CHRONOLOGY AND USE OF PUBLIC ARCHITECTURE AT THE MOUNDVILLE SITE: EXCAVATIONS IN MOUND Q

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Preface

In 1989, I initiated a ten year project to investigate the role of public architecture in the rise and florescence of a complex chiefdom centered at the site of Moundville, Alabama. As this site grew to regional primacy, there was an accompanying re-orientation and formalization of architectural space within its boundaries. Our preliminary evidence suggested that there were deliberate symmatries and a specialization of mound construction at points around the site's central plaza. In order to put such statements on a firmer footing, a detailed study of changes in the center's public architecture was required. The project was set up to to develop data on (a) the chronology of mound construction at the site, including the history of its formal aspect; (b) differing modes of public architecture associated with mounds and elite cultural activities pertaining to them; and (c) the probable organizational domains associated with mound architecture. We hoped that the project would fill important gaps in a long-term effort to understand the emergence of social ranking and economic stratification in one of North America's preeminent Mississippian cultures.

The present report deals primarily with the excavations in Mound Q over the period 1989-1994. It should be viewed as a companion volume to *Chronology and Use of Public Architecture at the Moundville Site: Excavations in Mounds R, E, F, and G* (Knight 1995a). The earlier, 1995 report resulted from a two-year grant made by the National Science Foundation (NSF award No. 9220568). The present report was made possible by a follow-up grant from the National Science Foundation (NSF award No. 9727709), also of two years' duration, awarded in 1998. The follow-up award enabled us to finish a backlog of final artifact analyses, botanical analysis, and faunal analysis. It also allowed us to complete the photography and illustration of artifacts and to bring the data entry in our computer database up to currency. Finally, it provided funding for two consecutive summer salaries allowing this volume to be written.

My intention is to allow these unpublished volumes to serve as basic statements on the mound project excavations until such time, hopefully not too far distant, as the information can be fully synthesized and published. This report on Mound Q supplants the brief interim report I prepared in 1992 (Knight 1992). Other aspects of the project are reported in as yet unpublished papers: one concerning the chronology of construction and use of Mounds H, I, J, K, and L (Knight 1989), and another concerning the dating of Mounds A, P, B, R, and S (Knight 1994). A third reports on Moundville Engraved cult designs on potsherds from the project (Knight 1995b), and a fourth synthesizes the new and old radiometric dates using a Bayesian approach to reconsider phase boundaries (Knight et al. 1999). Copies of these various papers are available from the author on request.

I am pleased to report that several of my students have participated in reporting aspects of the project. Robyn Astin (1996) wrote her Masters thesis on excavations in Mound M, Kristi Taft (1996) wrote a thesis on pottery vessel function in Mounds Q, G, and E, Julie Markin (1997) compared elite stoneworking on Mounds Q and G, and Elizabeth Ryba (1997) wrote a Masters thesis concerning pubic architecture on Mound E. Other graduate students I have supervised have used data from the mound project more tangentially in their thesis research. These include Hyla Lacefield (1995), Kevin Schatte (1997), Judith Gillies (1998), and Jon Marcoux (2000). Their

contributions to the project, along with many other students who participated in the field and laboratory work, have been tremendous.

Margaret Scarry of the University of North Carolina served as the project's paleobotanist, and Susan Scott and Edwin Jackson of the University of Southern Mississippi analyzed the faunal material. Their findings are included as appendices in this report, and are integrated into the main text as well.

I wish to thank John Yellen of the National Science Foundation for his support of our efforts. I hope that the forthcoming publications will be worth the wait, and will be of some value in our continuing efforts to understand the emergence and nature of social stratification in the prehistoric Southeast.

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July 31, 2002

Background to Excavations in Mound Q

Mound Q is one of the smaller mounds of the plaza-periphery group, located near the northwest corner of the plaza. It contains approximately 3,700 cubic meters of earth. Because it rests on sloping ground that falls abruptly to the west, its height above ground level varies from 3.8 to 5.5 meters, greatest on the southwest side. By all appearances Mound Q is well preserved on the west, south, and east sides, possessing intact corners and flanks that preserve its quadrilateral

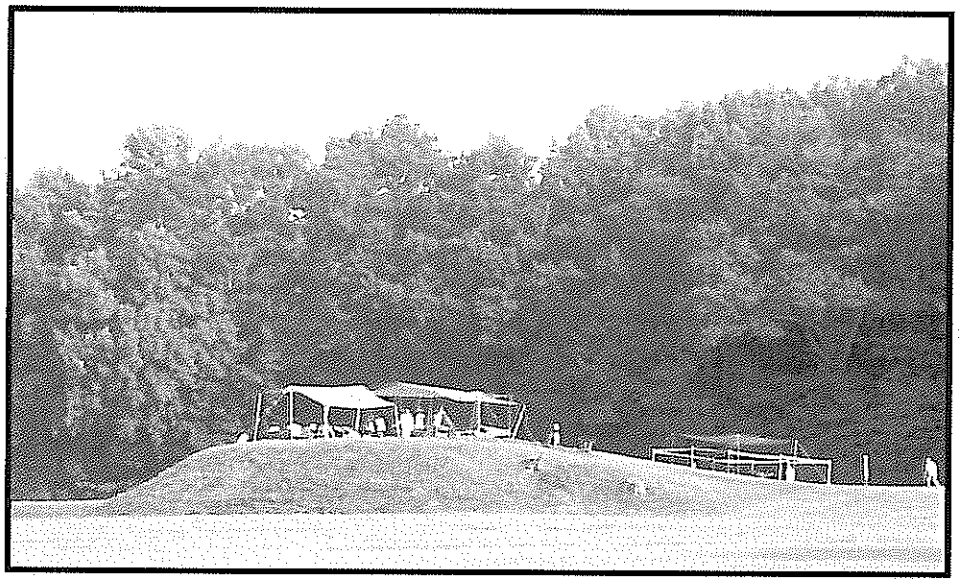

Figure 1. Mound Q, from east, summer 1992, showing graded north flank to right.

plan. Rounding the mound to the north, however, a single great disturbance comes into view. It appears that the whole of the northern flank and part of the summit has been artificially graded down to a shallow contour (Figure 1).

Mound Q has had this appearance for at least 90 years. It is depicted in exactly this manner on Clarence B. Moore's published site map made during his visit in 1905. Moore readily perceived that this was a post-aboriginal disturbance, describing the modification as having the appearance of a roadway leading to the summit, "presumably for a house that may have occupied the plateau in recent times" (Moore 1905:219). Although his description of the graded way is accurate, Moore's conjecture about a former house is probably in error. In our extensive summit excavations we encountered but few historic artifacts of any kind and nothing to indicate the remains of a house. Therefore we must fall back upon a second conjecture, that the summit and northern flank of the mound were graded down as a source of fill dirt some time in the nineteenth century. The earth must have been entirely removed, since profiles of our flank excavations on this side give no indication that the soil was spread out to the north. If our conjecture is right, it is fortunate that Mound Q is the only mound at Moundville that has been mined as a source of fill in this way. Moore further states that this mound had not been cultivated, a remark borne out by our own observations.

To retrogress just a bit further in time, we also possess a plan and crude profile sketch of Mound Q made by James D. Middleton, Cyrus Thomas's field agent for the Bureau of American Ethnology, in 1882. Fortunately, Vincas Steponaitis (1983b:147) located and published the Middleton material. From various internal clues in Middleton's notes, it is not difficult to discern that Mound Q is equivalent to his mound No. 11. Middleton's profile, which shows a regular truncated pyramid, is oriented east and west and therefore gives us no information about the existence of the northern disturbance in the 1880s. Of more interest in these notes is the fact that the BAE field agent sketched a lens-shaped "pond" at the foot of Mound Q to the west and southwest, opposite the plaza side (Figure 2). Other early maps show that this was a low, swampy area of the site prior to being permanently drained by the Civilian Conservation Corps in the 1930s. It is thus possible that there was an aboriginal borrow pit close to the toe of Mound Q. As we shall see, there is some corraborative archaeological evidence of a filled-in depression in the base of our western flank trench.

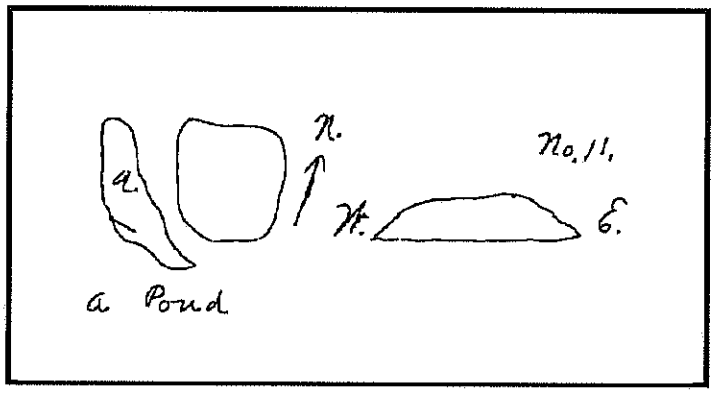

Figure 2. James Middleton's sketch plan and profile of Mound Q, 1882.

The modern topography of Mound Q was mapped with a transit in July of 1989 by the author, assisted by Dr. Richard A. Krause acting as rod man. The resulting contour map (Figure 3) shows the regular quadrilateral features of the mound on the southern side and the gently sloped, graded down character of the north flank. It also gives a good indication of the extent to which the summit plateau was affected by the historic grading. The summit has had an asymmetrical bite out taken out of it, leaving reasonably intact, at least by inspection, the southern section and a narrow ridge-like remnant on the western crest.

Mound Q was chosen as the introductory subject of our program of mound excavations for more than one reason. A first concern was to verify one of the primary regularities in the site layout, first expressed by Peebles (1971), that the plaza-periphery mounds alternate between those containing burials and those not containing burials. If such a pattern were found to be real and not merely a quirk of C. B. Moore's sampling procedures, that fact would form a strong buttress in an argument for centralized site planning. The problem was, at the beginning of our work, Mound Q was an exception to the proposed pattern. Lying between two large mounds, P and R, which lacked burials according to Moore's work, Mound Q should have yielded them. Yet, as of 1988, it had not.

This lack of burials in Mound Q clearly puzzled Moore (Knight 1996:10). Nine "trial holes" were placed in the summit in 1905. Moore surely noticed that other smaller mounds resembling Mound Q that bordered the east and west plaza margins, Mounds F, H, and O, did contain numerous well-endowed burials. Moreover, trial holes from his 1905 season's work encountered "rich soil in places, which often indicates the presence of burials" (Moore 1905:219).

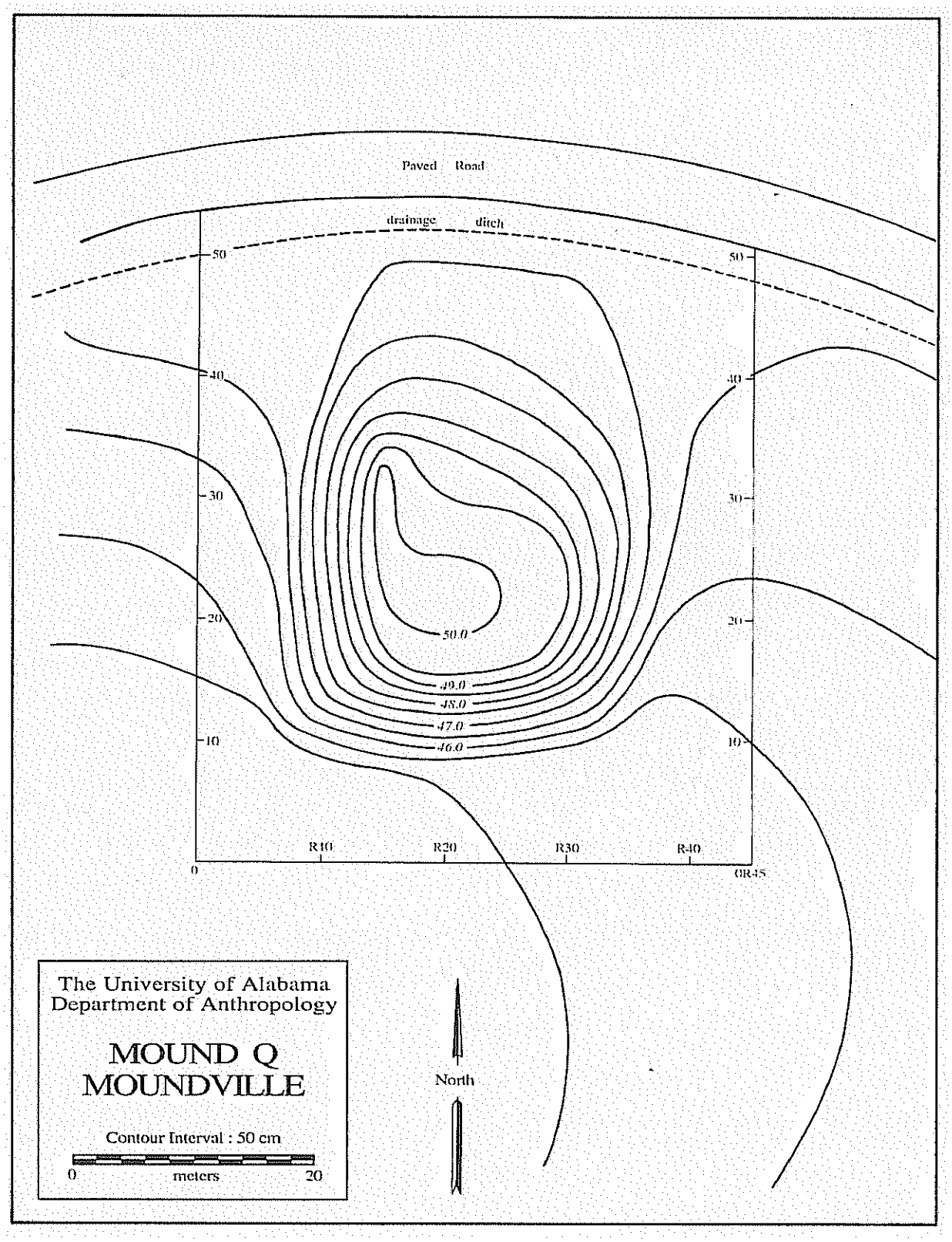

Figure 3. Contour map of Mound Q.

