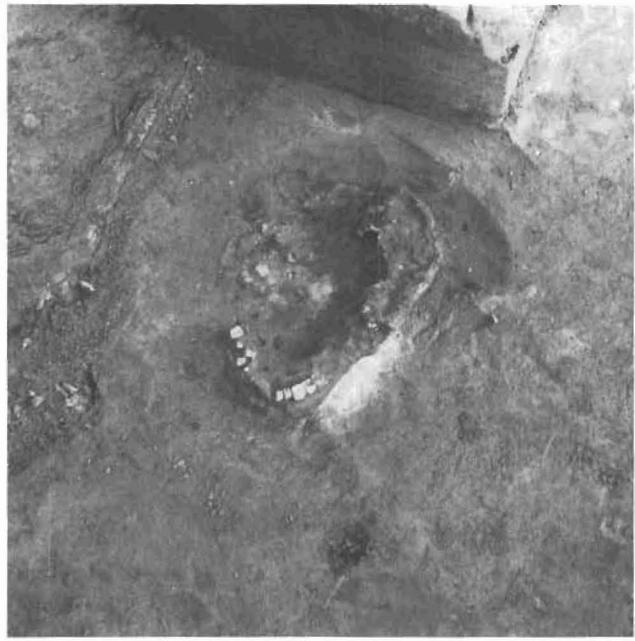


PLATE XI. a. Burials 7, 8, and 9, top to bottom, looking west. b. Burial 11, skull.

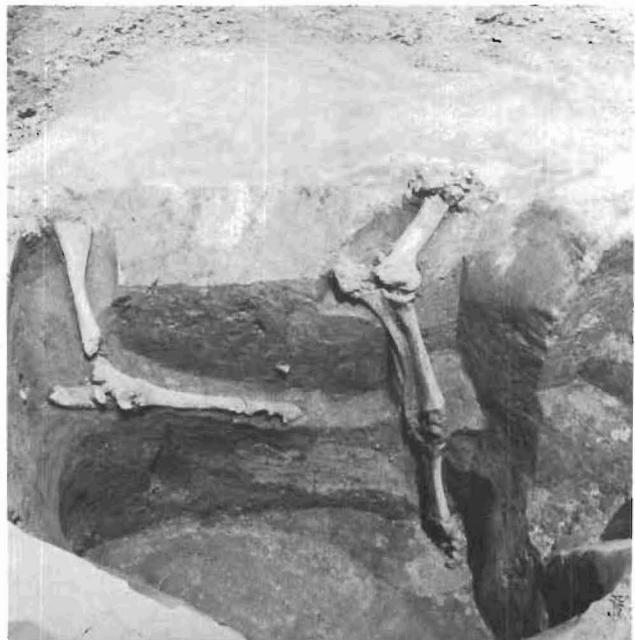


PLATE XII. a. Find 548, cow carcass, on top of French siege sap (Feature 16). b. Find 548, cow carcass, showing legs imbedded in Feature 16.

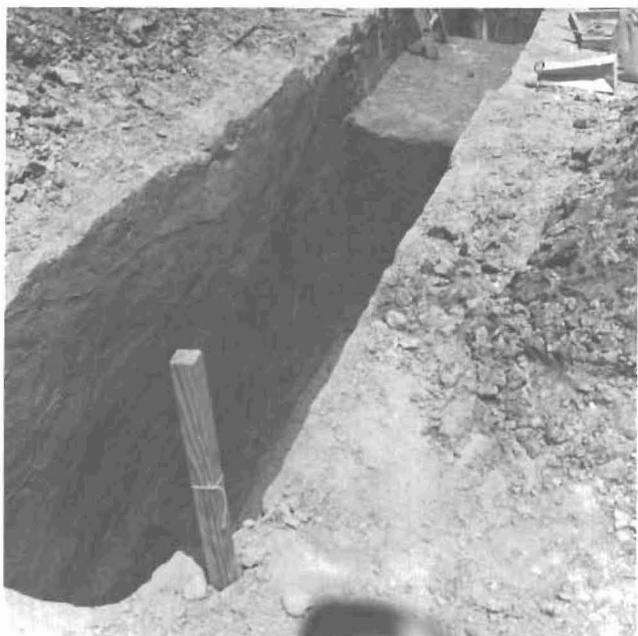


PLATE XIII a S160-163 trench through Feature 16, French siege sap. b. S450-460, W195-200 profile of French siege sap.



PLATE XIV. a. Feature 19, south plaza; superimposed house patterns. b. Feature 19 cross-section; profile of wall trenches.



PLATE XV. a. S450-460, W195-200 section through French siege sap (Feature 16). b. Feature 20, central fire basin in Feature 19 house pattern.



PLATE XVI. a. "The Last Natchy?" b. Feature 27, stone cobble cache, buried in oval pit excavated in subsoil below Feature 24-25 midden.

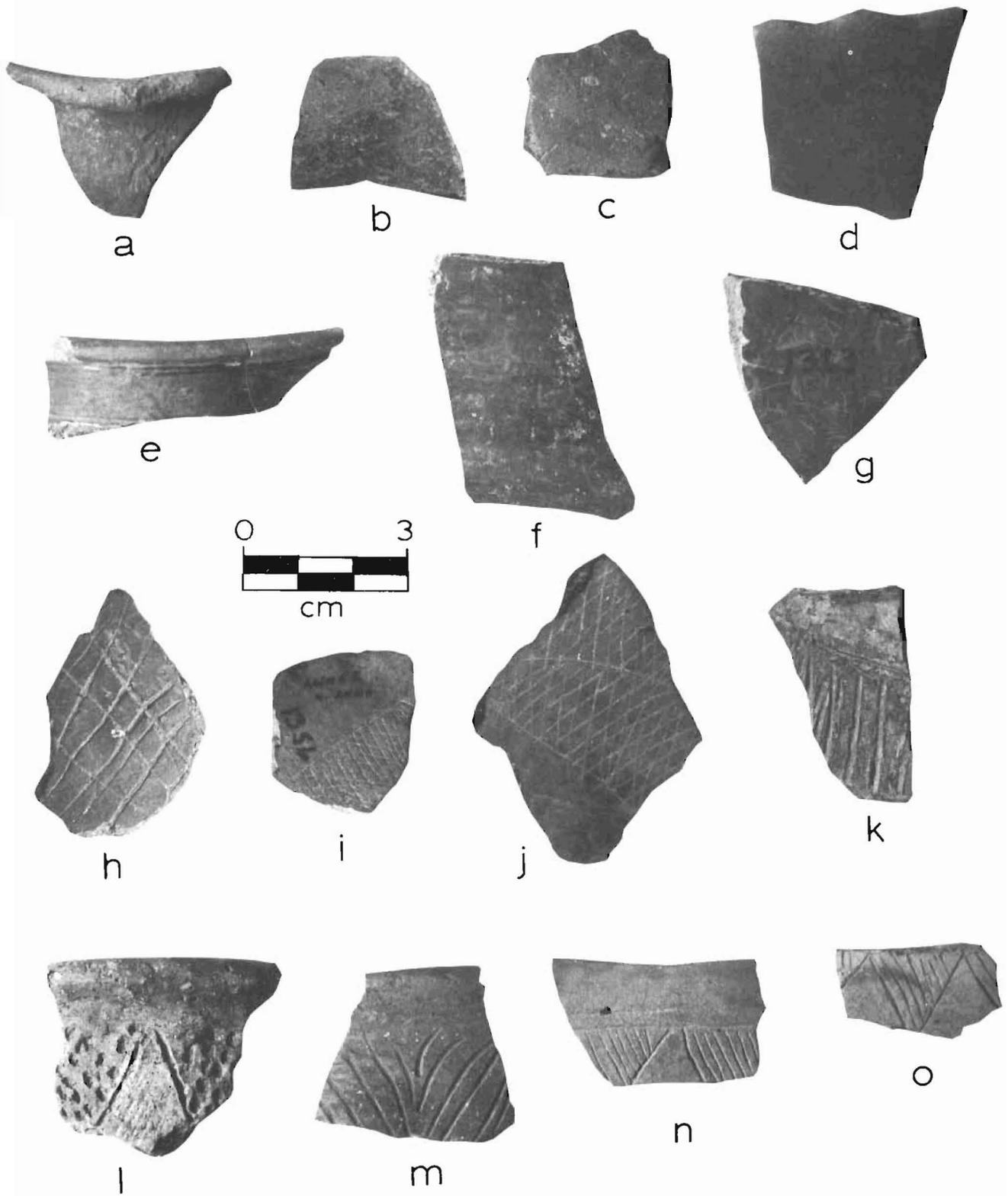


PLATE XVII. Fatherland site ceramics: a, Addis Plain *var. Addis*; b-c, Addis Plain *var. Greenville*; d, Addis Plain *var. Addis* (Haynes Bluff rim); e, Addis Plain *var. Junkin*; f-g, Addis Plain *var. St. Catherine*; h, Alligator Incised *var. Oxbow*; i-j, Anna Incised *var. Anna*; k, *Unclassified*; l, Avoyelles Punctated *var. Dupree*; m, Barton Incised *var. Estill*; n-o, Barton Incised *var. unspecified*.

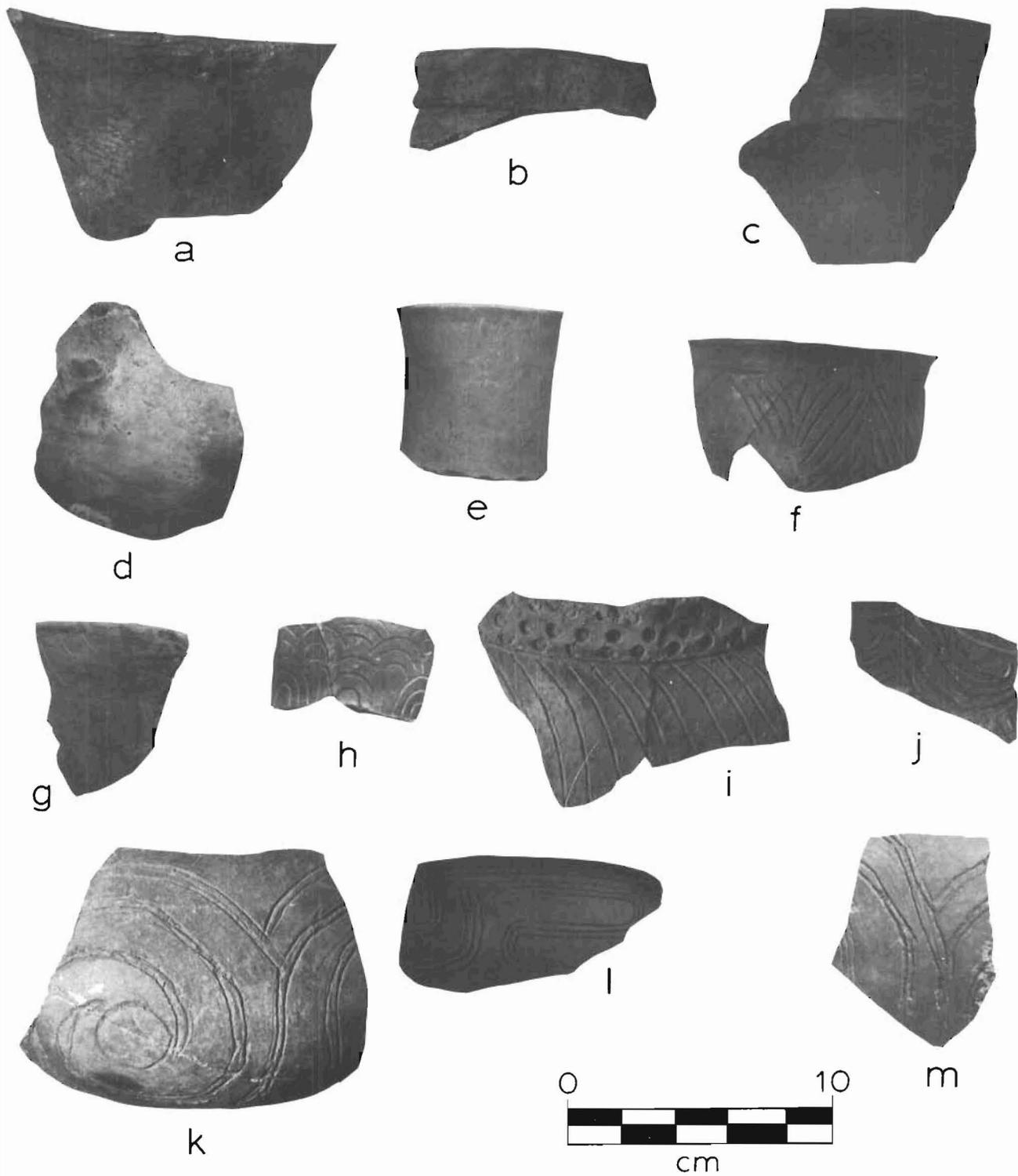


PLATE XVIII. Fatherland site ceramics: a, Addis Plain *var. Addis*; b, Addis Plain *var. Addis* (rimstrap); c, Addis Plain *var. Addis* (Haynes Bluff rim, "Yazoo" bowl); d, Addis Plain *var. Addis* (loop handle); e, Addis Plain *var. St. Catherine*; f, Barton Incised *var. Arcola*; g, Chicot Red *var. Fairchild*; h, Coleman Incised *var. Coleman*; i, Coleman Incised *var. unspecified* [or Winterville Incised *var. Tunica*, see fn. 7b—eds.]; j, Coleman Incised *var. Bass*; k-m, Fatherland Incised *var. Fatherland*.