It is difficult to discern from a modern perspective exactly what he means here. This tell-tale "rich soil" perhaps describes organically stained burial pit fills that stood out against lighter matrices of clayey mound fill. Then again Moore was fully aware of pit features in other circumstances, routinely calling them "aboriginal disturbances" in his publications, and he did not use that phrasing in this instance. Thus he probably meant instead that mounds such as C, D, F, H, and O were possessed of relatively loamy upper strata which set them apart from the other mounds. At any rate, as though to fortify his suspicions, one of Moore's 1905 trial holes in Mound Q offered up a complete sheet copper ornament, unassociated with a burial. This copper artifact was a small disk with fenestrated scallops forming a six-pointed star-like device, very much like copper disks found the same season with burials in Mounds C, H, and O. The only other artifact Moore reported was a large owl adorno from the rim of a pottery vessel, very similar to one found in our work on Mound E.

His appetite whetted, Moore returned to Mound Q in November of 1906 looking for the elusive burials he felt he had missed the previous year. Moore chose to return to this mound only; all other work of the 1906 season was directed to off-mound localities. And yet the results were the same as before. There is a faint air of frustration in Moore's comment that on his follow-up visit, "the summit plateau of Mound Q was *fairly riddled* by us with trial holes" (Moore 1907:337, emphasis added). On all other occasions Moore is careful to tell us precisely how many trial holes there were.

Mound Q lay dormant between 1906 and 1988. Thus, if we were to demonstrate a regular alternation between mounds used for burial and mounds not so used, it was our burden to determine whether Mound Q did in fact contain human interments. For ourselves, as for Moore, the finished sheet copper ornament reported from Mound Q was a clue strongly suggestive of an unrecognized burial. As subsequent work would confirm, finished copper artifacts are simply not found in middens or pit fills apart from burials, even in elite contexts. Our second field season in the fall of 1990 settled the issue. To nobody's surprise, human remains were found in secure context. Moore had indeed missed the evidence, but in retrospect, owing to the fact that human remains are so thinly scattered here, it is easy to see why.

Our research design called for horizontal exposure of summit architecture from two plaza-periphery mounds, one selected as representative of the category of smaller mounds possessing burials and one selected from the category of larger mounds lacking them. After affirming that Mound Q did contain human skeletal remains, as anticipated, and having already collected stratigraphic information concerning its later construction history during the initial field seasons, it made sense simply to expand the work already begun. If this were indeed a "temple" mound, it was desirable to know what such a building looked like and what kinds of artifacts might be found associated with it. To that end we embarked on a protracted effort lasting through December of 1994.

Logistical concerns of lesser moment favored the choice of Mound Q for expanded excavations. One factor was the close proximity of the bunkhouse, a beloved little edifice at Moundville Archaeological Park that served as headquarters, classroom, field lab, and equipment storage building for the project's duration. Daily setup time devoted to trucking equipment and

crew to and from the excavation area was thus minimized, a fact especially appreciated during the summer season of 1992 when a large crew was encamped on the bunkhouse grounds. A second consideration was the availability of running water, a resource of precious value in an operation of this magnitude. For Mound Q running water was obtained by running ten lengths of 50-foot garden hose to a spigot at the nearby museum. It was an awkward solution, as the hose had to be taken up on a daily basis in deference to the Park's mowers, but nonetheless well worth the trouble.

We divided excavations in Mound Q into four separate operations, each having a different purpose. These are shown on Figure 4. First was a trench into the west flank, deployed to determine basic mound stratigraphy and to isolate deposits of off-mound debris. This west flank trench was begun in the fall of 1989 and work on it was prosecuted until the fall of 1992. Second, and more time consuming, was a block excavation on the summit, six by ten meters in extent, devoted to the horizontal exposure of architecture. This summit block was initiated in the fall of 1990 and was completed in the fall of 1994. Third was a minor test of the east summit consisting of two conjoined 2 x 2 meter units, excavated, recorded, and backfilled during the summer of 1992. Fourth was an extensive excavation into midden deposits encountered on the north flank.

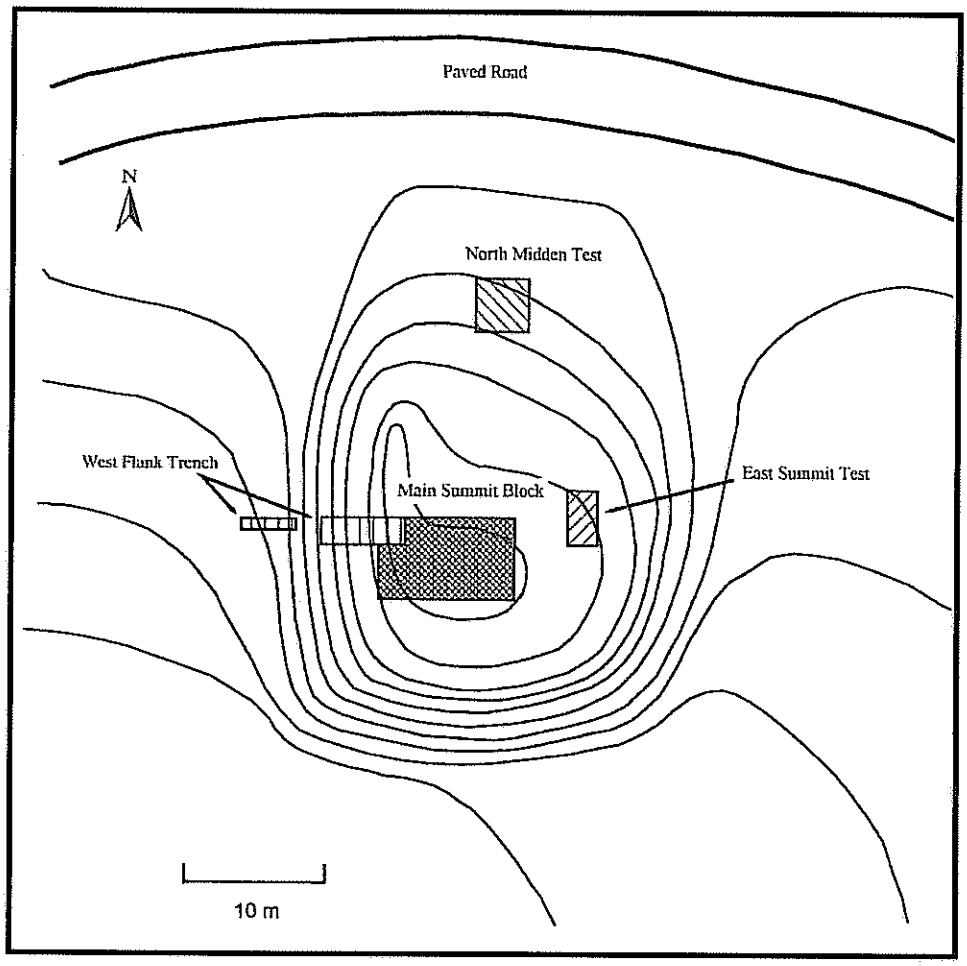

Figure 4. Locations of Mound Q excavations, 1989-1994.

This consisted of four conjoined 2 x 2 meter units, begun in the fall of 1990 and closed out in the fall of 1994.

West Flank Trench Excavations

Preparations for our initial work on Mound Q were made during the summer of 1989. The first task was to remove an adventitious cedar tree, dating from the early 1960s, from the east flank of the mound. Following that, new contour maps of Mounds P and Q were prepared and baselines for individual grid systems were put in place for each, despite the interference of a tangle of brush that had been allowed to grow up on these mounds.

As a brief aside, the reason we included Mound P in this preparatory effort was because a small trench into its eastern flank at the base still lay open at the time, a product of Dr. Boyce Driskell's field school from the previous year. As Dr. Driskell's trench had intercepted slope deposits of considerable interest, we explored the idea of expanding his trench laterally as a possible adjunct to the nearby Mound Q work in the fall semester. A key variable in determining the feasibility of this plan was to be the size of the fall 1989 field school enrollment. As work began at Mound Q, it quickly became apparent that the class size was simply too small to conduct a simultaneous satellite excavation at Mound P, no matter how close by. Thus the Mound P plan was quietly dropped, and the exposed trench was backfilled somewhat later.

A decision made at the outset of the project was to employ separate grid systems for each mound independent of the master site grid, the latter conforming to the grid lines of the Universal Transverse Mercator (UTM) system. The idea is that quadrilateral architecture is most effectively dealt with by using a grid conforming to that architecture's orientation. Accordingly, a zero baseline was emplaced south of Mound Q, running parallel to its southern flank. The ends of the baseline, forming the southeast and southwest corners of the Mound Q grid, were defined by three-foot sections of one-half-inch steel rebar, driven flush into the ground at grid points 0R0 and 0R45. These permanent grid points can be relocated with little effort. With the Mound Q grid in place, the student crew arrived and fieldwork began on August 31, 1989, starting with the clearing and close mowing of the mound. The west flank trench was staked off, vertical datum stakes were put in place with elevations taken from nearby benchmarks, and ground was broken on the 5th of September (Figure 5).

Stepped flank trenching was to be the bread and butter of our effort to define and date mound constructions sequences in a minimally intrusive way. A protocol for such trenching was worked out in advance, and the initial trench into Mound Q was our first test case. Here was the opportunity to see if it worked as envisioned, and to refine the procedure before applying it to other mounds. As spelled out in our initial research design, the aims of the trenching were these: First, to penetrate the mound flank to the extent practicable and to radiocarbon date each major construction episode we encountered. Second, to intercept and sample talus deposits representing off-mound debris from summit activity. Prior experience showed that it was unrealistic to expect in situ deposits on structure floors on mounds. More often than not, mound-top structures were kept fairly clean of floor debris. Thus any hope of amassing quantities of artifacts from summit activities would have to come from slope deposits. Ideally, we would expect to recognize slope

middens corresponding to each major level of summit activity, sandwiched between contrasting layers of mound fill.

Figure 5. Breaking ground, west flank trench.

A requirement of this approach is that the refuse deposits on the mound flanks be recognized unambiguously and kept separate from redeposited mound fill soils. Each trench would therefore consist of two parts: first, an exploratory *reference trench* one meter wide and excavated largely by arbitrary levels; second, an adjacent *control trench*, also one meter wide, excavated entirely by reference to strata revealed in profile by the reference trench. Soils from the flank middens would be screened through 1/4-inch mesh, at the same time extracting liberal soil samples of standard size for fine screening and flotation.

In the case of Mound Q, the decision to trench into the west side was based on a somewhat tenuous prediction that refuse dumping from summit activities would be more frequent opposite the plaza side than on the presumptive "front" side facing the plaza. This expectation was bolstered by limited evidence from an analysis of Depression-era trenching into Mounds I, J, K, and L (Knight 1989), hinting that slopes opposite the plaza did consistently receive more debris than the plaza side. In retrospect, this flimsy notion turned out to be false for Mound Q, but the west flank trench nonetheless did its duty in fine form, supplying discrete flank deposits that yielded the needed information.

Figure 6 shows the layout of the west flank trench units, highlighting the reference trench and the control trench. Work on the reference trench began in two discontinuous segments stepped into the mound, one near the summit and the other at the toe. Figure 7 shows the reference trench near the end of the 1989 season, after which it was backfilled between seasons to preserve the profiles. This backfill was removed as work resumed with a somewhat larger crew of students in the fall of 1990. As the reference trench was deepened somewhat and its profiles were recorded, it became clear that only the upper six meter-long trench segment showed the anticipated stratigraphic complexity. Therefore this upper segment only was expanded laterally as the control trench. Figure 8 shows initial work on the control trench as it appeared near the end of the 1990 season. After a hiatus in 1991, during which time exploratory units were being placed in the summit, work on the west flank trench was resumed, and completed, in 1992. In that year the protective backfill placed in the upper trench segment was yet again shoveled out. The now damaged north-facing profile of the reference trench was cut back to a fresh face and recorded a second time, revealing new stratigraphic details,

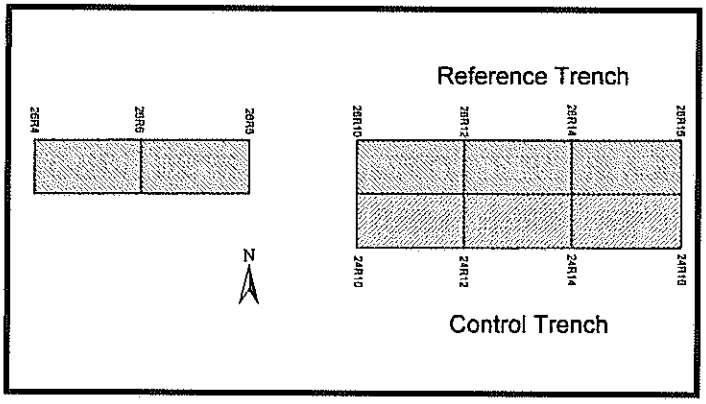

Figure 6. Layout of west flank trench, showing reference trench and control trench. Units are 1 × 2 m.