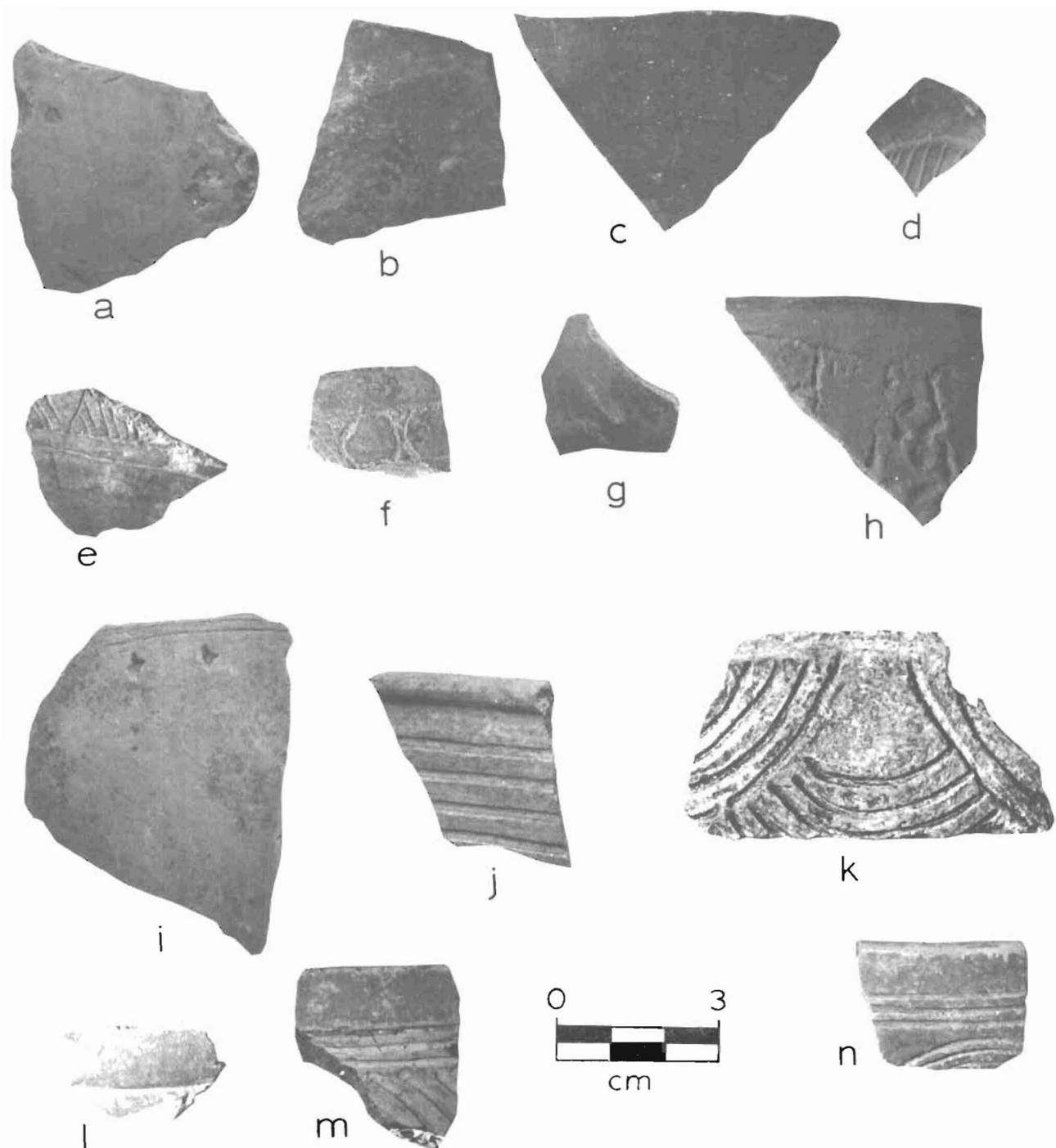


PLATE XIX. Fatherland site ceramics: a, Baytown Plain var. *Baytown*; b, Baytown Plain var. *Vicksburg*; c, Bell Plain var. *Bell*; d-e, Carter Engraved var. *Carter*; f, Carter Engraved var. *Shell Bluff*; g, Chicot Red var. *Grand Village*; h, Chevalier Stamped var. *Lulu*; i, Coles Creek Incised var. *Hardy*; j, Coles Creek Incised var. *Mott*; k, Coleman Incised var. *Bass*; l, Carson Red on Buff var. *unspecified*; m, Fatherland Incised var. *Bayou Goula*; n, Fatherland Incised var. *Fatherland*.

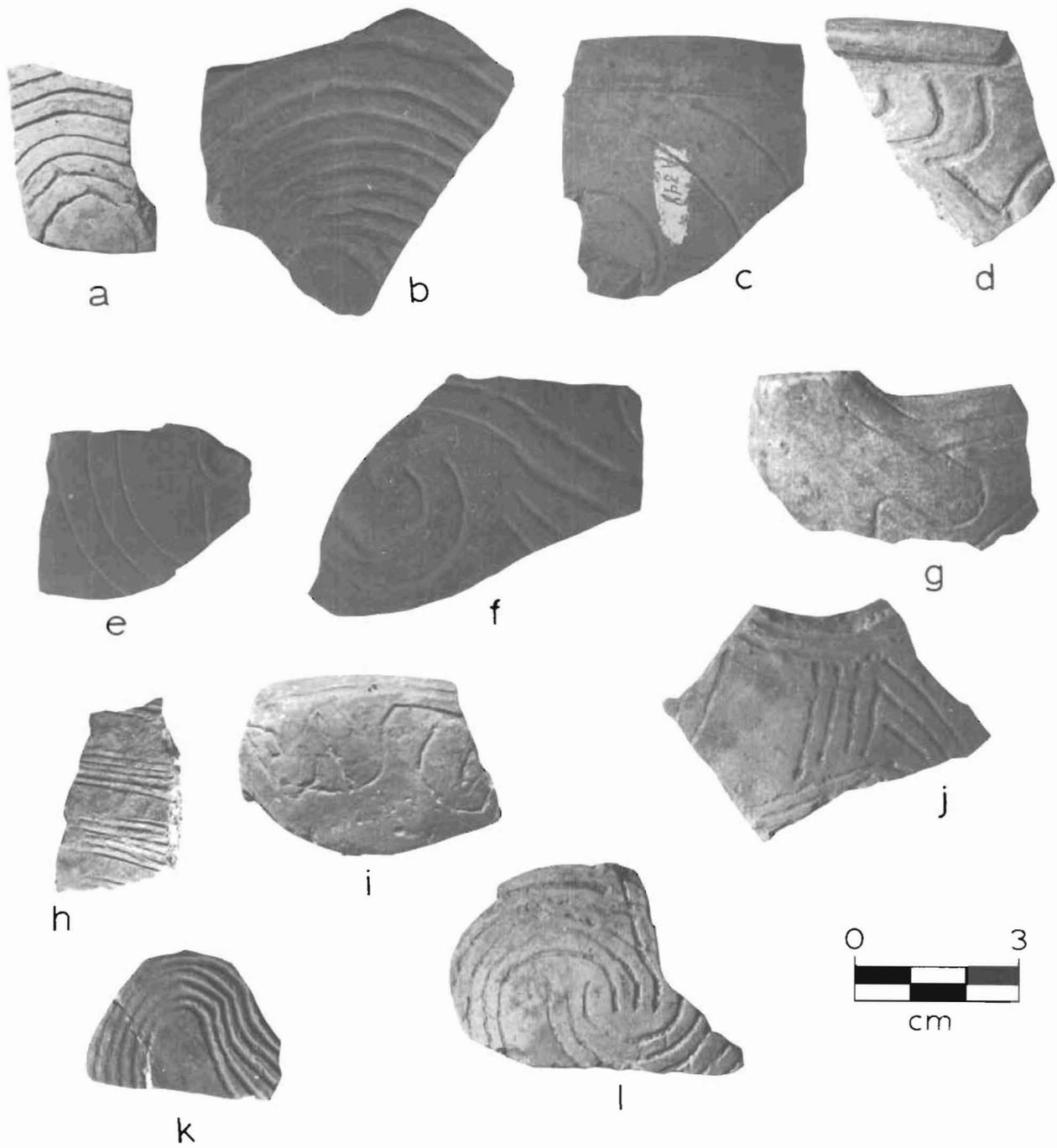


PLATE XX. Fatherland site ceramics: a-b, Fatherland Incised *var. Pine Ridge*; c-g, Fatherland Incised *var. Stanton*; h-l, Fatherland Incised *var. unspecified*.