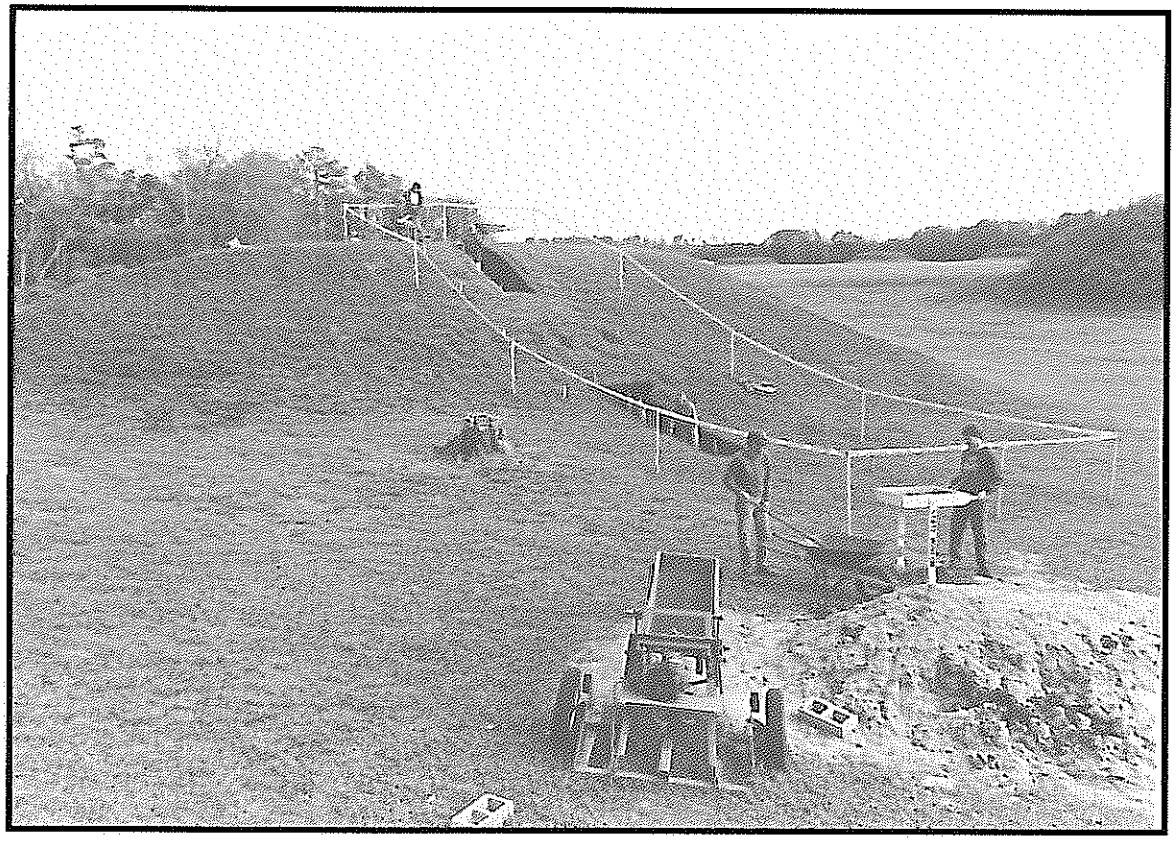

Figure 7. West flank trench, work on reference trench, fall 1989.

and a final two-meter segment of the control trench was excavated. Figure 9 is a photograph of the north profile of the reference trench at the top of the mound, as this profile appeared in the summer of 1992 when it was cut back, re-troweled, and re-recorded.

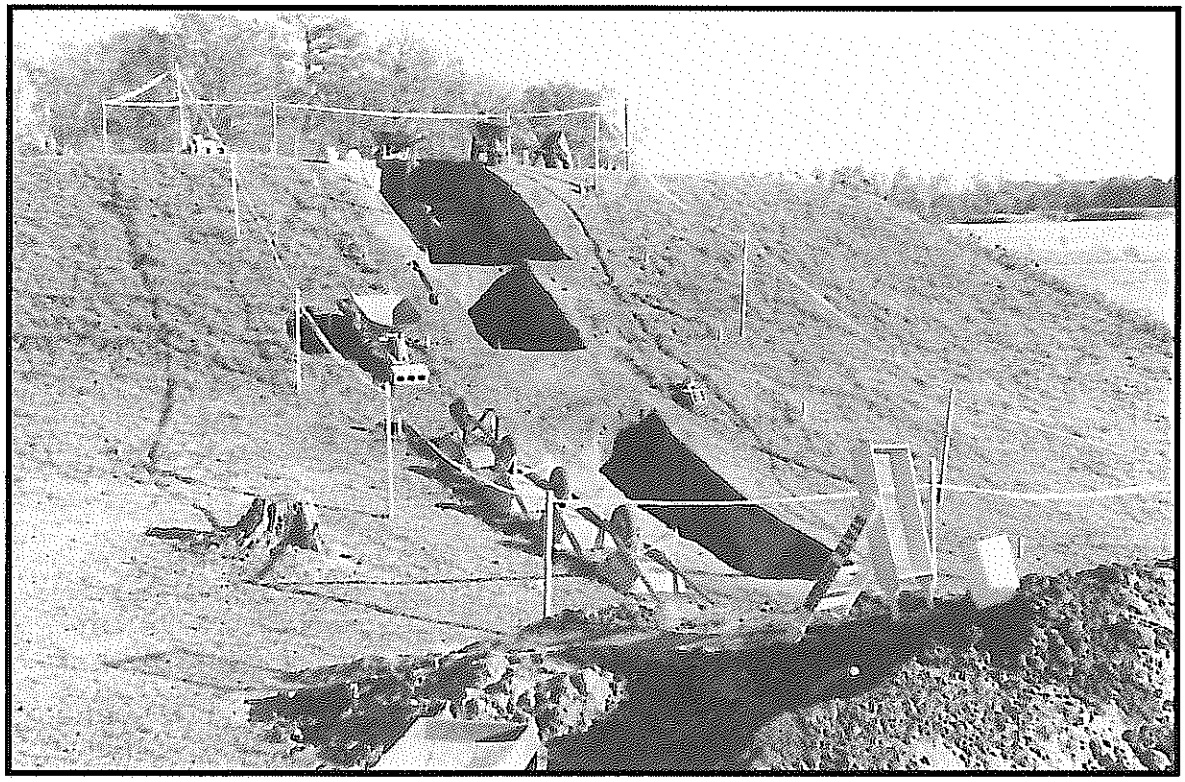

Figure 8. West flank trench, showing work on control trench, fall 1990.

Reference trench profiles from the upper mound are reproduced in Figures 10 and 11. Here we present the north and south profiles of the upper six-meter segment, which differ one from the other in certain important details. Discussion of the simpler stratigraphy of the four-meter segment at the toe of the mound can deferred until after we examine the more complex upper segment. By the end of the second season's work we were aware of at least three major construction episodes in Mound Q's later history. These were given temporary alphabetical designations. By 1992 this number had been amended to five major stages. The letter designations were dropped at that time and new Roman numeral designations I - V were assigned to stages. The latter, finalized stage enumeration is used in the following discussion, which proceeds from the stratigraphically earliest to the latest deposits in the west flank trench. In this and subsequent discussions of the upper mound stratigraphy, we shall begin with Stage II, which should rightly provoke the question, What about Stage I? That, however, is a special problem whose discussion is to be deferred to a later section (*see Stage I, Lost and Found*) on the east summit excavation units, in which Stage I was initially recognized.

Stage II

The west flank trench excavations provided an initial look at a distinctive-appearing construction stage that would subsequently come to occupy several years of attention as our "target" floor for summit excavations. The crest of the stage and part of the summit at 48.9 m elevation were clearly visible in both the north and south reference trench profiles. Soils that made up this fill were light in color, yellowish, and highly mottled, made up of silts and clays, a pattern we were to recognize many times over in the early stages of several mounds examined later. A re-cut north profile, not shown, intersected a post hole intruding from this summit close to the mound crest, our first indication of structural use of Stage II. The west flank trench did not penetrate deeply enough to detect the presence of downslope deposits associated with this stage.

Figure 9. West flank trench, reference trench, north profile at summit, summer 1992.

Stage III Fill

Directly above the Stage II fill was another stratum of mound fill approximately 55 cm in thickness at the summit, diminishing somewhat downslope. This Stage III fill was darker in color and somewhat more even-textured in appearance than the fill below, with the break line between them exhibiting a good contrast. A distinguishing characteristic of the Stage III fill was that it was interbedded with occasional bands of orange-brown clay. These clay bands, discontinuous and generally thin, perhaps represent nothing more than one or two basket loads each, taken from a

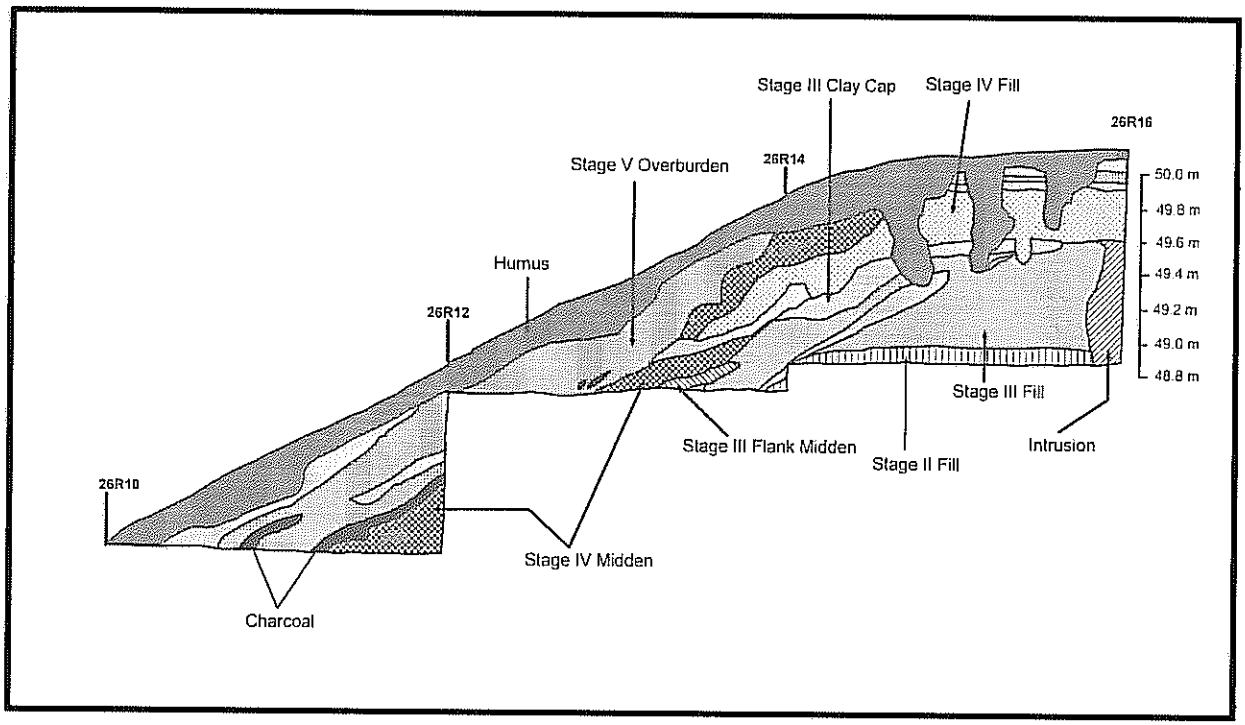

Figure 10. North profile, reference trench, west flank trench, upper mound.

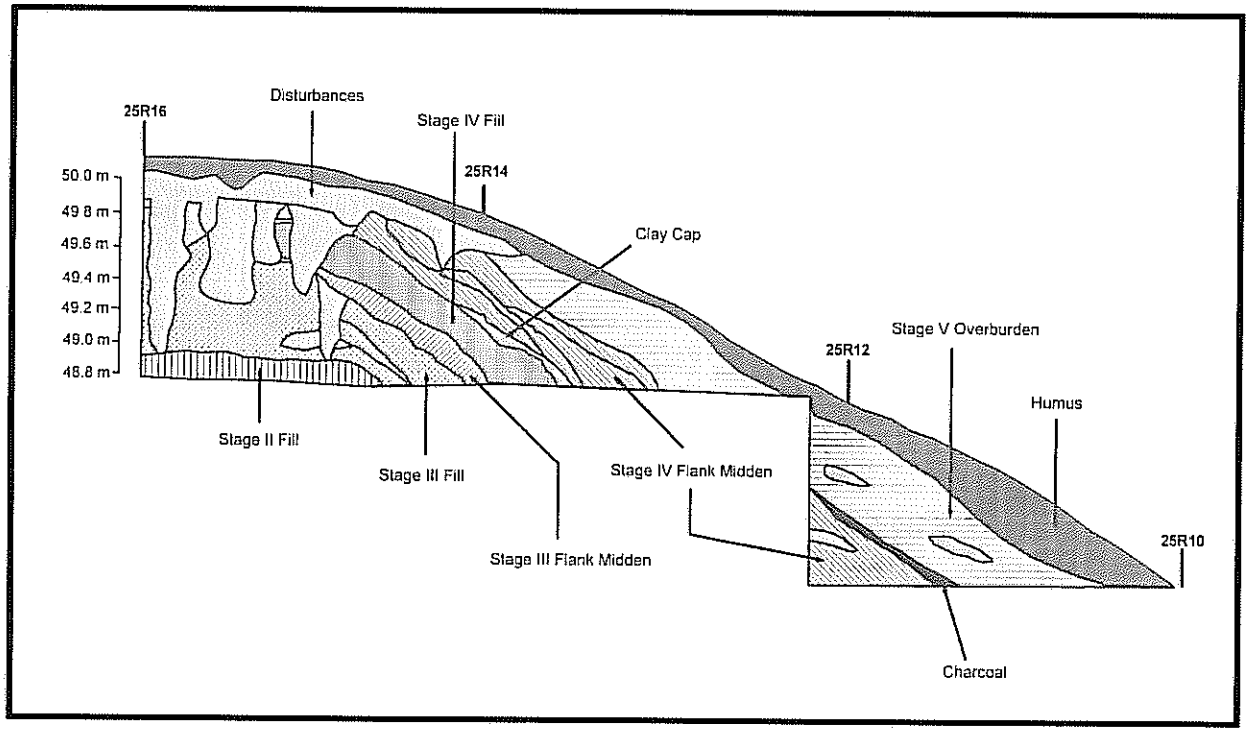

Figure 11. South profile, reference trench, west flank trench, upper mound.

borrow area different from the ones mainly employed in this construction episode. A pattern in the clay banding of our re-cut north profile, not shown, reveals a method of construction seen in other Mississippian mounds. Here the dip of the clay bands in two opposing directions shows that fill was first added as a ridge at the crest of the mound, presumably all the way around, while the central summit area and downslope components were filled in later. Such a strategy might enhance stability, and perhaps avoid excessive erosion and gullying caused by rainfall during episodes of construction. Conjecture aside, this procedure seems to have been a common solution to the problem of adding a stable mantle to an existing platform mound.

Stage III Yellow Clay Blanket Mantle and Debris Zone

Overlying the Stage III fill was evidence of a blanket mantle of yellow clay, and in addition, a zone of debris cast from the summit. Adding to the difficulty in interpreting these episodes is the fact that the north and south reference trench profiles differ in what they show. Only in the north profile (Figure 10) is the yellow clay blanket mantle clearly apparent, there having a thickness of about 8 cm near the summit. Downslope in this same profile the clay wedges out, replaced somewhat ambiguously by a thin zone of apparent midden. The cut back version of this same profile, not shown, again adds to these details. The latter profile does not reveal any midden zone corresponding to Stage III, but rather shows the blanket mantle trailing downslope to the far extent of the excavation unit. In the opposing south reference trench profile (Figure 11), the one employed in defining the stratigraphy of the control trench, there is barely a trace of the yellow clay. At least partly responsible for this absence is the fact that the profile section under discussion is heavily intruded by an overlapping assortment of animal burrows and fire ant nests that obliterate the level of interest near the summit. There is here, however, a trace of a burned surface overlying the yellow clay that does not appear elsewhere.

Downslope in the south profile, a debris zone begins immediately below the crest at the same level as the blanket mantle in the opposite profile. This zone of debris reaches a maximum thickness of about 20 cm. Its peculiar character, as described in the field notes, is perhaps a clue understanding the apparent stratigraphic inconsistencies at this level. Despite possessing modest concentrations of sherds, bone, and daub fragments, as would be expected of a flank midden, the matrix containing this debris unhappily bore little resemblance to mound flank midden deposits elsewhere. Instead, this matrix is described as yellow-gray sandy clay, and the field notes insist on referring to it not as a flank midden but rather as a debris-laden clay layer. That this debris-laden zone was not typical midden is sustained by the fact that only 92 sherds were found in the screened soils of the corresponding control trench stratum, in contrast to 732 sherds from the unscreened Stage III mound fill below. In sum, both the clay blanket mantle and the debris-yielding layer were discontinuous, vertically and laterally, on the Stage III flank, in somewhat complementary distribution. What this suggests is a post-depositional history involving erosion and re-working.

A plausible interpretation of the stratigraphy is as follows. As will be seen in a later discussion of the summit block excavations, the Stage III summit supported substantial architecture and was the scene of much activity. At this time a shallow midden formed on the west flank, which, being loosely consolidated, was prone to washing and gullying. When the

summit buildings were removed, the entire mound was covered by a thin blanket mantle of yellow clay. In the process of depositing and compacting this mantle on the flanks, the imported clay soils became mechanically mixed with remnant patches of eroded midden. Finally, this mantle too was subjected to minor erosion and gullying prior to the addition of the next major fill, Stage IV.

Stage IV Fill

Next in sequence is another substantial construction episode which added approximately 30 cm to the height of Mound Q. Stage IV fill was quite similar in appearance to that of Stage III, consisting of brown, fairly homogeneous silty soils, except for the clay lensing which was, in the present case, absent. A single major disconformity in the north reference trench profile consists of a downslope truncation of the Stage IV fill, replaced by an irregular patch of clean tan-orange clay. As the culprit responsible for this truncation would appear to be gullying, the clay is without doubt literally a patch, an attempt to repair a flank surface damaged during the time that the Stage IV summit plateau was in use. Visible in the south reference trench profile are additional thin layers of clean yellowish-brown clay overlying Stage IV fill, probably too discontinuous to suggest that these are remnants of a blanket mantle.

Stage IV Flank Middens

The Stage IV flank is dominated by a series of rich middens. Unlike the Stage III debris deposits, there is nothing ambiguous about these. A number of discrete episodes of deposition can be identified in the north and south reference trench profiles. In the field these episodes were generalized into an upper aspect and a lower aspect, excavated separately. Each of the superimposed midden layers contained abundant sherds, charcoal, bone, and daub fragments. The main thing that differentiated the upper aspect from the lower was the amount of mottled clay in the matrix of the former. Surfaces were highly irregular, again possibly attributable to the erosion of uncompacted soils on the mound flanks. Altogether, these midden deposits reached a thickness of 40 cm., increasing downslope. Soils from the middens were dry screened through 1/4 inch mesh and additional samples were removed for flotation and fine screen processing.

Three associated local features of the stratigraphy are worthy of mention. First is a wedge of soil identified in the documentation as mound fill, seen only in the south reference trench profile, lying stratigraphically between the uppermost midden component and those below. To grossly speculate, this anomalous wedge of fill may represent yet another effort to fend off the effects of flank erosion. A second feature consisted of a thin, continuous lens of charcoal seen on both the north and south profiles about midway down the mound flank, overlying the final Stage IV midden zone. Because there was no burned surface associated with the deposit of charcoal, the assumption can be safely made that the burning took place elsewhere with the residue dumped on the flank, the likely result of a single episode of summit activity. A third feature consisted of a post hole on the summit very close to the crest of the mound, identified as probably originating at the Stage IV summit.

Stage IV Yellow Clay Blanket Mantle

At the mound summit, directly superimposed on the Stage IV fill at an elevation of about 49.85 m, was a thin, flat-lying layer of clean yellow clay. This, along with an identical layer just above it, we initially interpreted as a remnant of a prepared clay floor. Although the mound summit is heavily intruded at this point by recent disturbances, traces of this "floor," about 5 cm in thickness, were apparent in both the north and south reference trench profiles. The yellow clay layer did not extend beyond the crest of the mound downslope, and being separated by intrusions from the beginning of the Stage IV middens downslope, it is impossible to judge on stratigraphic grounds which is earlier and which is later. With the subsequent excavation of the contiguous summit area, to be discussed in a later section, we now know that this suspected "floor" is actually part of a blanket mantle serving to seal off Stage IV. If this blanket mantle ever extended down the mound slopes from the summit where it is was preserved, then the flank portion is utterly eroded away. While a complete erasure seems unlikely on the face of it, given other evidence for extensive flank erosion such a possibility is perhaps not too far-fetched.

Stage V Fill and Yellow Clay Blanket Mantle

To describe this feature is to virtually repeat the paragraph above. Visible in the north profile of the reference trench at an elevation of 50.00 m, overlying a zone of mound fill only a few centimeters deep, was a second thin layer of clean yellow clay. Like the Stage IV yellow clay layer, it was confined to the level summit and was approximately 5 cm thick. Despite preliminary identification in the field notes as another "floor," we subsequently discovered during the summit block excavations that this is another blanket mantle associated with Stage V.

Stage V "Overburden"

Just below the humus on the mound flank, stratigraphically associated with Stage V, was a massive zone about which our field notes express considerable ambiguity, an unfortunate situation we cannot much improve now. Our first impression was that the zone consisted of slumped overburden, a label we will reproduce in this discussion, although not without hesitancy and abundant reservation. Annoying as it seems, the evidence is simply insufficient to pronounce judgment on what particular mix of cultural and natural formation processes contributed to its problematical character.

Attributes of form, texture, and color of this deposit were as follows. First detected just below the mound crest, the deposit gradually increased in thickness downslope, in wedge-like fashion. Soils consisted of highly homogeneous silty clay, brown in color owing to a uniform, heavy organic component but still of a lighter hue than the underlying Stage IV middens. The "overburden" also lacked the distinctive lensing and contorted appearance of the midden soils below it. One of the field drawings labels it simply as mound fill, an opinion no doubt affected by its high clay content and lighter color in contrast to the Stage IV middens. Other characteristics, however, were curiously midden-like, particularly the quantity of large sherds and well preserved bone liberally dispersed throughout. Thus, from the narrow vantage of the completed reference trench, it was decided that the zone in question originated as a combination of Stage V fill

(otherwise missing on the mound flank) plus midden from Stage V summit activity, that had become mixed and homogenized through post-occupational slumping and perhaps bioturbation. Thus it was decided to forego screening this transformed "overburden" in the control trench.

Whatever the actual origin of the deposit may be, we must admit in wincing retrospect that the decision not to screen was a poor call. The "overburden" zone was in fact a rich deposit containing large amount of well-preserved debris, of exactly the sort needed to answer questions about the nature of summit use. A good measure of this richness lies in the sherd counts. Despite this decision, the control trench segment of this zone still yielded over six times the quantity of sherds than the Stage IV middens combined.

Other observations are troublesome to an interpretation of this zone as necessarily slumped and reworked. One nagging point is that the profiles show haphazardly distributed clay lenses and charcoal lenses within it, which are quite regular in appearance, and which therefore tend to belie the notion that the entire zone is mechanically mixed, displaced, and homogenized. Nor are these clay and charcoal lenses contorted or deformed, as one might expect in a slumped deposit. A second point is that no such slumped deposits were recognized in any of the flank trenches subsequently excavated into Mounds R, E, F, or G. Apparently mound slopes of all of the mounds along the northern tier of the site are well preserved to a remarkable extent, closely approximating their original form.

Thus we are left with the suspicion that the zone under discussion may after all be some sort of aberrant midden deposit, unlike all others in its relatively fair complexion and high clay content. At the least, it seems much more plausible than it did originally that these soils were formed in their present position and were not subsequently reworked.

Humus

Overlying the whole, and of variable thickness, was the modern humus, a typical loosely textured, heavily organic soil. It was excavated separately. Of interest is the fact that the narrow slice of humus within the control trench yielded over 1,400 sherds, despite not having being screened. Such a unexpectedly high sherd count is probably due to the development of this humus upon the rich "overburden" deposit just discussed.

Lower Reference Trench Stratigraphy

To this point we have offered no discussion of the stratigraphy seen in the four meter segment of reference trench at the mound toe. This deferral was deliberate. The upper and lower reference trench segments are discontinuous, separated one from the other by two meters horizontally, and it is necessary to have an understanding of the upper stratigraphy to correctly interpret the lower.

Depicted in Figure 12 is the south profile of the lower reference trench segment, showing a relatively uncomplicated stratigraphic situation. Just below the humus is a thick, organically stained and artifact-laden zone plainly corresponding to the Stage V "overburden" stratum. At the

toe of the mound this stratum rests directly upon sterile subsoil. To the right of the profile, in the westernmost section, the subsoil is seemingly cut away, at which point the "overburden" stratum transitions into a pit-like feature filled with rich midden. Considering the fact that this is the same side of Mound Q where James Middleton in depicted a pond in 1882, we may be looking at the edge of a midden filled borrow pit.

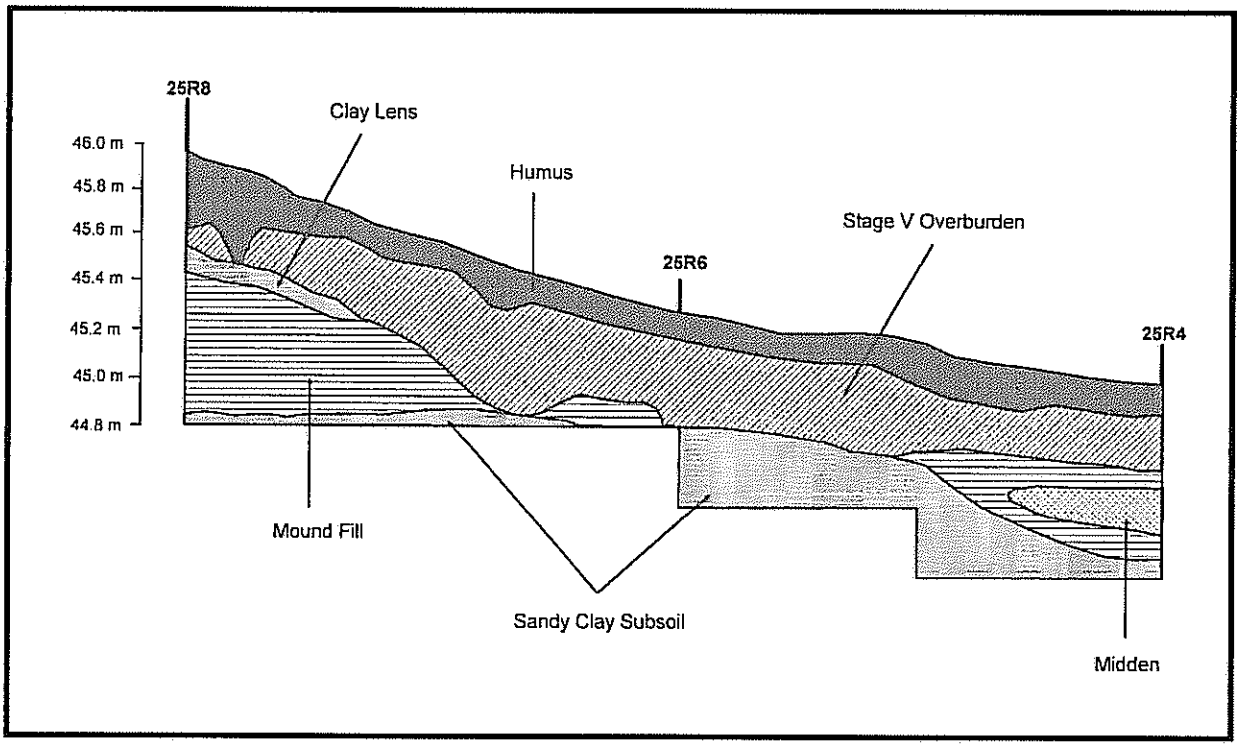

Figure 12. South profile, reference trench, west flank trench, lower mound.

As in the upper mound profiles, there is here no indication of a mound fill zone corresponding to Stage V. Just below the "overburden" stratum at the upslope end of the profile is a small, debris-laden lens in an orange-brown clayey matrix. This probably corresponds to one or more Stage IV midden deposits upslope. Below this and lying on sterile subsoil is a 60 cm-thick zone, uniformly dark chocolate brown in color, labeled as "mound fill" in the field documents, although the heavy organic content signaled by the color is a puzzlement. If it truly is mound fill, and this is by no means certain, it probably correlates with the Stage IV mound fill upslope.

Feature 1

From the lower reference trench, a small, irregular, midden-filled pit cut into the subsoil. It was discovered and mapped below the Stage IV deposits in one corner of Unit 26R8.

West Flank Trench Pottery Chronology

Now comes an opportunity to apply the model pottery chronology presented we developed early on. Using this model, we assign assemblages from unambiguous stratigraphic

situations to ceramic phases and sub-phases by relying on the progressive introduction of diagnostic types and modes at (more or less) known times in the Moundville sequence, rather than relying on changing relative frequencies of these things.

Excavations in the west flank trench yielded 13,220 sherds in all, of which about half, from the control trench, are relevant to our chronological aims. Control trench sherds are summarized in Tables 1 and 2, classified first by type and variety and then by diagnostic mode. Reference trench sherds are tallied in a later section.