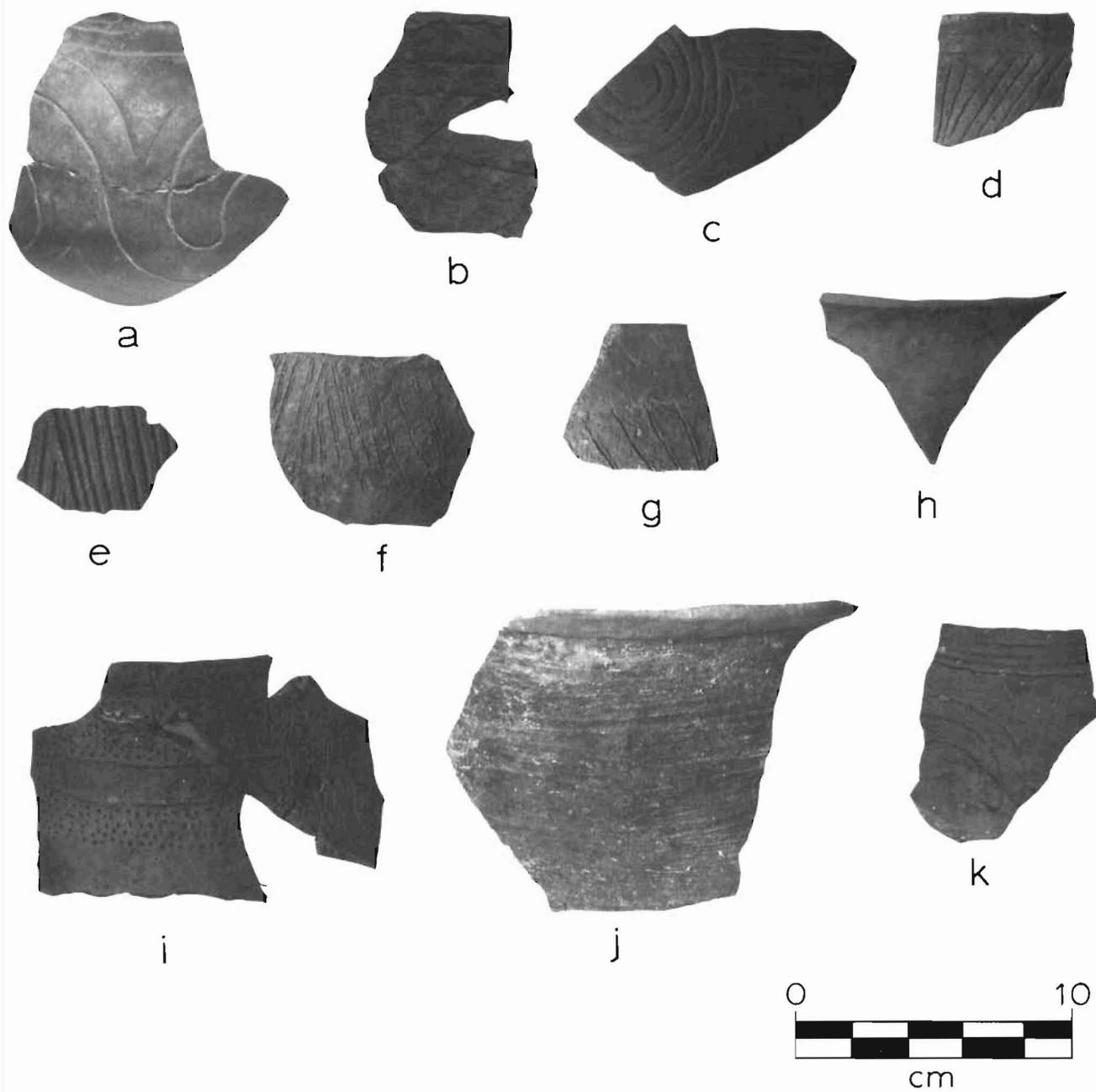


PLATE XXI. Fatherland site ceramics: a, Fatherland Incised *var. Stanton* (wide mouthed bottle); b, Hollyknowe Pinched *var. Patmos*; c, Leland Incised *var. Foster*; d, Mazique Incised *var. Manchac* (middle variant); e, Mazique Incised *var. Preston* (early variant); f-g, Mazique Incised *var. Manchac* (late variant); h, Mississippi Plain *var. Yazoo*; i, Owens Punctated *var. unspecified*; j, Plaquemine Brushed *var. Plaquemine* (late variant); k, Winterville Incised *var. Belzoni*.

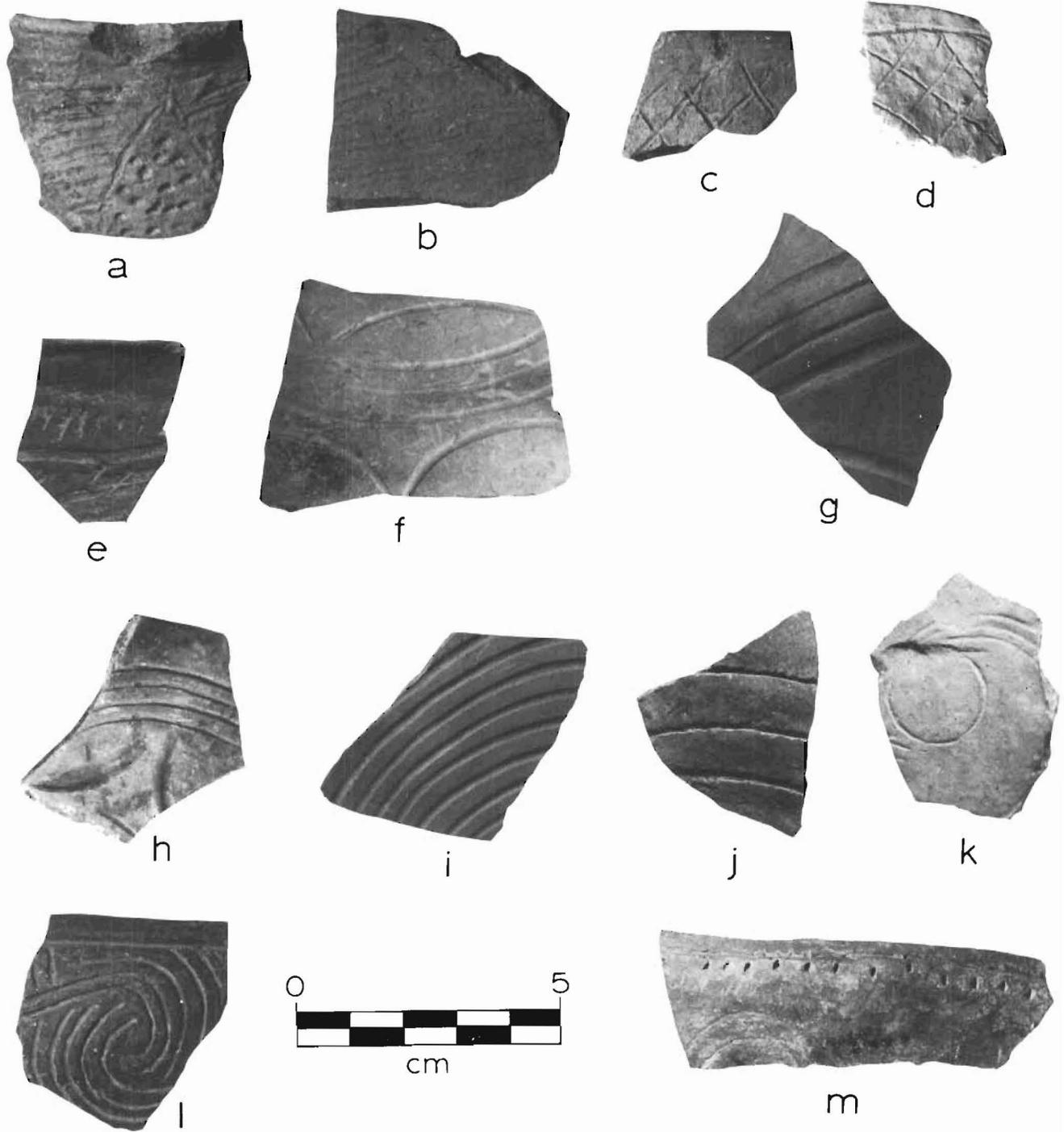


PLATE XXII. Fatherland site ceramics: a, French Fork Incised *var. unspecified*; b, Grace Brushed *var. Grace*; c-d, Harrison Bayou Incised *var. Harrison Bayou*; e, Kinlock Simple Stamped *var. Kinlock*; f-g, Leland Incised *var. Leland*; h, Leland Incised *var. Bayou Goula*; i, Leland Incised *var. Ferris*; j-m, Leland Incised *var. Foster*.

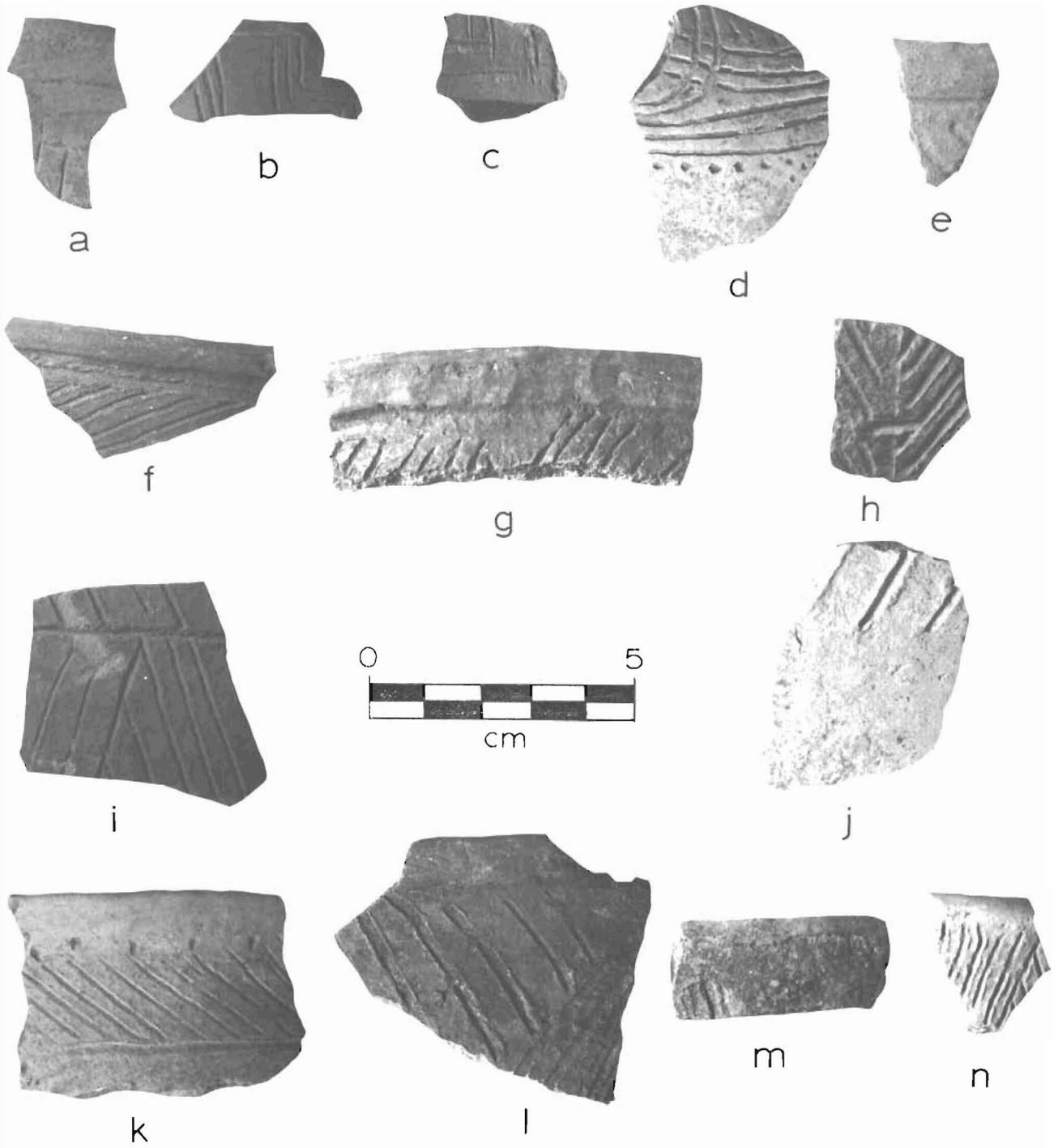


PLATE XXIII. Fatherland site ceramics: a-c, L'Eau Noire Incised *var. L'Eau Noire*; d, Marksville Incised *var. unspecified*; e-l, Mazique Incised *var. Manchac* (middle variant); m, Mazique Incised *var. Manchac* (late variant); n, Mazique Incised *var. Kings Point*.