TYPE	Stage III fill	Stage III midden	Upper mound, mixed	Stage IV middens	Stage V overburden	Humus	Totals
Mississippi Plain	556	64	117	409	2,390	1,136	4,672
Moundville Incised, *var. Carrollton*			2		2	3	7
Moundville Incised, *var. Moundville*	17	1	2	2	1	5	28
Moundville Incised, *var. Oliver*					1		1
Moundville Incised, *var. Unspecified*	5			1	12	2	20
Bell Plain	125	21	49	99	693	210	1,197
Carthage Incised, *var. Akron*				1	5		6
Carthage Incised, *var. Carthage*					**4**		4
Carthage Incised, *var. Fosters*					**2**		2
Carthage Incised, *var. Moon Lake*					1		1
Carthage Incised, *var. Poole*					**1**		1
Carthage Incised, *var. Summerville*	**1**				1		2
Carthage Incised, *var. Unspecified*	4		2	6	39	6	57
Moundville Engraved, *var. Cypress*					**1**		1
Moundville Engraved, *var. Elliots Creek*	**1**	**1**			1		3
Moundville Engraved, *var. Havana*				1	3		4
Moundville Engraved, *var. Hemphill*			1		8	1	10
Moundville Engraved, *var. Middleton*			1	1	3		5
Moundville Engraved, *var. Stewart*	**1**				1	1	3
Moundville Engraved, *var. Taylorville*				**1**			1
Moundville Engraved, *var. Tuscaloosa*				**2**	4	1	7
Moundville Engraved, *var. Unspecified*	10	3	5	19	79	27	143
Baytown Plain				1	4	1	6
Barton Incised, *var. Barton*					1		1
Parkin Punctated					1		1
Lake Jackson Plain					1		1
Other Types	12	2	3	1	26	15	59
Totals	732	92	182	544	3,285	1,408	6,243

Table 1. Sherd types, west flank trench, control trench. Items yielding TPQ are in bold.

No excavated control trench samples are available for the Stage II fill. The small portion of this fill excavated in the reference trench was dug using arbitrary levels. Nonetheless, as the reference trench was being opened the excavators were aware of the distinctiveness of the Stage II fill, and the field notes record that Moundville I phase pottery diagnostics were exclusively seen among sherds taken from it.

DIAGNOSTIC MODE	Stage III fill	Stage III midden	Upper mound, mixed	Stage IV middens	Stage V overburden	Humus	Totals
Beaded rim					13	4	17
Folded rim	2	3	3	3	7	2	20
Folded-flattened rim	3	1			8	2	14
Gadrooned	1				1		2
Indentations				1	1		2
Notched lip			1		1		2
Red on white painted					2		2
Hemagraved	2						2
Pedestal base	1		1				2
Slab base				**2**	1	1	4
Frog effigy features					**2**		2
Totals	9	4	5	6	36	9	69

Table 2. Diagnostic decorative and vessel shape modes, west flank trench, control trench. Items yielding TPQ are in bold.

For Stage III, separate tallies are presented for the fill and overlying midden. Of these, the midden sherds are of greater importance for dating purposes, but these number only 92 as compared to 732 sherds from the fill below. Both counts are too small to supply a comfortable fix on the age. Both fill and midden yielded Moundville Engraved, *var. Elliots Creek*, and the fill has sherds of Moundville Engraved, *vars. Stewart* and *Summerville*. Among the diagnostic modes seen from the Stage III fill we find the presence of gadrooning, hemagraving, and a pedestaled bottle base. Early diagnostics all: a dating of Late Moundville I or later is indicated for Stage III.

Sherds from the Stage IV fill could not be isolated reliably because the zone was heavily intruded by animal burrows and fire ant nests. Consequently Tables 1 and 2 include listings of sherds from potentially mixed contexts on the upper mound, postdating Stage III. In the separately excavated Stage IV middens, despite a somewhat paltry total of 544 sherds, we find Moundville Engraved, *vars. Taylorville* and *Tuscaloosa* (Figure 13), to which we can add, from the tabulation of modes, two instances of slab bases from bottles. Together these indicate for Stage IV a date of Late Moundville II or later.

For the Stage V overburden we are in much better shape. With over 3,200 sherds, some confidence can be expected in the ceramic dating. Here we have a straightforward Moundville III assemblage (Figure 14). Among the diagnostic types are Carthage Incised, *vars. Carthage* and *Fosters*, a rare specimen of *Poole*, and Moundville Engraved, *var. Cypress*. Among the diagnostic modes we find a fragment of a frog effigy bowl or jar.

In short, to this point we have a respectable sequence of diagnostics from the primary contexts in the west flank of Mound Q. Using the logic of terminus post quem, Late Moundville I sherds are the key diagnostics occurring in Stage III, Late Moundville II diagnostics appear in Stage IV, and Moundville III diagnostics appear in Stage V. But we must repeat that the sample sizes from the stratigraphically earlier proveniences are much too small, and these dating

assessments will have to be adjusted accordingly when more information from the summit and north flank are factored in.

In the meantime, additional observations are in order regarding the stratigraphic positions of other types and modes in the west flank trench. Indentations, a signature Moundvillian trait that we take to be an Early Moundville II innovation with a history extending into Moundville III, here makes its first appearance in Stage IV. Beaded rims, an excellent diagnostic because of their common occurrence on bowls, first appear in Stage V, assigned to Moundville III, with 13 occurrences to which we can add another 4 from the humus. A potentially discordant note: In our working model of the pottery chronology, beaded rims first appear somewhat earlier in Late Moundville II, the subphase to which we have assigned the Stage IV middens principally on the basis of slab-based bottle sherds. Stage IV, however, entirely lacks beaded rims. Does this indicate a significant lag between the first appearance of slab bases on bottles and the first appearance of beaded rims, in conflict with our model? We shall return to this issue with better data in hand from the north flank middens. The type Moundville Engraved, *var. Hemphill*, with its fascinating representational art, first turns up in mixed upper mound deposits, Stage IV or later, but is strongly represented only in Stage V. Moundville Engraved, *var. Middleton*, our local counterpart to D'Olive Incised on the northern Gulf Coast, is a newly defined variety and we are accordingly attentive to its potential value as a chronological diagnostic. Here it is found securely in both Stage IV and Stage V contexts, suggesting a first appearance by Late Moundville II. This is in agreement with Steponaitis's (1983a:331) assessment of the position of so-called D'Olive at Moundville. Red-on-white painting is here confined to Stage V, consonant with Steponaitis's data indicating a Moundville III placement (1983a:129), but elsewhere we have expressed our dissatisfaction with its use as a Moundville III diagnostic. Lastly, attention is directed to the stratigraphic position of two

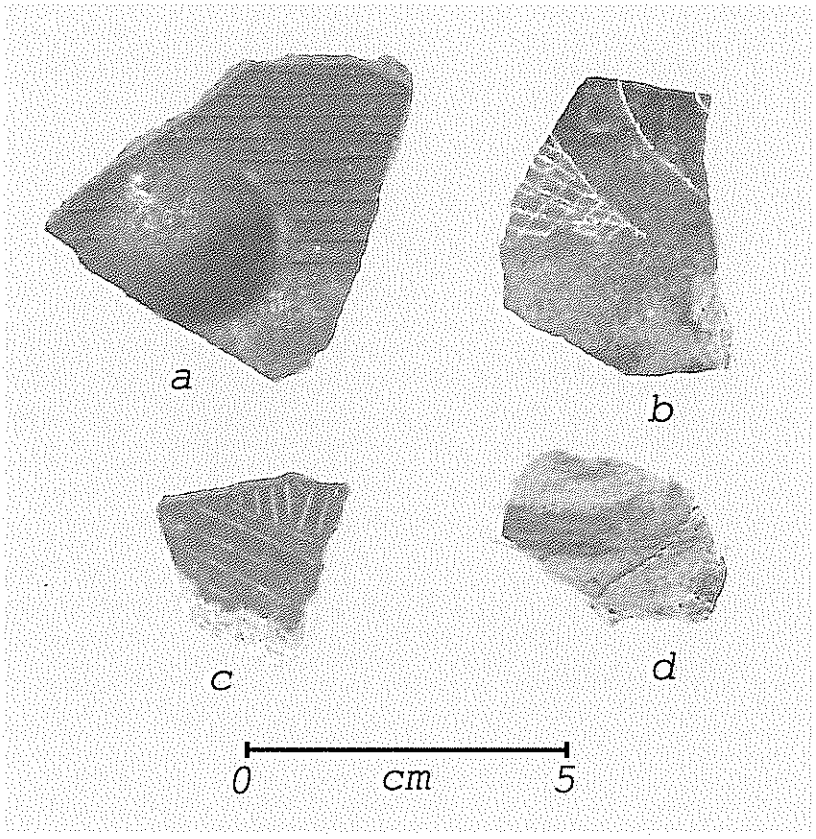

Figure 13. Sherds from Stage IV midden, west flank, Mound Q. (a) Moundville Engraved, *var. Tuscaloosa*, with indentation; (b) Moundville Engraved, *var. Taylorville*; (c) Moundville Engraved, *var. Middleton*; (d) Mississippi Plain, red slip decoration. (b has pigment added to engraved lines for photography.)

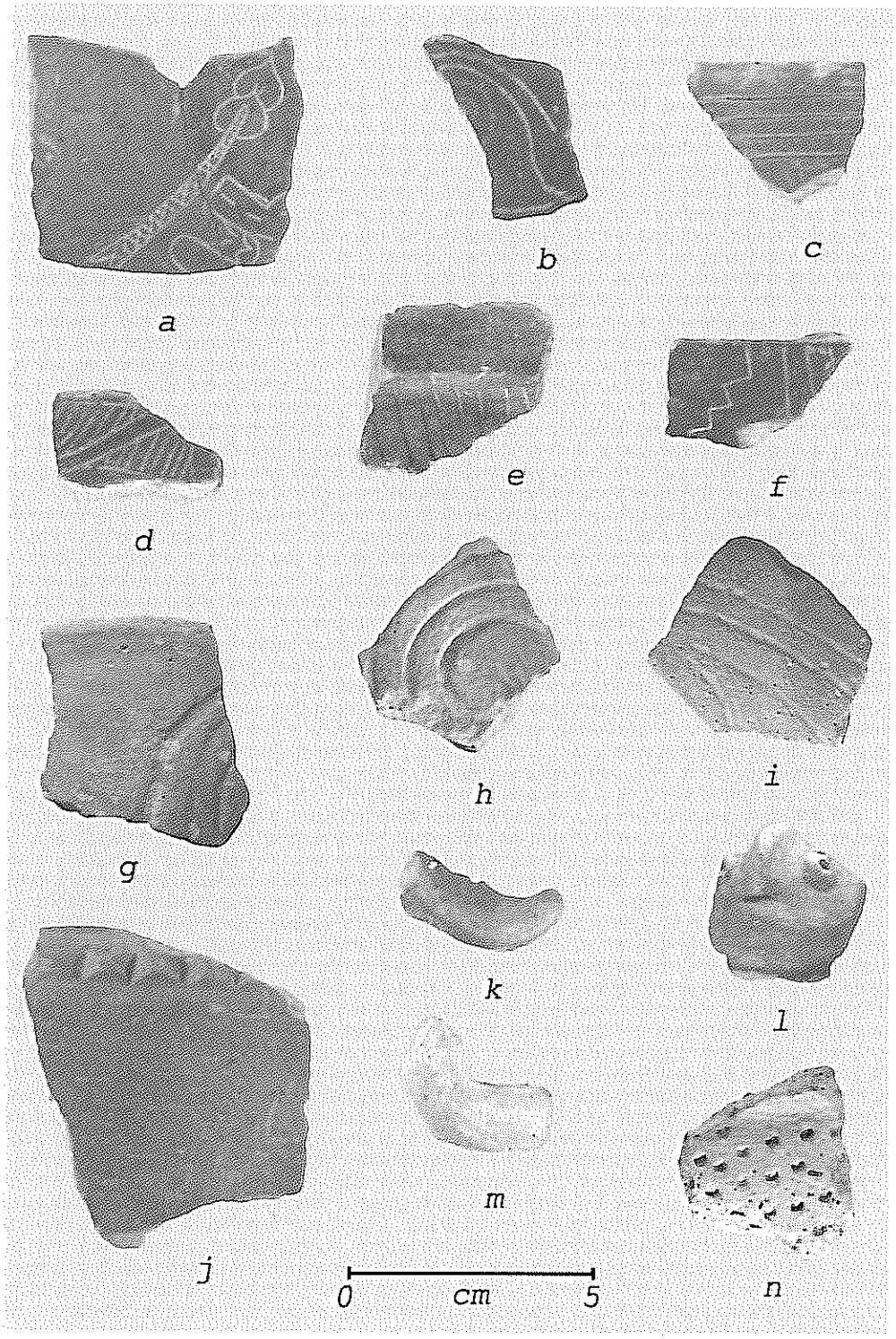

Figure 14. Sherds from Stage V overburden, west flank, Mound Q. (a and b) Moundville Engraved, *var. Hemphill* – a has winged serpent, b has hand and eye; (c) Moundville Engraved, *var. Akron*, simple bowl with notched lip; (d) Moundville Engraved, *var. Cypress*; (e) Moundville Engraved, *var. Middleton*, plate rim; (f) Moundville Engraved, *var. unspecified*, step motif characteristic of Carthage Incised, *var. Poole*; (g-l) Carthage Incised, *var. Carthage* – g is cup-shaped bowl rim; (j) Bell Plain, simple bowl with beaded rim; (k and m) frog effigy limb adornos – m is white filmed; (l) Bell Plain, bird-like human effigy rim adorno; (n) Parkin Punctated. (a, b, d, and f have pigment added to engraved lines for photography.)

Late Mississippian types indigenous to the Central Mississippi Valley: Barton Incised, *var. Barton* and Parkin Punctated. Both make an appearance in Stage V.

Before moving to the summit excavations, we want to make a few comments on the phenomenon of mixture. If our model of ceramic change is even roughly correct, the mixture of earlier sherds in later contexts at Moundville's mound deposits is quite pervasive. This commonality of anachronisms is probably attributable in part to Moundville's population history, in which the peak of residential use and consequent midden generation was during the Moundville I phase (Steponaitis 1998). As earlier residential deposits seem to have been routinely re-worked and mined for soils in later mound construction, Moundville I phase diagnostic sherds are an omnipresent minority in later deposits. A good illustration is now in hand with the west flank trench data. For example, if we hold folded and folded-flattened jar rims to be reasonably good Moundville I diagnostics, following recent Moundville studies, then we must confront the fact that 22 out of 34 total occurrences of these forms in the west flank trench are in the latest contexts: Stage IV, Stage V, and the humus. Moreover the Stage V deposit, claimed herein to be a perfectly good Moundville III phase context, yielded an impressive tally of additional early types and modes: Moundville Incised, *vars. Moundville, Carrollton*, and *Snows Bend*, Carthage Incised, *vars. Moon Lake* and *Summerville*, Moundville Engraved, *vars. Elliots Creek* and *Stewart*, plus gadrooning. All are out of place in Moundville III. This is not to question the chronological position of any of these forms, for all of which there is independent evidence, especially that of grave lots (Steponaitis 1983a). On the contrary; it is precisely because their early dating in the Moundville sequence is secure that we can employ them here as a measure of the phenomenon of mixing.