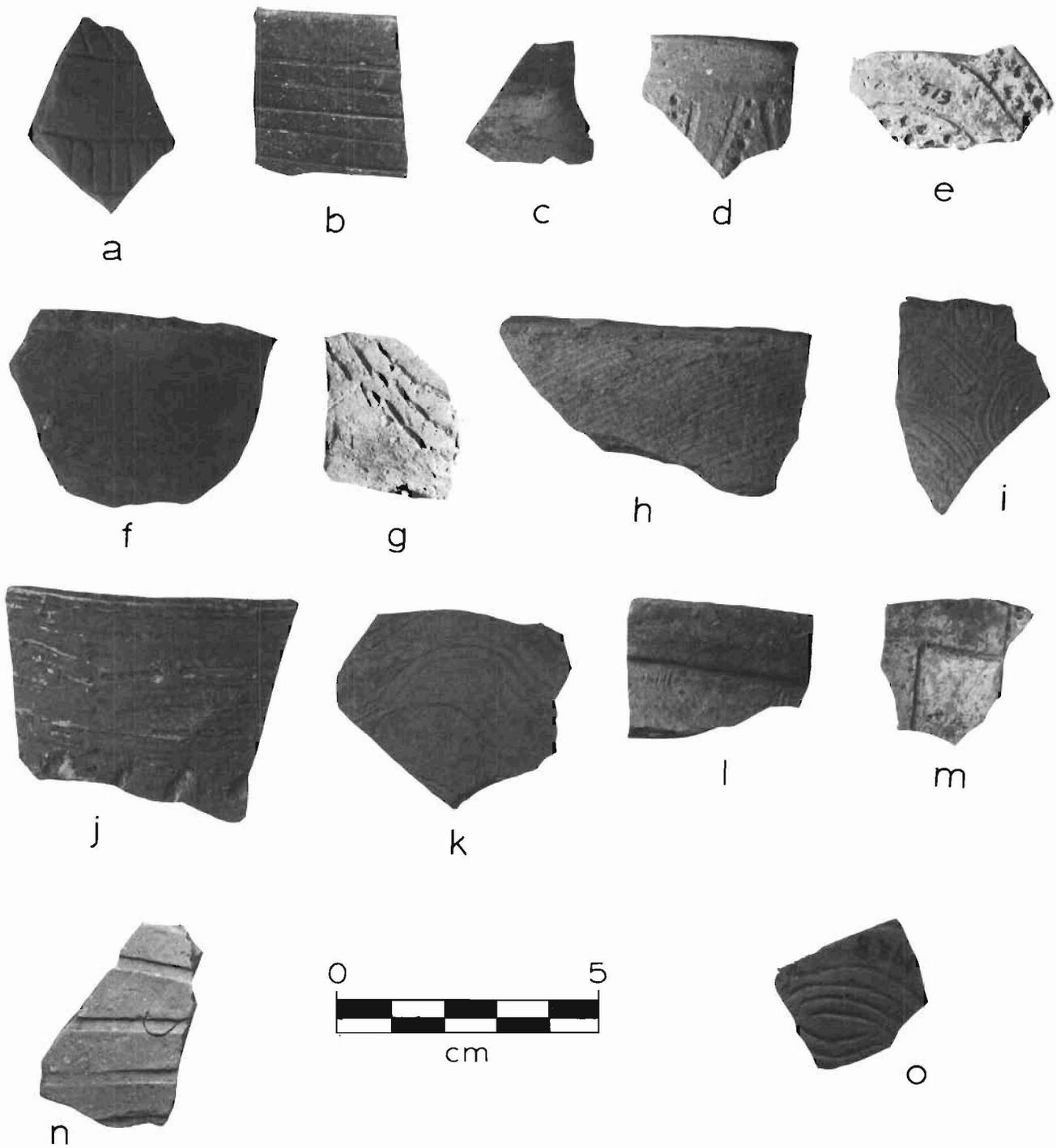


PLATE XXIV. Fatherland site ceramics: a, Medora Incised *var. Medora*; b, Mound Place Incised *var. Mound Place*; c, Nodena Red and White *var. Nodena*; d, Owens Punctated *var. Owens*; e, Owens Punctated *var. Menard*; f, Owens Punctated *var. Poor Joe*; g, Parkin Punctated *var. Transylvania*; h, Plaquemine Brushed *var. Plaquemine* (middle variant); Plaquemine Brushed *var. unspecified*; j, Plaquemine Brushed *var. Plaquemine* (late variant); k-l, Plaquemine Brushed *var. unspecified*; m, Quafalorma Red and White *var. Quafalorma*; n, Wihterville Incised *var. Belzoni*; o, Winterville Incised *var. Tunica*.

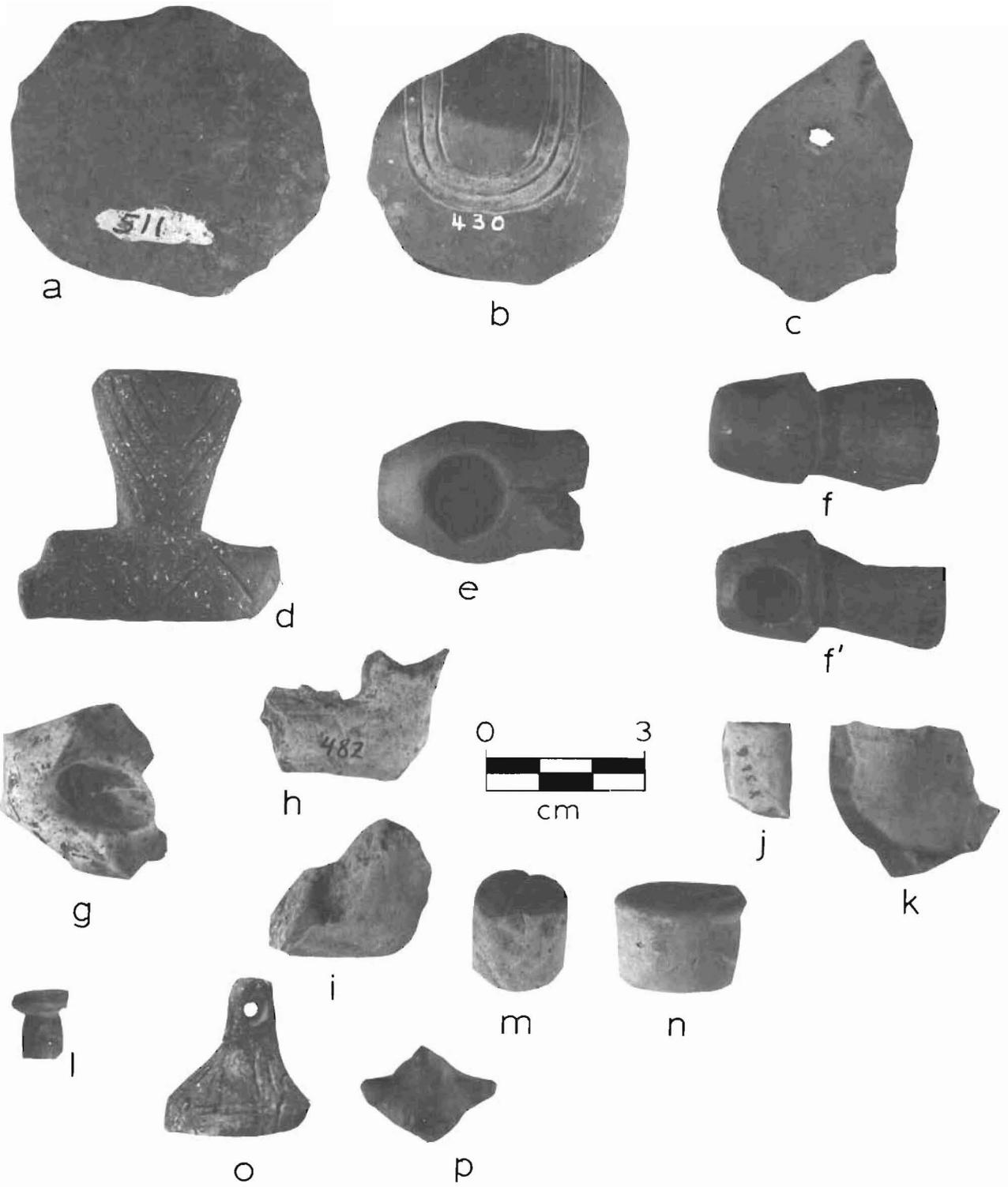


PLATE XXV. Fatherland site ceramics: a-c, pottery disks; d-i, k, tobacco pipes, l-n, j, ear or lip plugs; o, bell; p, modelled clay.

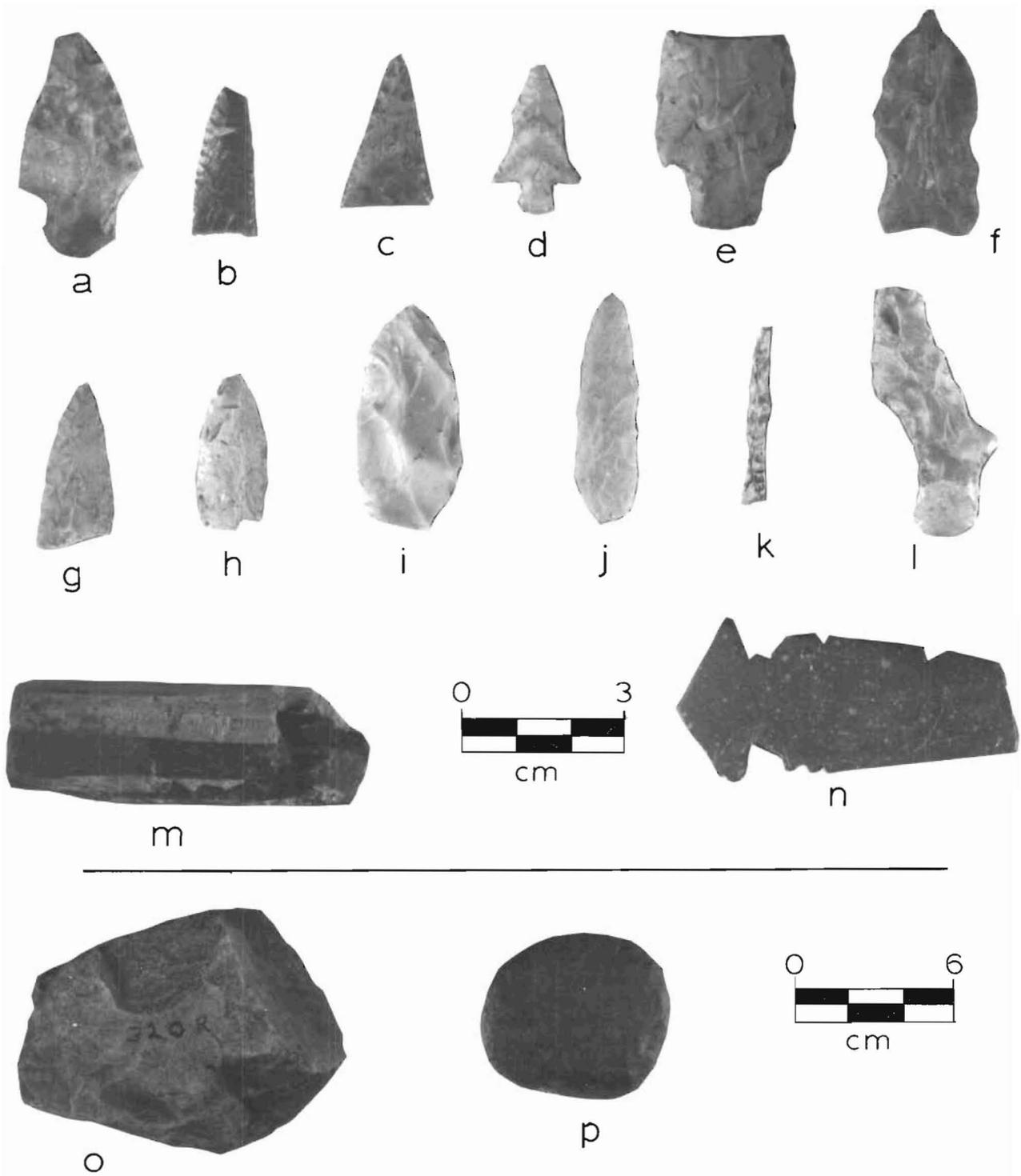


PLATE XXVI. Fatherland site lithics: a, Kent projectile point; b, Kinney projectile point; c, Madison projectile point; d, Alba projectile point; e, Nolan projectile point; f, Pandale or Carrollton-like point; g, Kinney fragment; h, unidentified; i-l, bifacial tools; m, ground petrified wood; n, Catlinite standard; o-p, hammerstones.