Summit Stratigraphy and Excavation Strategy, Main Block

Once the basic elements of upper mound stratigraphy were understood from the excavation of the west flank trench, summit excavations commenced with the idea of expanding into an open block large enough to investigate summit architecture in the highest part of the surviving summit plateau. Two contiguous 2 x 2 m squares, Units 24R18 and 24R20, constituted the initial effort in the fall of 1990. Their triple purposes were first, to assess summit damage to the upper structural levels, second, to identify an appropriate "target" floor for horizontal exposure, and third, to develop an excavation protocol for subsequent summit units (about which more later). By the end of the 1990 season we had determined that summit preservation associated with Stages III through V varied from heavily disturbed to completely obliterated, but that the Stage II summit was reasonably intact. Within our small window, Stage II wall trenches and post holes could be clearly picked out, in favorable contrast to the uniform, light colored clays of the Stage II fill matrix. Therefore at this point that Stage II was nominated as our target floor for horizontal exposurre, despite its depth of a meter or more below the modern summit. Despite the promise of this preliminary glimpse of Stage II architecture, it was nonetheless somewhat deflating to contemplate the amount of archaeology overlying that floor which would have to be dealt with just to reach it.

Two more 2 x 2 m units were added in the fall of 1991, following the excavation protocol established the previous year. Units 24R16 and 24R22 were added to the ends of the now backfilled units from the previous season, forming a continuous 8 m excavated section extending

from the mound crest to the central summit. Balks were temporarily left between all conjoined excavation units.

The summer of 1992 offered an exceptional opportunity to work with the Alabama Museum of Natural History's Expedition program. Relatively large crews of Expedition participants of various ages (Figure 15), averaging about 25 participants per week but sometimes reaching as many as 40 excavators at one time, offered a challenging change of pace from the normal university classes each fall semester. During an intensive five-week session, ten adjoining 2 x 2 m units arranged around the initial four were excavated, completing a 6 x 10 m block. Before proceeding, the protective backfill from the previous summit units was shoveled out. Balks were kept between all adjoining 2 x 2 m units until the Stage II floor was reached (Figure 16). In excavating down to this level, various features including hearths, wall trenches, post holes, middens, burials, and C. B. Moore's "trial holes" from the upper mound stages were mapped, to the dgree that these survived amid pervasive natural disturbances emanating from the summit. This evidence will be presented later in stratigraphic order, once the details of the summit stratigraphy have been examined. By the end of the summer season, we had taken the entire block essentially down to the Stage II surface. Balks were recorded and removed, and preliminary troweling began to reveal feature stains from an elaborate pattern of Stage II architecture (Figure 17).

Figure 15. One of the crews from the Alabama Museum of Natural History's Expedition program, posed on the backdirt pile, summer 1992.

Figure 16. Excavation of the main summit block in 2 x 2 meter units, summer 1992.

Figure 17. Initial troweling of the cleared Stage II summit in the main excavation block, summer 1992.

Falling back at this point to a normal schedule and complement of undergraduates, we spent the fall season of 1992 engaged primarily in recording the remaining profiles and preparing a preliminary map of feature stains on the exposed Stage II floor (Figure 18). At this point we assigned feature stains preliminary feature numbers pending excavation. Following this recording effort, a heavy shed roof of cantilevered frame construction and corrugated metal covering (Figure 19) was raised over the block excavation, with an extension covering the upper portion of the west flank trench. This roof was expertly designed and built by the Alabama Museum of Natural History's carpenter, Mr. Kenneth Thrasher, in a manner obviating the use of internal support posts that would have interfered with the work of excavation. As a device for keeping out the weather between field sessions the roof performed admirably, even allowing crews to work during light rains. A newly created problem of working in permanent shadow had to be overcome by the use of flash photography. We contemplated more than once the installation of electric lighting, despite the distance from a source of current, but it never really came to that. In addition to the roof, we encompassed the entire mound by a barbed wire fence with two locked gates to enhance security.

Figure 18. Recording the north profile of main excavation block along the N26 grid line, fall 1992. The block has been taken down to the Stage II summit level.

Two subsequent fall seasons, 1993 and 1994, were devoted exclusively to excavating architecture and related features on the Stage II floor. Using the preliminary map from fall, 1992 as a guide, we excavated wall trenches, post holes, and other features, starting in the easternmost units and progressing westward. With this procedure complete, the summit excavation was closed

Figure 19. Mound Q from the southwest, fall 1993, showing timber and corrugated metal roof over summit excavation.

out December 12, 1994, coincident with a brief ceremony conducted by two visiting Choctaws involving drumming, singing, and offerings of tobacco at the Mound Q summit. During the following spring the roof was removed and the large unit was backfilled using an end loader.

Before proceeding to a detailed account of the archaeology by stage, we will present an overview of the summit stratigraphy, from the bottom up. In the following discussion, we will make reference to Figure 20, which reproduces a five-meter section of north-facing profile along the N26 grid line.

Stage II Fill

As the Stage II summit was the target floor for horizontal exposure, abundant space will be devoted in a later section to the details of its architecture. In general, summit excavations stopped at the interface between this fill and the Stage IIIa fill above. Nonetheless there was some opportunity to inspect this fill zone in profile, because of two deep cylindrical pit features that were cored out (Features 58A and 58B), the deeper of which penetrated 78 cm below the Stage II floor. This establishes a minimum thickness for the Stage II fill. As encountered before in the west flank trench, it was a highly distinctive mottled ash-gray clay with very little organic component, lighter in color than any of the major fills overlying it. Because of its uniform nature and light color, we were able to detect intrusive features and trace out their contours easily.

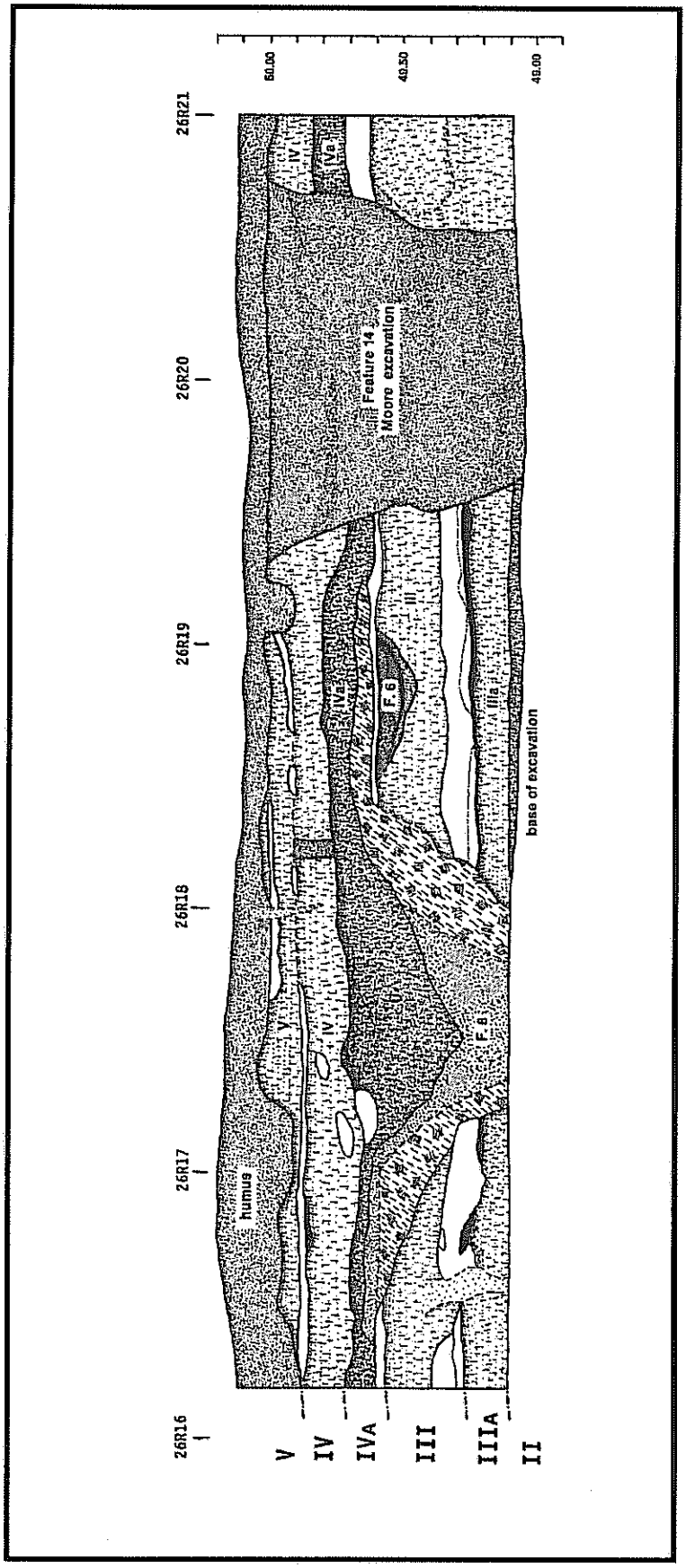

Figure 20. Section of upper mound profile in main excavation block, along N26 grid line.

Stage IIIA Fill, Burned Surface, and Blanket Mantle

Excavations of the initial test units into the summit in the fall of 1990 revealed a major discontinuity in the lower part of the Stage III fill. Overlying the Stage II floor was a zone of loamy fill about 17 cm thick, on top of which was a reddish, heavily burned surface. Large mammal bone was liberally strewn across this burned surface as it was initially seen in Unit 24R18, leading the excavators to interpret it as a single feasting event. In turn, the burned surface was covered over by a uniform layer of clean yellow and gray clay, averaging 8 cm in thickness. This sequence of fill, burned surface, and clay layer is together designated as Stage IIIA. It is clearly evident in the lower part of the profile shown in Figure 20.

Despite its distinctiveness in this portion of the summit stratigraphy, the Stage IIIA activity sequence was clearly not a full-scale construction stage involving the entire mound or even the entire summit. Further exploration showed that these deposits were limited to the northwest section of the summit block. No trace of them could be seen in any of the west flank trench profiles, and efforts to trace them to the east and south were fruitless. According to the profiles, the maximum extent of Stage IIIA in the excavated area is approximately 3.5 m east and west and 2 m north and south, extending beyond the summit block to the north. The bone scatter initially seen in Unit 24R18 was even more limited in area. The Stage IIIA "floor" was evidently not that of a building, as no other features such as post holes or pits were found in association. Of significance is the fact that the overlying clay layer was almost exactly coextensive with the burned surface it covered. Plainly the clay layer is to be interpreted as a blanket mantle whose purpose was to seal off a short-term activity surface on a portion of the west summit. The stratigraphy suggests that this activity sequence had the character of a short term event, occupying a hiatus or interruption in the construction of the Stage III fill. If the burned surface and mammal bone does indeed signal a meal episode associated with mound construction, a sort of builders banquet, it is intriguing that the event required ritual sealing with a blanket mantle of clay before construction could be resumed.

Stage III Fill and Yellow Clay Blanket Mantle

As to the remainder of Stage III, it was much as already described from the vantage of the west flank trench. Which is to say, it was principally a dark yellowish brown fill of sandy clay, here on the summit somewhat mottled by smatterings of yellow clay although lacking the larger interbedded yellow clay lenses seen downslope. Its addition of fill brought the summit to an elevation of approximately 49.60 m. On the corresponding summit plateau there existed substantial wooden architecture of wall trench construction accompanied by clay-lined hearth basins, one of which is shown in profile in Figure 20 as Feature 6. Concerning this summmit architecture the details are to be presented in a later section. Overlying the Stage III fill was a thin blanket mantle of yellow clay, continuous with the Stage III blanket mantle observed downslope on the west mound flank, previously described. A comment pertinent perhaps only to someone who might wish to use the field notes is that we only belatedly recognized that the Stage III blanket mantle on the summit was first of all really a blanket mantle and second that it was *superimposed over* the architecture of the Stage III summit, at the time still referred to by a temporary designation "Stage B." Instead, because the compact clay layer was only a few

centimeters thick in most places, we initially thought that it was a prepared floor in itself; thus various field notes (1990 - 1992) refer to it as a "yellow clay floor" This mistake was not corrected until midway through the summer field season of 1992. It is symptomatic, I suppose, of our tardiness in awakening to the importance of these thin clay mantles whose only apparent purpose was to cover and seal prior activity surfaces using special fills.

Stage IVA and Feature 8

After Stage IIIA comes a second major embellishment of the basic stratigraphy as first worked out in the west flank trench. At the stratigraphic point where Stage IV fill begins in the west flank trench, there was evidence of a localized activity sequence that covered part of the mound summit, much as did Stage IIIA. The sequence was as follows.

First, there is evidence that a modest amount of mound fill was laid down in part of the central summit area, as if to begin a new mound stage. This activity was however quickly abandoned, leaving an irregular upper surface. Next, a very large post hole was dug in the west-central portion of the mound summit, intruding down through the fills and blanket mantles associated with Stages III and IIIA, and cutting down into Stage II fill. This post hole, Feature 8, was about 95 cm deep and about 65 cm wide near the base, flaring out into a much wider funnel near the top. As the upper profile in Figure 20 shows, fill from the post hole excavation was thrown out to the east, covering up a small portion of the Stage III blanket mantle. Feature 8 was designed to receive a vertical post, or rather more fittingly a log, of about 45 cm diameter. It was the only such feature found at this level, and thus a lone monumental upright may have dominated the mound summit for a time. Perhaps not for long; the post was withdrawn, leaving a hole smaller than the original, rapidly filled in with a blocky, yellow-orange clayey sand. The hole was not entirely filled, however, or perhaps the fill settled, but at any rate a depression was the result.

That depression, and a considerable area of summit plateau surrounding it, was next filled in and built up by a heavily organic, midden-like soil, whose nature was a bit puzzling at the time of discovery and remains so. This Stage IVA "midden," initially encountered in Unit 24R22 during the fall of 1991, was about 9 m in diameter on the east-west axis. It covered much of the north half of the summit excavation block and extended into the north profile along the N26 grid line. Its usual depth was about 15-17 cm, except in the depression created by Feature 8 where it was thicker.