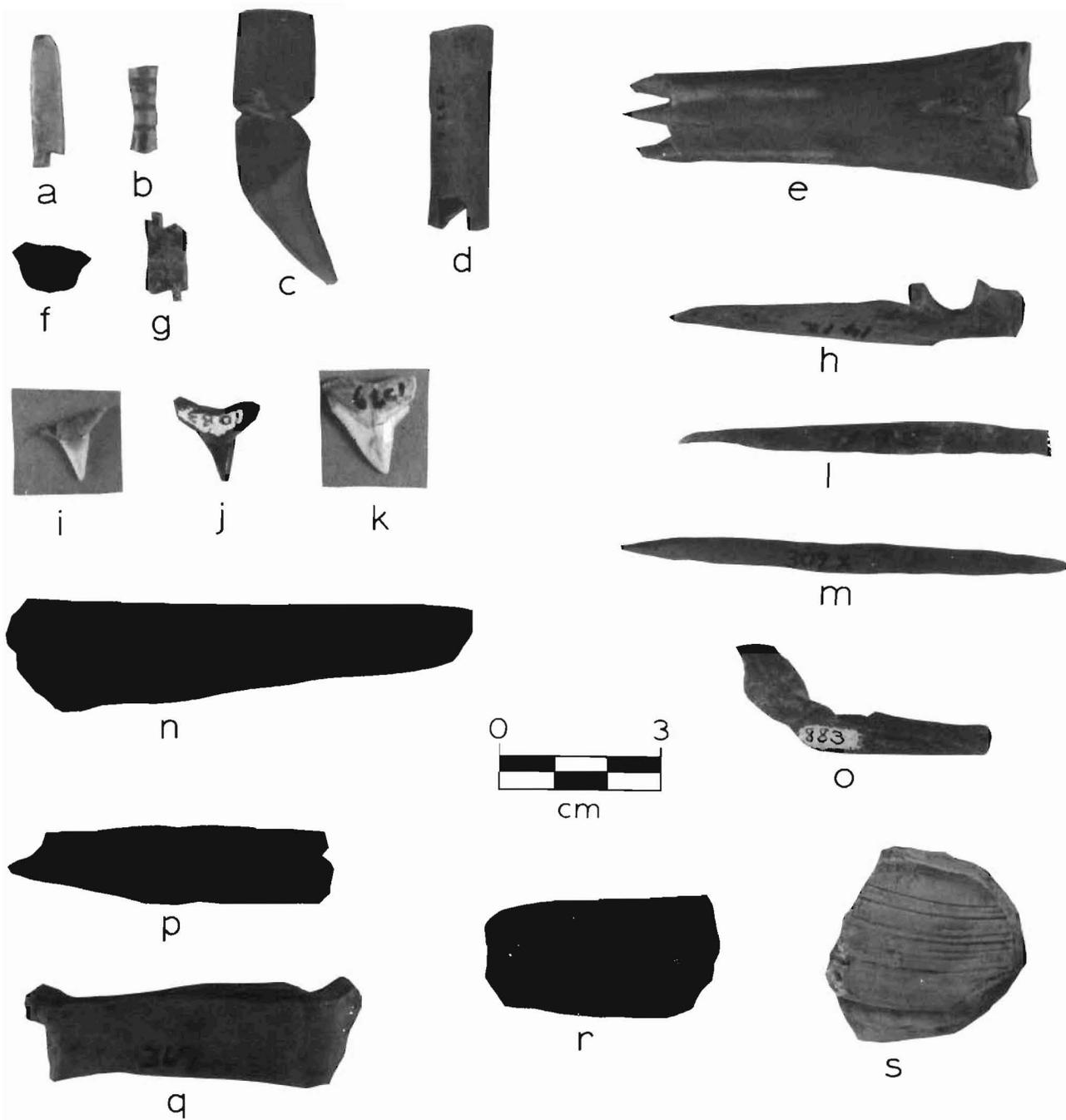


PLATE XXVII. Fatherland site bone and shell: a-b, bone beads; c, bear incisor pendant; d, bird longbone tube; e, deer metapodial scratcher; f-g, mudfish fused vertebrae; h, gray fox ulna awl; i-k, shark teeth; l, baculum awl; m, bone awl; n, deer antler flaker; o-p, bone exhibiting butcher marks; q-r, shell columella; s, shell disk.

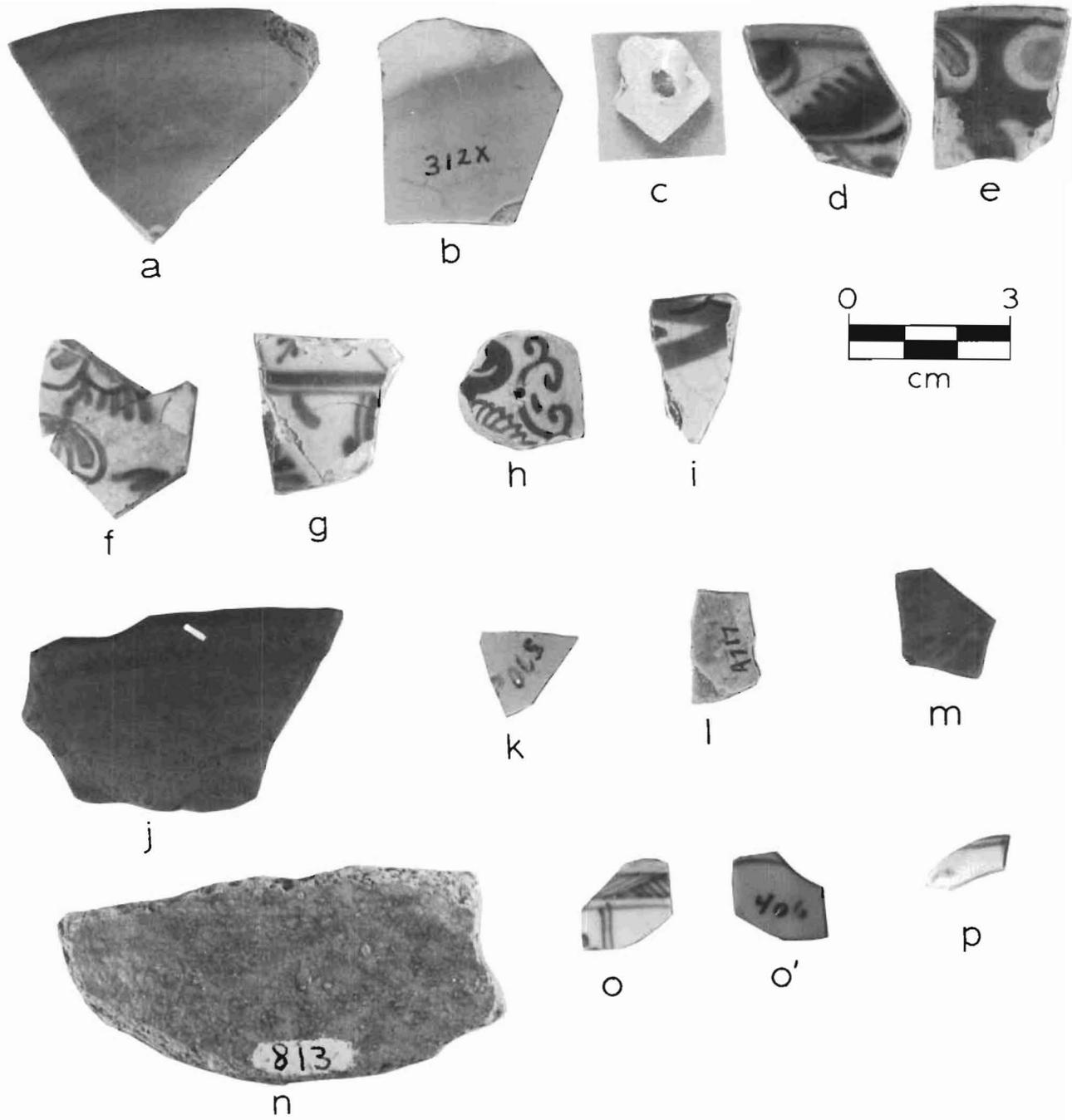


PLATE XXVIII. Fatherland site European articles: a-c, undecorated faience; d-i, decorated faience; j, unglazed earthenware; k, white glazed earthenware; l-m, unglazed earthenware with pink paste; n, green-glazed olive jar; o-p, porcelain.

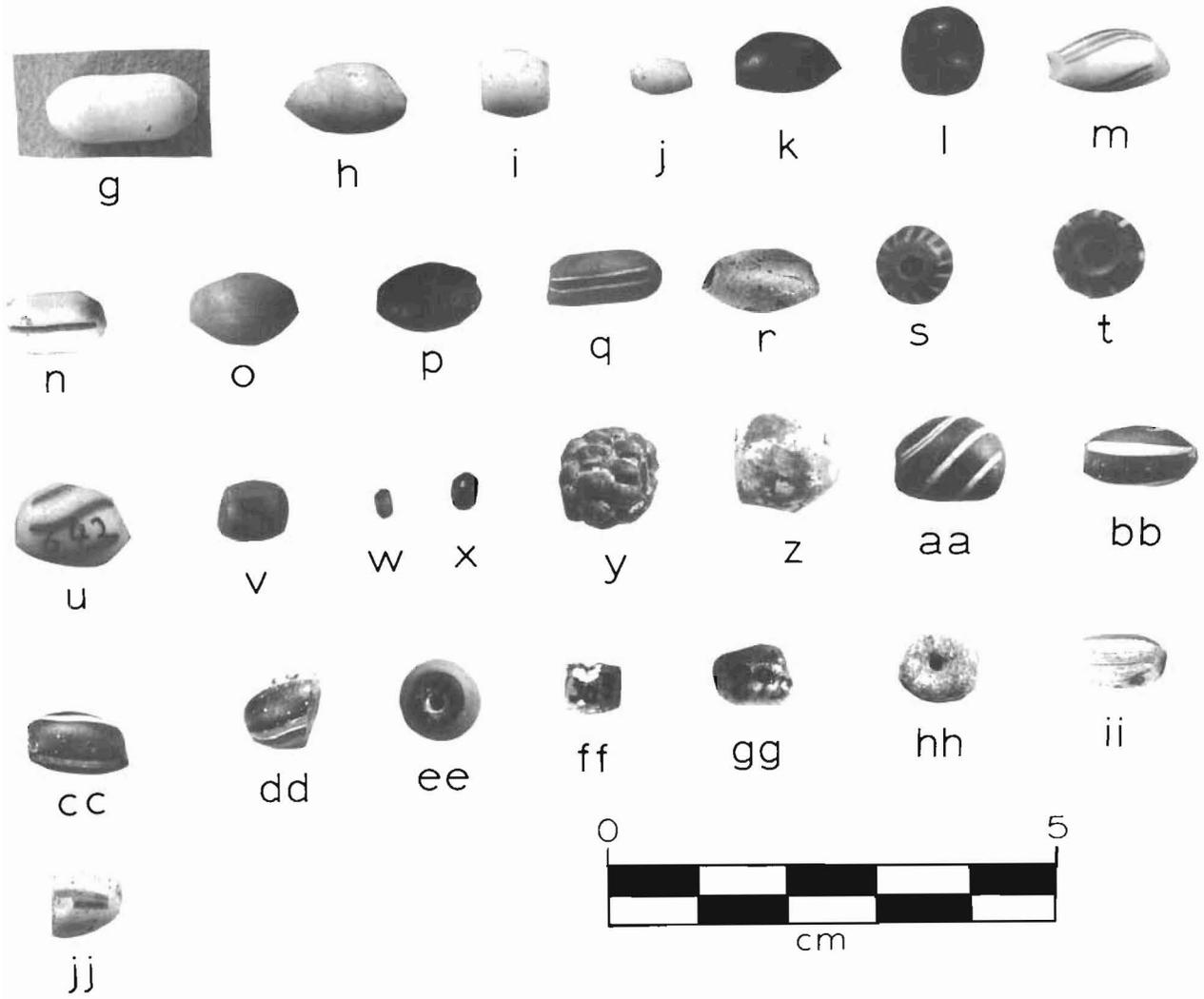
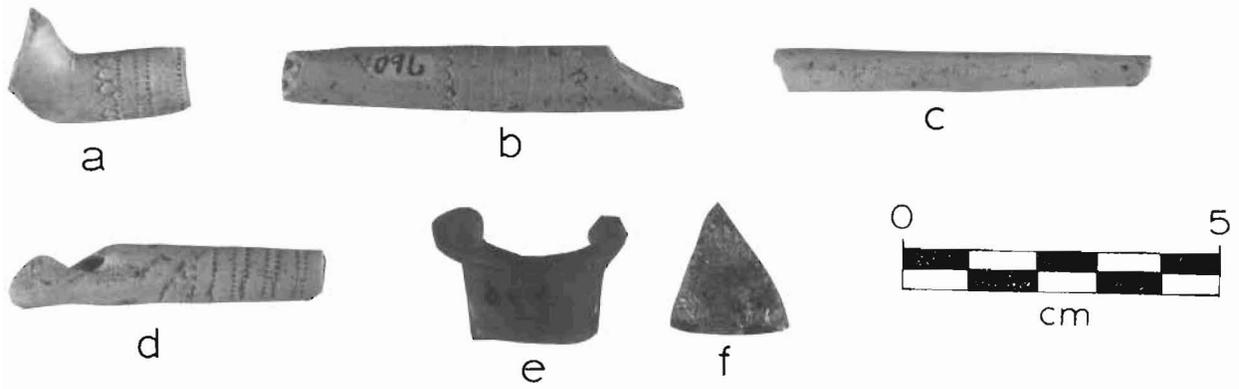


PLATE XXIX. Fatherland site European articles: a-d, kaolin pipe fragments; e, bottle neck; f, glass projectile point; g, bead type 1a; h, bead type 1b; i, bead type 1c; j, bead type 1d; k, bead type 2a; l, bead type 2b; m, bead type 3a; n, bead type 4; o, bead type 5; p, bead type 6; q, bead type 7; r, bead type 8; s, bead type 8a; t, bead type 9; u, bead type 10; v, bead type 11b; w-x, bead type 11a; y, bead type 12a; z, bead type 14; aa, bead type 15; bb-cc, bead type 15a; dd, bead type 15b; ee, bead type 16; ff-gg, bead type 17; hh, bead type 18; ii, bead type 19; jj, bead type 20.

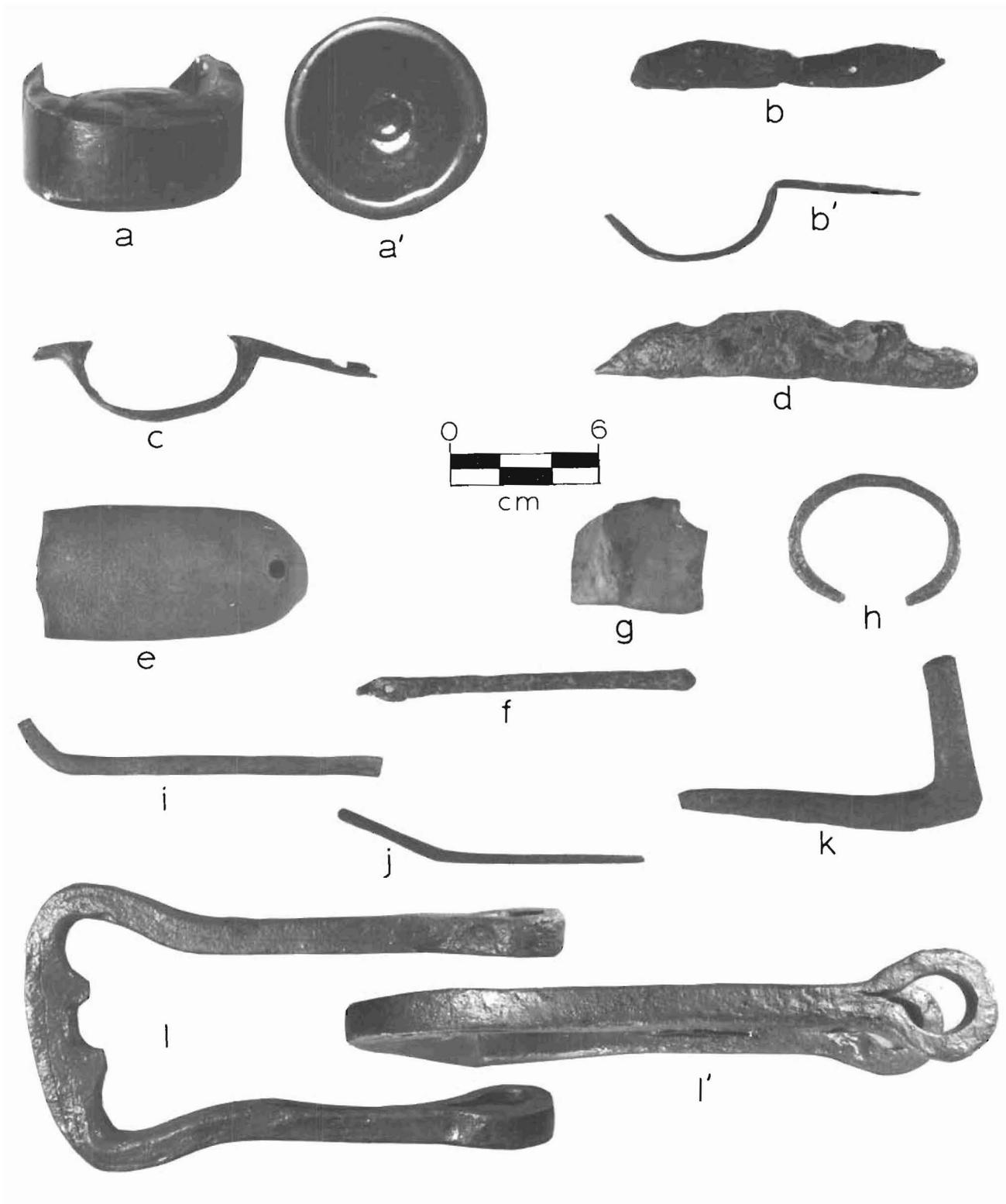


PLATE XXX. Fatherland site European articles: a, bottle base with pontil mark; b-c, trigger guard; d, lock plate; e, butt plate; f, gun or furniture hardware; g, i-j, unidentified iron; h, iron C-ring; k, iron pintle; l-l', iron clevis.



PLATE XXXI. Fatherland site European articles: a-b, ram pipe holders; c-d, gun triggers; e-f, gun cocks; g-h, trigger guards; i, side plate; j-k, finials; l-m, sword hilts.

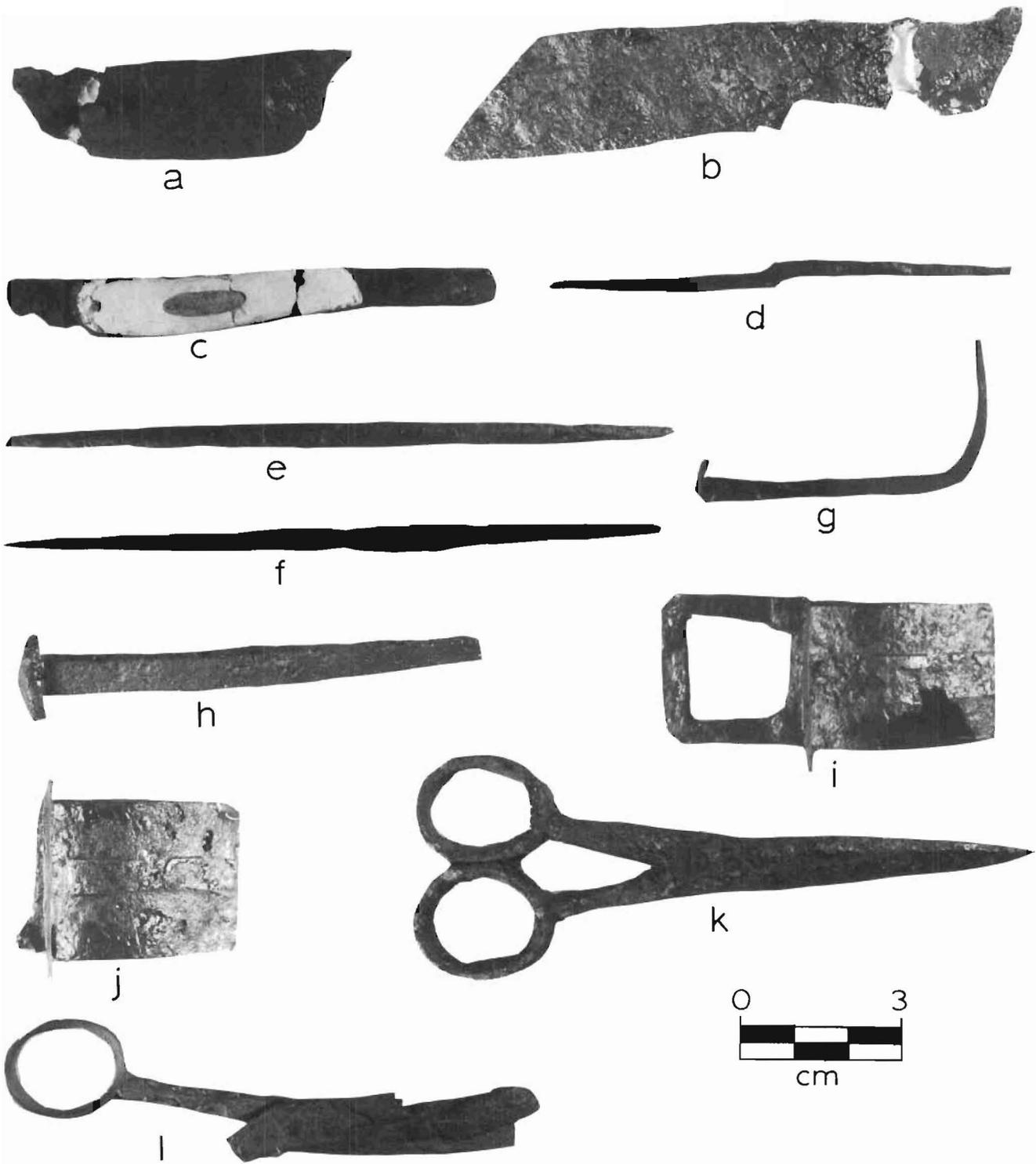


PLATE XXXII. Fatherland site European articles: a-b, knife blades; c, folding knife; d-f, awls or needles; g-h, nails; i-j, locks; k-l, scissors.