Although dark brown in color, full of charcoal flecks, and impressionistically rich in pottery and stone artifacts, there is room for an ounce of hesitation in declaring it outright as a primary midden deposit. The foremost contributor to this doubt was the extraordinary density of its silty matrix, so compact that it was difficult to drive a sharpened shovel through it under moderate moisture conditions. Middens elsewhere at the site, including on the clayey flanks of mounds, generally consisted of looser stuff. Moreover, a flat-lying midden of any kind on a mound summit is unusual in our experience. Structure floors here and on other Mississippian mounds, at Moundville and elsewhere, are notoriously clean. Yet this was no structure floor. Like Stage IIIA, the Stage IVA evidence is best interpreted as a special activity sequence that took place on part of the mound summit at the beginning of an episode of construction. This special

activity sequence is, however, quite different in character from the earlier Stage IIIA sequence, as it involves a post insertion/extraction episode followed by a debris deposit without, in this case, a blanket mantle to seal it off.

Creation of this midden-like deposit resulted in an uneven and therefore unstable upper surface, a condition which invited erosion. Erosion is in fact indicated in the northeast corner of the summit excavation block, where the midden-like soil of Stage IVA grades into a laminated, water-lain deposit. The water-lain sand and silt in this small area, the only such deposit seen in our Mound Q excavations, was in turn covered by a thin layer of clean yellow and gray clay. As this clay layer covers only the loose water-lain sediments, it is probably not a blanket mantle but rather a bit of ad hoc engineering to stabilize an area of wash, anticipating the addition of more fill.

Stage IV Fill and Yellow Clay Blanket Mantle

Here was another homogeneous fill zone of rather dark, loamy sediment capped by a thin blanket mantle of yellow clay, much as already described from the west flank trench. At this point the Mound Q summit stood at an elevation of about 50.0 m. Because of the irregularity of Stage IVA deposits, the thickness of this fill varied from place to place, but all in all the plateau now stood about 40 cm higher than it did at the completion of Stage III. As with Stage III, standing architecture occupied the Stage IV summit, but we found that summit so thoroughly disrupted by intrusions that we were unable to distinguish architectural features such as post holes or wall trenches. As previously discussed, there is no surviving evidence that the associated blanket mantle, which covers the summit architecture, extended beyond the mound crest to also cover all or part of the flanks.

Daub Layer and Midden

Overlying the Stage IV fill in the eastern part of the summit block, and lying just beneath the humus, was a horizontal concentration of reddish daub in a matrix of rich dark brown soil. The daub itself, signaling the presence of a wattle and daub building that was at least partly burned, was heavily broken up into small pieces. Although the Stage IV clay blanket mantle failed to appear in this area to assist in stratigraphic interpretation, and numerous disturbances added to the confusion, it was nonetheless reasonably clear that the daub was in situ and represented the partial remains of a building occupying the Stage IV summit. Some amount of this daub filtered downward into the upper part of Feature 2, a wall trench whose description we shall defer to a later section. Along the south margin of the main block was a shallow organically enriched zone corresponding stratigraphically to the daub layer. It seems likely that this localized dark band is contemporaneous with the heavy Stage IV midden deposit on the west flank of the mound.

Stage V Fill and Yellow Clay Blanket Mantle

Stage V is the final construction on Mound Q. Compared to those underlying it, this was a minor fill episode that probably did not add perceptibly to the height of the mound. In most places in the summit block it had been totally destroyed in post-occupational circumstances, either churned up by disturbances emanating from the summit or carved off in the removal of fill dirt

during the nineteenth-century episode that gave the north flank its present configuration. In fact, evidence of the fill and its associated blanket mantle of yellow clay survive only in the northwest section of the summit block excavation, where they can be seen in profile (Figure 20). This area corresponds to the slight ridge along the western mound crest (it can be seen in the uppermost contours of Figure 3) which seems to have escaped the box scraper. Depth of the dark brown fill ranged from 8-14 cm, to which the yellow clay blanket mantle, in those places where it survives, added 3-4 cm more.

Although any remains of a building on the Stage V summit had been destroyed, there were moderate amounts of finely crushed daub (712 g from the control trench) in the associated Stage V "overburden" deposits on the west flank. This daub, interspersed with what is otherwise rather obvious summit debris, suggests that a Stage V summit structure was indeed present. Deeper aboriginal features intruding from the summit included two refuse-filled pits and two burial pits, to be discussed later. Stratigraphically these could have originated at either the Stage IV or the Stage V summit, it being now impossible to determine which.

Humus

As in the west flank trench the summit block has a well developed humus zone, variable in thickness but averaging about 8 cm. The soils that make up this modern humus no doubt originated as fills and blanket mantle clays from Stages IV and V.

Summit Block Excavation Strategy

Having laid out and labeled the upper mound strata in this way, it is now permissible to discuss the manner in which these deposits were excavated. Following a general protocol first worked out in the initial summit squares during the fall 1990 season, the upper mound was excavated in three cuts. Cut 1 was the humus, Cut 2 correspond to the Stage IV and V deposits, and Cut 3 correspond to the Stage III deposits. Generally, these levels would not be screened. Subdivisions corresponding to more specific stratigraphic units were made as necessary.

Cut 1. Excavation of Cut 1, the humus, was straightforward. The contact between the humus and underlying fills was distinct and easily recognized.

Cut 2. Cut 2 was brought down to the level of the Stage III yellow clay blanket mantle. In those areas where the yellow clay did not appear because of disturbances, the cut was terminated arbitrarily at an elevation of 49.60 m, approximating the level of the yellow clay elsewhere. In either case, unit floors were troweled at this point and plan drawings were made in order to detect any surviving architectural remains on the Stage III summit.

As anticipated from the uppermost segment of the west flank trench, Cut 2 was heavily riddled with overlapping intrusions of unspecifiable character coming from the top of the mound. Certainly some intrusions were tree root disturbances, others were animal burrows, still others were fire ant nests (the latter a recent but formidable force of soil disturbance in this region), and perhaps some were the result of plantation-era human disturbances. We decided

neither to try to isolate these intrusions nor to assign them feature numbers. Instead they were merely noted and monitored as they were being dug through. This self-sacrificial decision was not as bothersome as it might seem, because the plan views showed that 2 x 2 m units constituting the block were as much as one-half to three-fourths disturbed across the upper mound. Trying to isolate undisturbed mound fill here would have been mind-numbing as well as time consuming, and would have contributed nothing to interpretation. Other stains, however, assumed the form of aboriginal post holes and pit features; these were duly recorded. And here were encountered for the first time the large, bathtub-shaped pits ultimately recognized as Clarence B. Moore's "trial holes," excavated in 1905 and 1906. These too received formal feature designations.

In the fall of 1990, as summit excavations were getting underway in excavation units near the western crest of the mound, Cut 2 was stopped arbitrarily at an elevation of 49.94 m based on adjacent west flank trench profiles. At this point unit floors were troweled in search of evidence of Stage IV summit features. No such evidence was found, and no plan drawings were made.

Two strata within the broader limits of Cut 2 were isolated and separately excavated, soon after being recognized as important additions to the upper mound stratigraphy. The first of these was the daub layer between the Stage IV fill and the humus, previously discussed. The second was the midden-like deposit of Stage IVA, which was isolated as well as could be managed during the summer of 1992 . These deposits were dry screened through 1/4 in mesh with flotation and carbon-14 samples retrieved.

Cut 3. After recording the interface between Stages III and IV in plan view, Cut 3 commenced and was taken down to the top of Stage II, our relatively undisturbed target floor. Cut 3 was excavated without screening, essentially in the same manner as Cut 2, monitoring intrusions and among them recording only aboriginal features and C. B. Moore "trial holes." Within Cut 3, excavation was arbitrarily halted at the level of 49.20 m, approximately the level of the Stage IIIA episode. At this point unit floors were troweled and recorded in a largely fruitless effort to locate Stage IIIA features. Artifacts from the remaining Cut 3 fill below this level were bagged separately.

Contrast between Stage II and Stage III fill was exceptionally good, making it an easy exercise to trowel down to the target floor precisely. In reaching the Stage II summit plateau, an effort was made to identify all artifacts associated with the floor level as it was first being troweled. The original intent was to develop a piece-plotted record of such artifacts, but it quickly became apparent that such artifacts were too few and too widely scattered to yield much information. Virtually all, moreover, were within the confines of surface stains that would later be excavated as architectural features of the Stage II floor. In short, our target floor was practically free of in situ debris.

Summit Architecture and Features, Main Block

Switching to a horizontal mode of thinking, here we can return to the stratigraphic sequence and discuss features and summit architecture, starting with that of Stage II, our target floor. From there we can discuss surviving remnants of architecture associated with Stage III, and

finish up with features intrusive from the top of the mound, which include aboriginal features assigned to Stage IV or V plus the rectangular pits identified as the trail holes of Clarence B. Moore.

Stage II

Figures 21 and 22 show the Stage II floor in the main block at the end of the work, with the features cored out. These two photographs, taken from eastern and western vantage points, convey a good impression of what the floor was like, covered by a fairly intricate assortment of intersecting wall trenches running north-south and east-west, isolated post holes, pits, and shallow irregular intrusions. A map of all of these features is given as Figure 23, which serves to show the great extent to which these formerly inhabited surfaces are broken up by intrusions of one sort or another. This map perhaps also helps to clarify why piece plotting of artifacts on activity surfaces was essentially futile; besides being relatively clean of debris, there really was not a great deal of activity surface to work with.

Figure 21. Stage II floor showing features cored out, main block, fall 1994. View to west.

Combined in Figure 23 are all stains recorded at the Stage II interface, which includes numerous features, both cultural and natural, that do not in fact pertain to Stage II but rather intrude the floor from above. Some are wall trenches intruding all the way down from the Stage III summit; these will be pulled out of the mix and discussed later. More commonly found at this level were the bases of animal burrows, which appear on the map as irregular blobs. Perseverant

Figure 22. Stage II floor showing features cored out, main block, fall 1994. View to east.

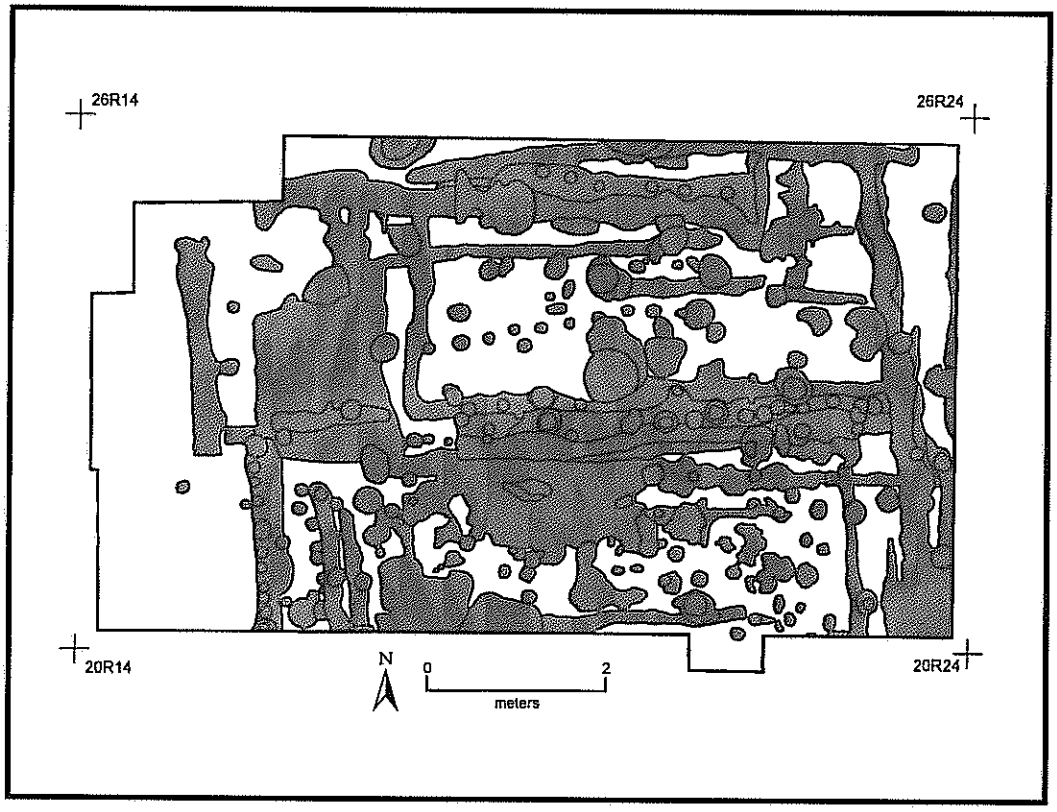

Figure 23. Plan of Stage II floor showing all intrusive features.

rodents, perhaps largely pocket gophers, had tunneled down to the Stage II floor but tended to stop there or just below, presumably because of a difficulty in penetrating the more compacted Stage II fill as compared to the fill zones above. All such rodent burrows were assigned feature numbers and were carefully cored out. In contrast, tree root and ant nest disturbances, common higher up in the mound, seldom penetrated to this level.

Removal of the intrusive features produces the map shown in Figure 24, a much less cluttered and therefore more intelligible picture of Stage II architectural remains. On this and subsequent plans, diagonal hachuring without borders is used to indicate the "ghosts" of intrusive features which will minimize distraction from the patterns being emphasized. Areas of lighter grayscale screen adjoining wall trench, post hole, and pit features indicate shallower sections of those features.

Obviously we are looking at portions of more than one structure, dominated by lightly framed wall trench constructions overlapping in various ways and differently configured one from the other. Thus several episodes of rebuilding on this surface have to be contemplated. Before any discussion of how one might disentangle these, however, it will be helpful to talk briefly about the categories of features that characterize the Stage II summit plateau.

Wall Trenches. Wall trenches comprising parts of rectilinear building walls or partitions are apparent in all portions of the investigated area, running true to the cardinal directions and to the mound flanks. Neither post holes within trenches nor post impressions in the excavated trench bottoms were anywhere in evidence. Instead, wall trenches were filled with a highly uniform soil, the color of cinnamon, containing abundant charcoal flecks and occasional finds of potsherds. The uniformity of this fill worked to our disadvantage; despite diligent efforts under various lighting and moisture conditions to identify intrusion sequences where trenches intersected, in no case could such sequences be confidently attributed. Where building corners were identified, both open-cornered and closed-cornered constructions were evident.