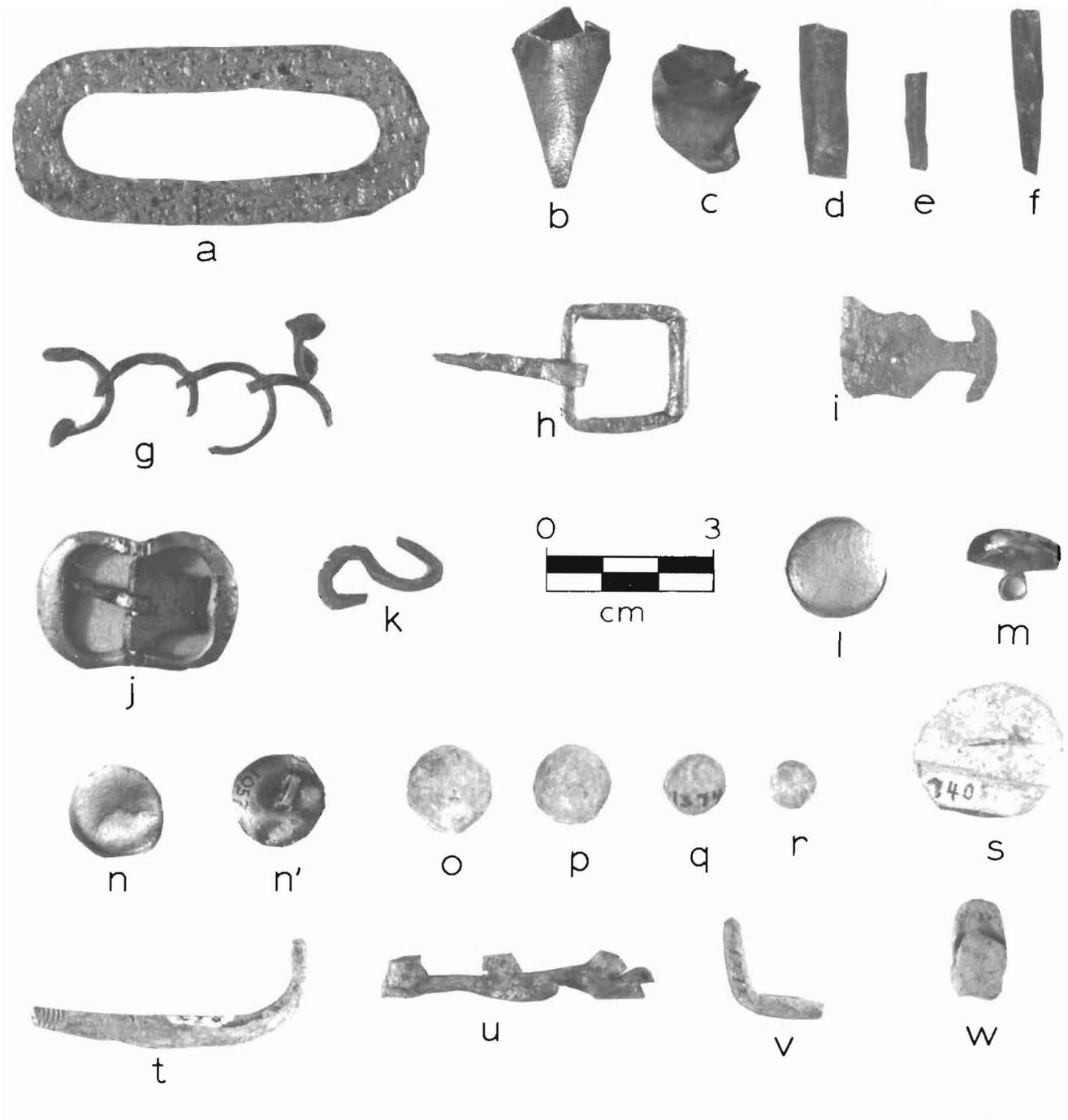


PLATE XXXIII. Fatherland site European articles: a, fire steel; b-f, tinklers; g, chain mail; h, iron buckle; i, iron part; j, brass buckle; k, belt hook; l, solid button; m-n, compound buttons; o-r, lead musket balls; s, lead disk; t, lead bar with striated ends; u, lead sprue; v, lead hook; w, lead gun cock bushing.

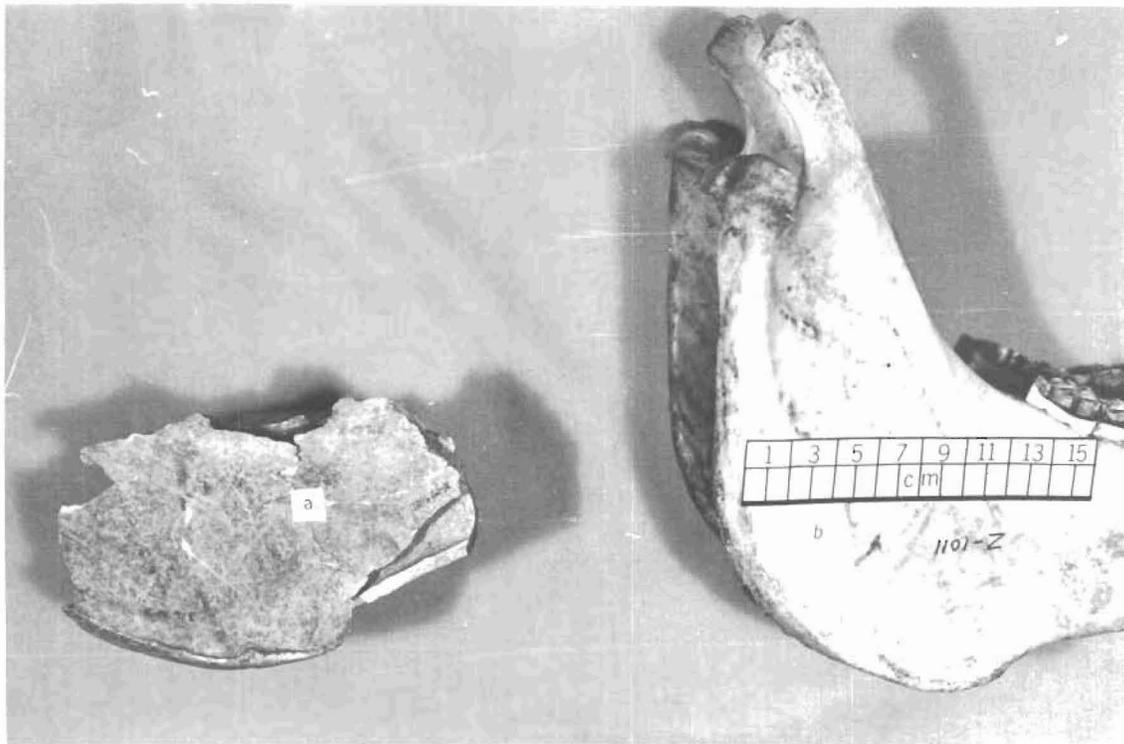
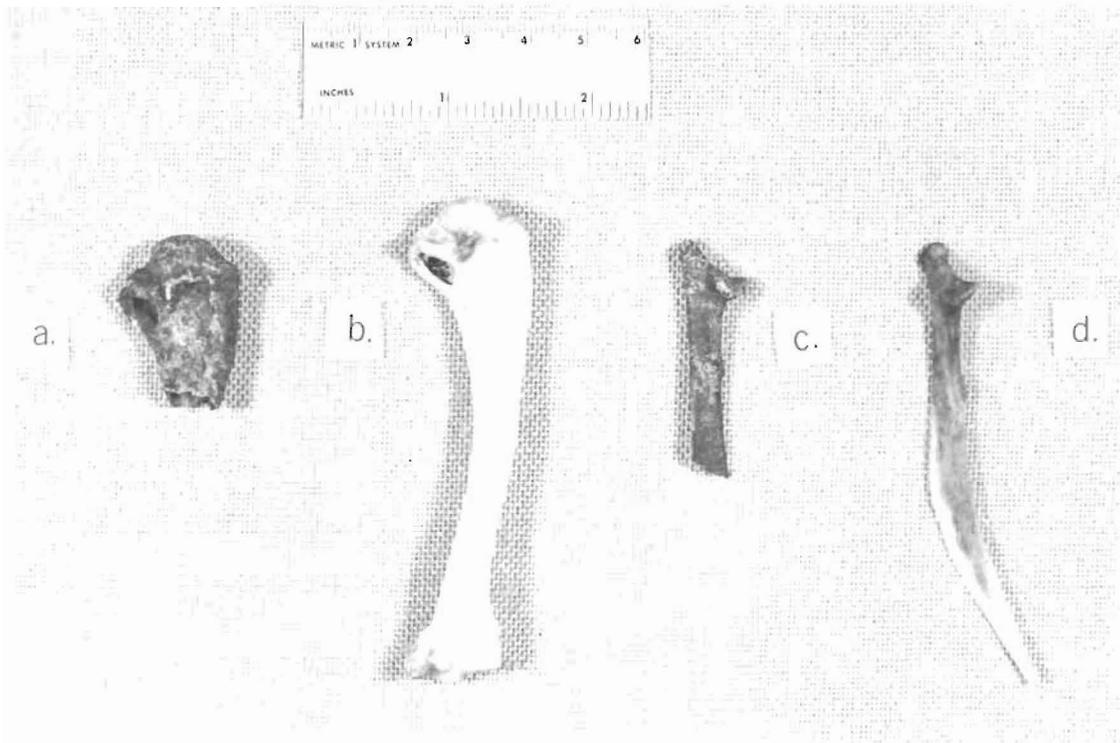


PLATE A.I. Chicken and horse bones. Upper: a, Chicken, Find 924a, proximal right humerus; b, Plymouth Rock male, right humerus; c, Chicken, Find 924a, proximal right scapula; d, Plymouth Rock male, right scapula. Lower: a, Horse, Find 316, right mandibular angle; b, Thoroughbred male, right mandibular ramus.

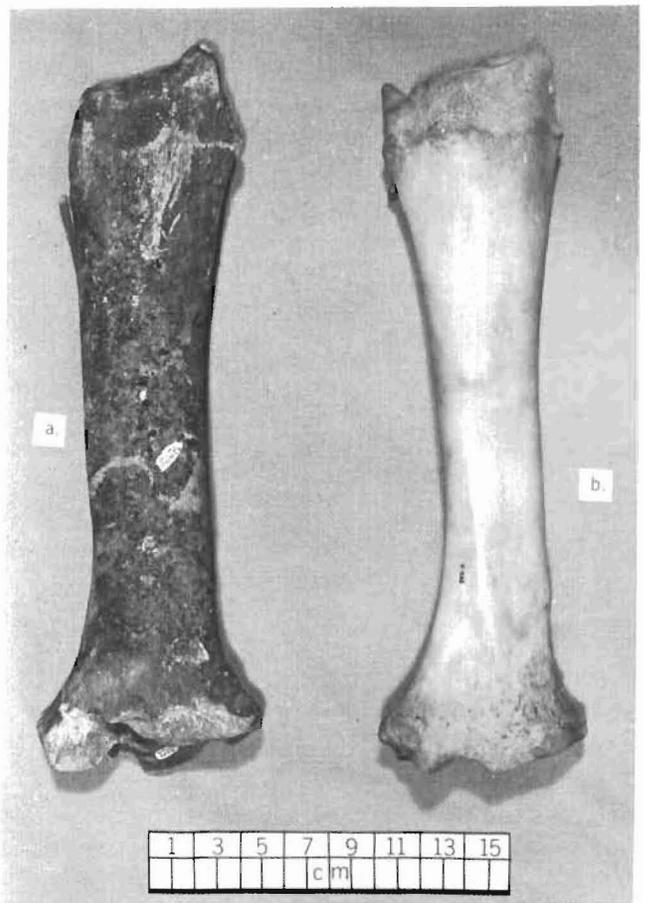
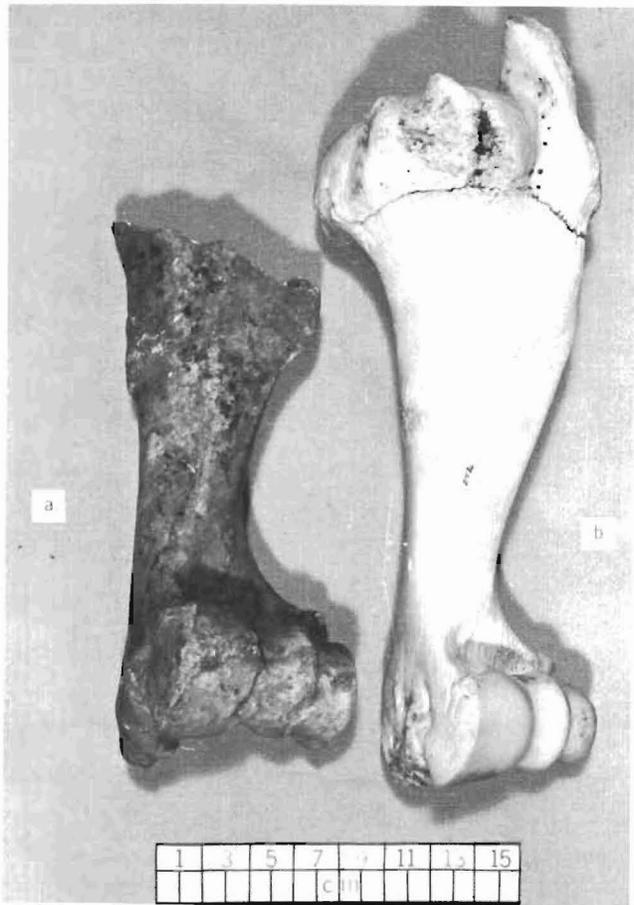


PLATE A.II. Cow bones. Left: a, Find 548, distal left humerus; b, Holstein female, left humerus. Right: a, Find 548, left radius; b, Holstein female, left radius.

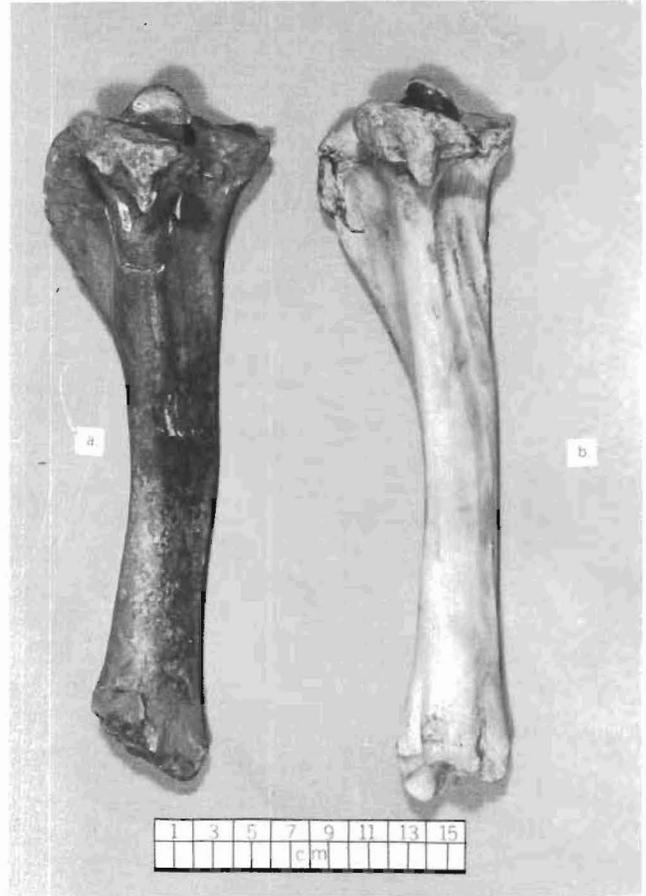
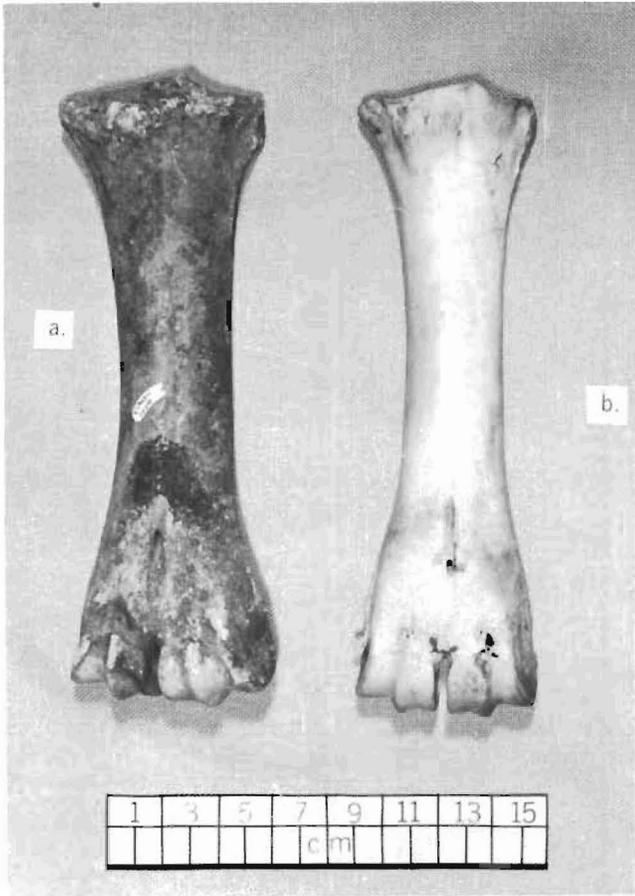


PLATE A.III. Cow bones. Left: a, Find 548, left metacarpal; b, Holstein female, left metacarpal. Right: a, Find 548, proximal left tibia; b, Holstein female, left tibia.

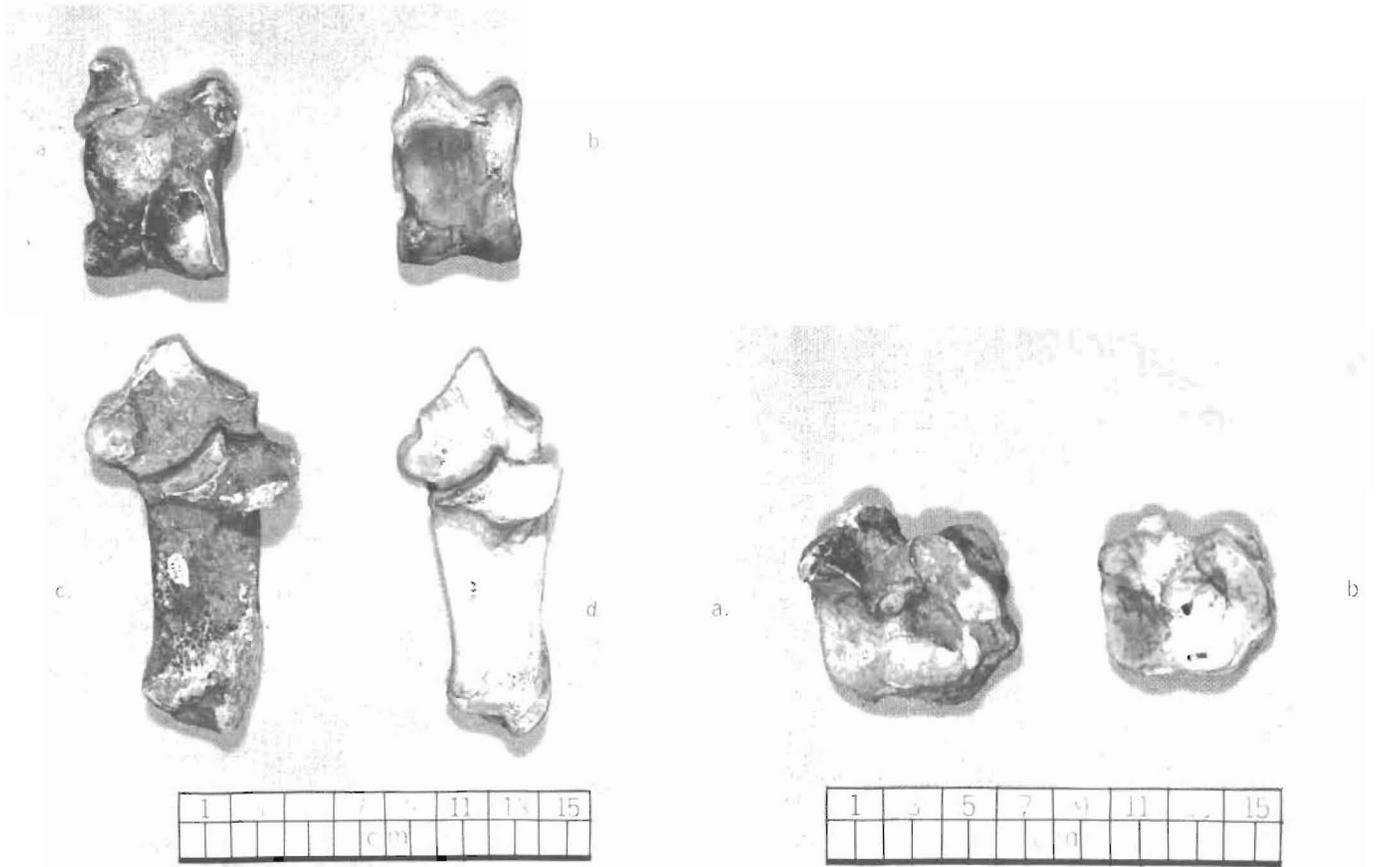


PLATE A.IV. Cow bones. Left: a, Find 548, left tibial tarsal; b, Holstein female, left tibial tarsal; c, Find 548, left fibular tarsal; d, Holstein female, left fibular tarsal. Right: a, Find 548, left fused central and fourth tarsal; b, Holstein female, left fused central and fourth tarsal.

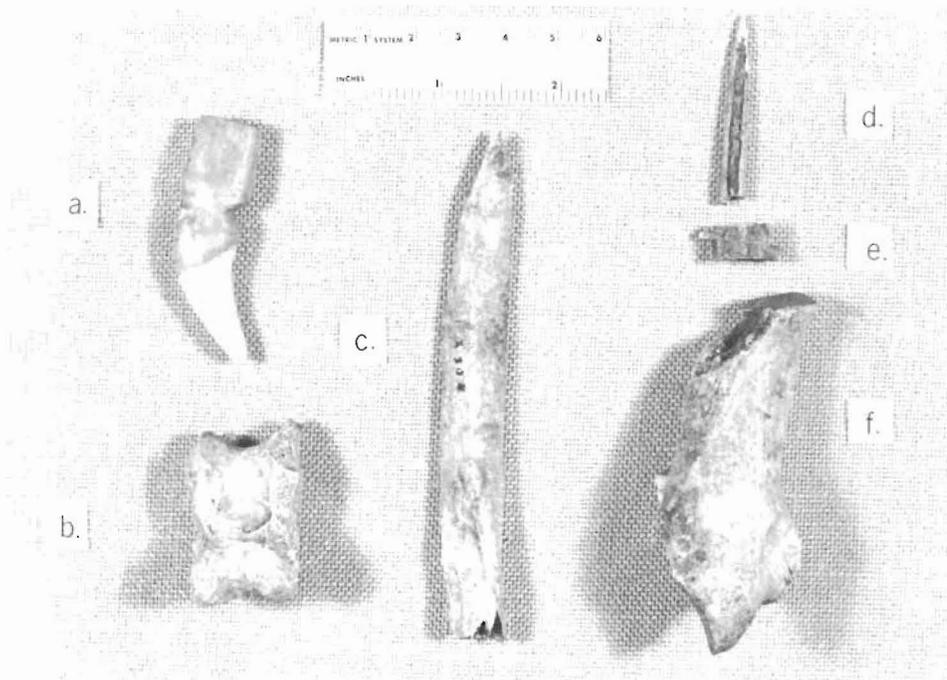
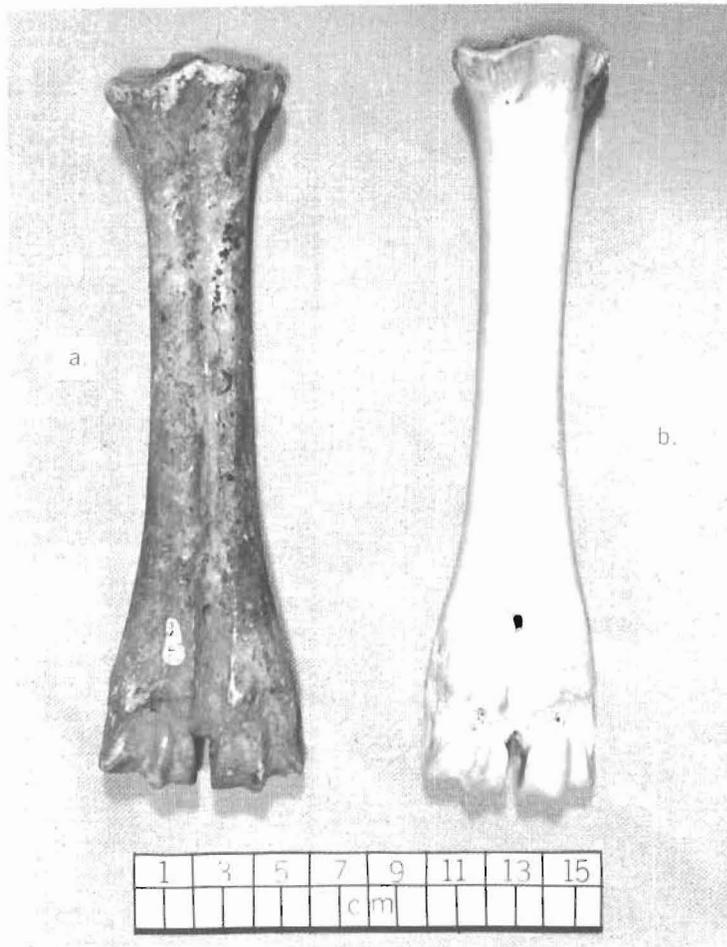


PLATE A.V. Miscellaneous bones. Upper: a, Cow, Find 548, left metatarsal; b, Holstein female, left metatarsal. Lower: a, Bear tooth amulet; b, Deer tibial tarsal exhibiting butcher marks; c, Bone awl; d, Bone awl; e, Mudfish vertebrae; f, right fibular tarsal exhibiting butcher marks.