Somewhat arbitrarily, Stage II wall trenches can be divided into two contrasting modes, shallow and deep. Wall trenches falling into the "shallow" category consisted of reasonably straight segments with U-shaped cross sections, usually 12 - 15 cm wide and 9 - 15 cm deep. Their slight penetration of the Stage II floor is troublesome. Narrow wall trenches associated with Moundville house architecture elsewhere at the site are routinely over 25 cm deep (Scarry 1995). It is difficult to imagine a 9 cm-deep wall trench doing any more work than holding post butts in position. The deep wall trenches on the Stage II summit are of more conventional depth, 15 to 37 cm, running somewhat wider as well, but there are curiosities associated with these too. In general they are crudely dug, uneven, and afflicted by eccentricities seldom seen in ordinary houses. Odd-looking, shallow slots and shelves ran parallel to deeper sections of trench, giving rise to contorted cross sections which were the cause of much puzzlement to the excavators. Erosion could be ruled out as the culprit, for there were no water-lain sediments in the trench fills. A remaining possibility, although speculative, is that the lateral elements represented shallow digging along the base of standing walls, as though in an effort to dislodge the posts as the buildings were being dismantled. Figure 25 shows one end of Feature 167, among the more conventional-looking of the deeper wall trenches.

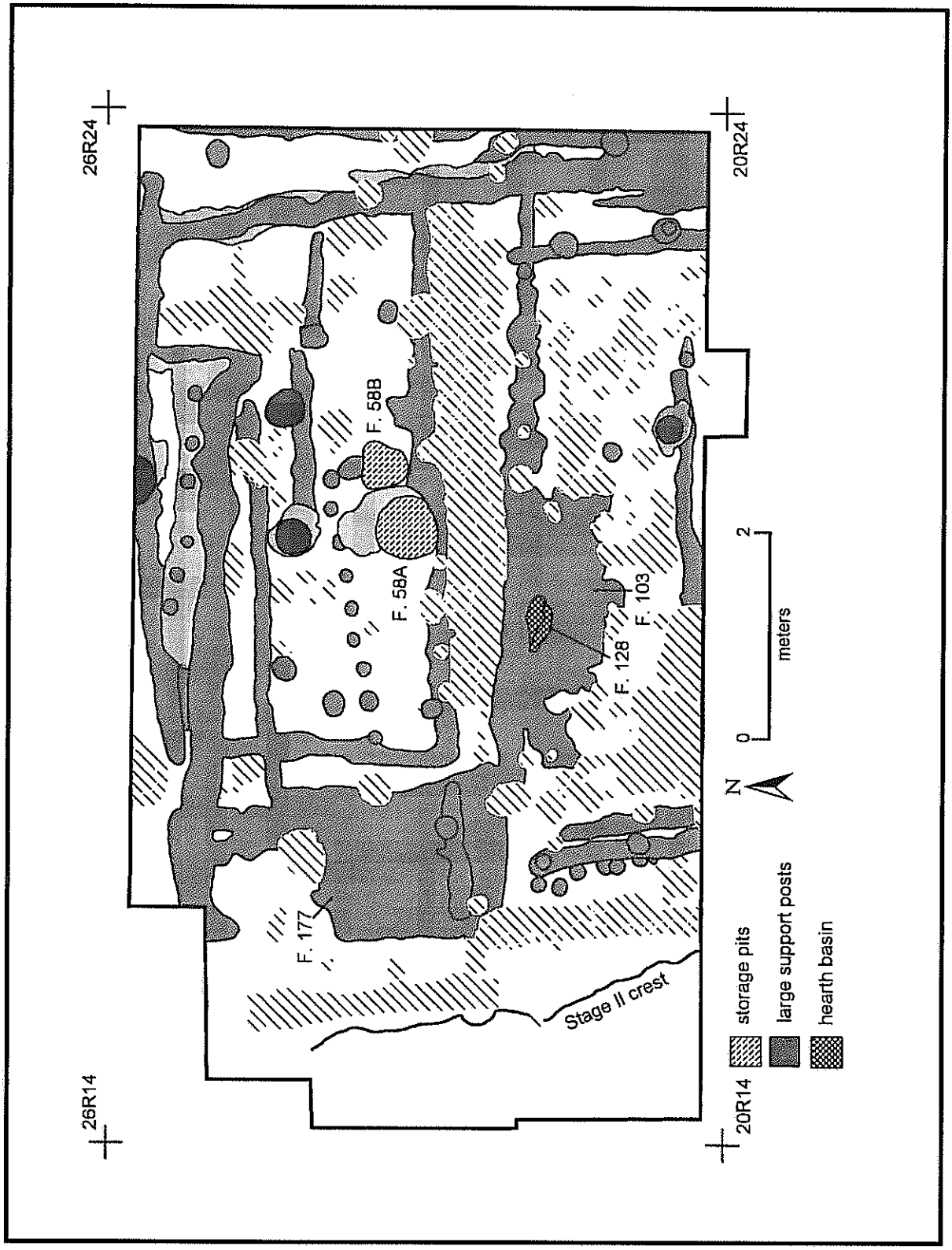

Figure 24. Plan of features attributed to the Stage II summit. Unbounded hachures indicate intrusive features from above or unattributed features.

Post Hole Alignments. Individually set post holes forming alignments were found in three separate locations. The first was a shallow set of six posts on a low shelf adjacent to and parallel to one of the deeper wall trenches near the northern margin of the main block. A second row of ten post holes (Figure 26), also running east and west, lay near the center of the main block. These were of narrow diameter and relatively deep, averaging 13 cm in diameter and 38 cm in depth. A third row of seven posts oriented north and south was found in the southwest quadrant of the block, running parallel to two wall trench segments. They were comparable in dimensions to those just described, averaging 15 cm in diameter and 47 cm in depth. Small isolated post holes attributable to Stage II, not forming part of any obvious alignment, were found in several additional locations.

Feature 25. Feature 167, a deep wall trench belonging to Structure 2, Stage II summit.

Miscellaneous Features. Four larger post holes were found, in Figure 24 set apart from other features by darker shading. All were of dimensions suggesting that they served as support posts for the roofed architecture on this summit. Diameters ranged from 29 to 56 cm, depths from 22 to 60 cm.

Two cylindrical pits, Features 58A and 58B, were located in the central area of the main block adjacent to a wall trench (Figure 27). These had straight walls and flat bottoms. As the accompanying cross section (Figure 28) shows, Feature 58A was the larger of the two, approximately 65 cm in diameter and 78 cm deep. As stated previously, it is this excavation which gives us our datum for a minimum thickness for the Stage II mantle. Feature 58B, just to the east and possibly contemporaneous with the former, was 46 cm in diameter and 45 cm deep. Both were filled with homogeneous dark brown midden resembling the fill of the surrounding trenches and post holes. Their form suggests that they were originally used as storage pits.

Remnants of a lone clay-lined hearth basin, Feature 128, had been disturbed aboriginally by subsequent digging. Only the south rim was still present, its curvature nonetheless allowing an estimate of about 80 cm for the original diameter. On the north side the digging of two successive wall trenches, one from Stage II and the other from Stage III, had run through sections

of the hearth and destroyed that side of it, just as the western margin was destroyed by the creation of Feature 103, presently to be discussed. The hearth basin itself consisted of two or three thin layers of fire-reddened clay, indicative of minor rebuilding or repair. Basins of this sort are common central features of Moundville houses (McKenzie 1964b:52-53).

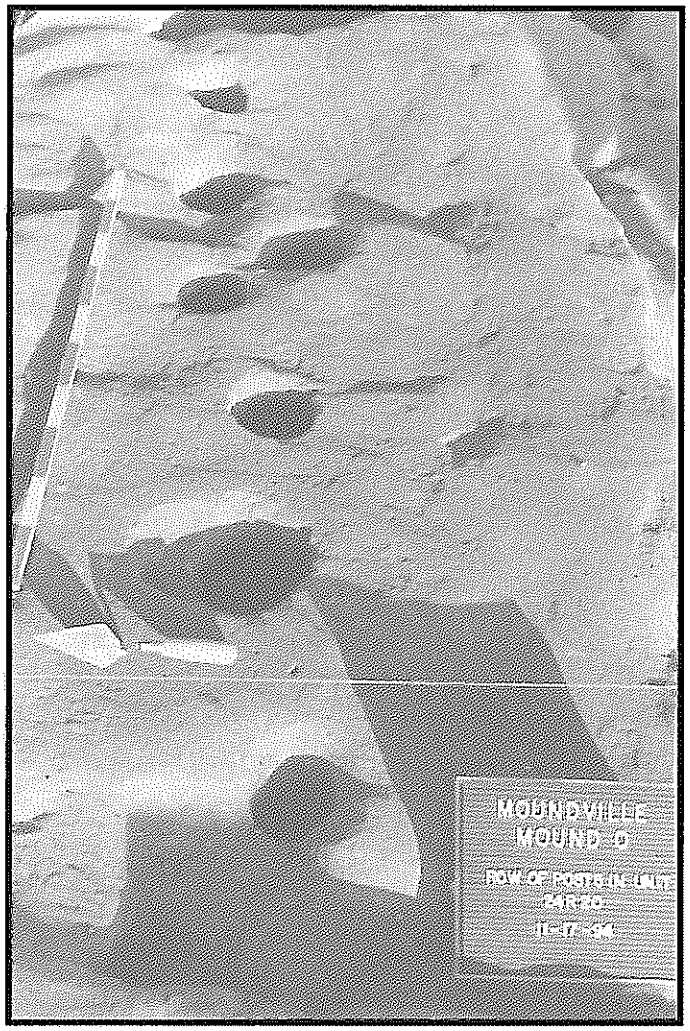

Figure 26. Row of post holes in central portion of main block, associated with Structure 3, Stage II summit.

For lack of a better term, two features of the Stage II features are herein called "dugouts." These are Features 103 and 177; their locations in the south-central and western portions of the main block are depicted in Figure 24. On the surface they appeared as large patches of midden-stained soil, with at least one edge seemingly merged with and defined by a straight wall trench. Rather than excavating them in their entirety, the two features were sampled by cross sectioning them. For Feature 103, the cross section consisted of a small trench, 70 cm wide, running across the feature from south to north. Similarly, Feature 177 was cross sectioned from west to east using a small excavation 55 cm wide. Both of these cross section trenches can be seen in the photograph taken from the western side of the main block (Figure 22), one at left center and the other at upper right. Both "dugouts" had irregular, undulating bases, and Feature 103 went quite deep in one place, as much as 65 cm below the Stage II surface (Figure 29). Feature 103 additionally contained bits of fire-reddened clay scattered through the fill near its base, resulting from its penetration through the adjacent clay-lined hearth basin, Feature 128, thus confirming the sequential relationship between the two.

We know of nothing corresponding to these "dugouts" elsewhere. At first blush it was tempting to attribute both features to rodent burrowing, a judgment stemming from their irregular basal form. On balance, however, such an account cannot stand up. Despite their irregularity, it is inescapable that the "dugouts" are intentionally positioned on the margins of wall trenches. Perhaps the best we can do is to claim that in the removal or replacement of certain building walls on this summit plateau, a certain amount of soil peripheral to wall trenches was dug up in irregular patches at the same time, for a reason unknown, leaving holes to be filled in with debris of occupation. Not a very satisfying statement, but one consistent with the facts.

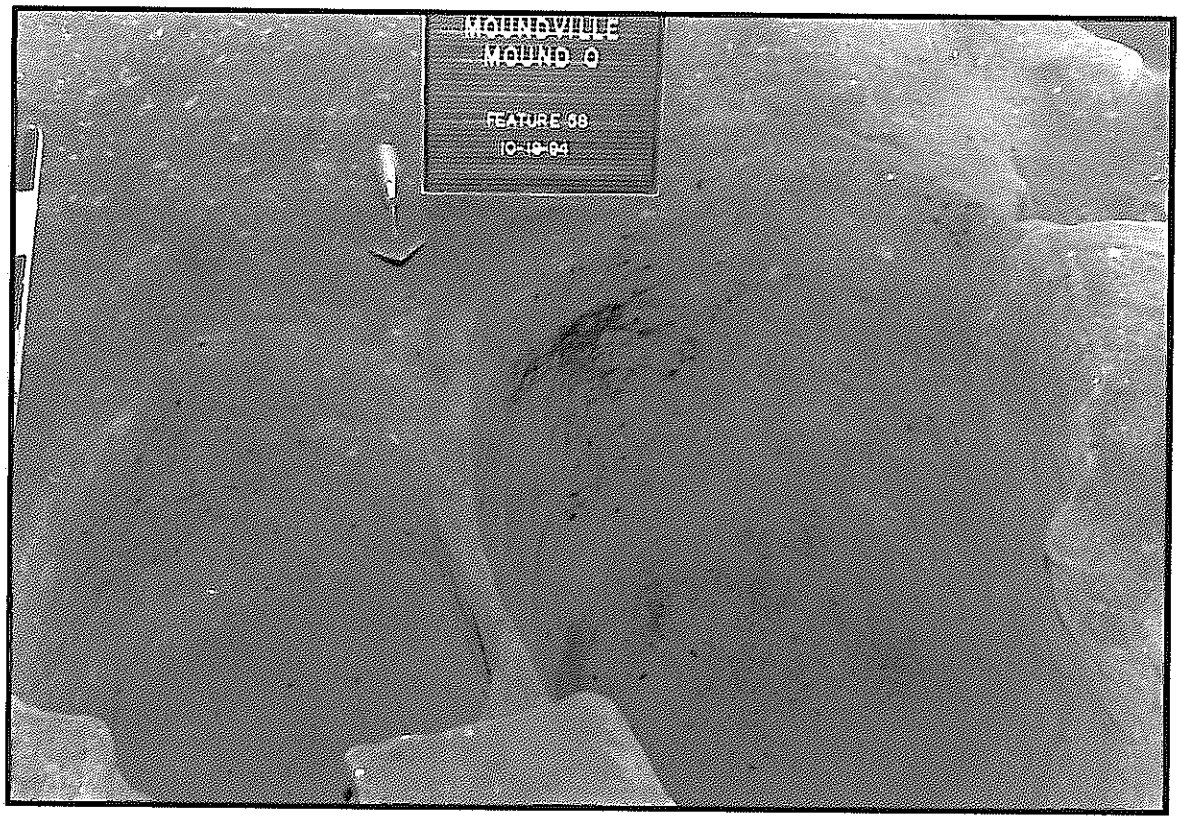

Figure 27. Features 58A, right, and 58B, left. Storage pits associated with Structure 1, Stage II summit.

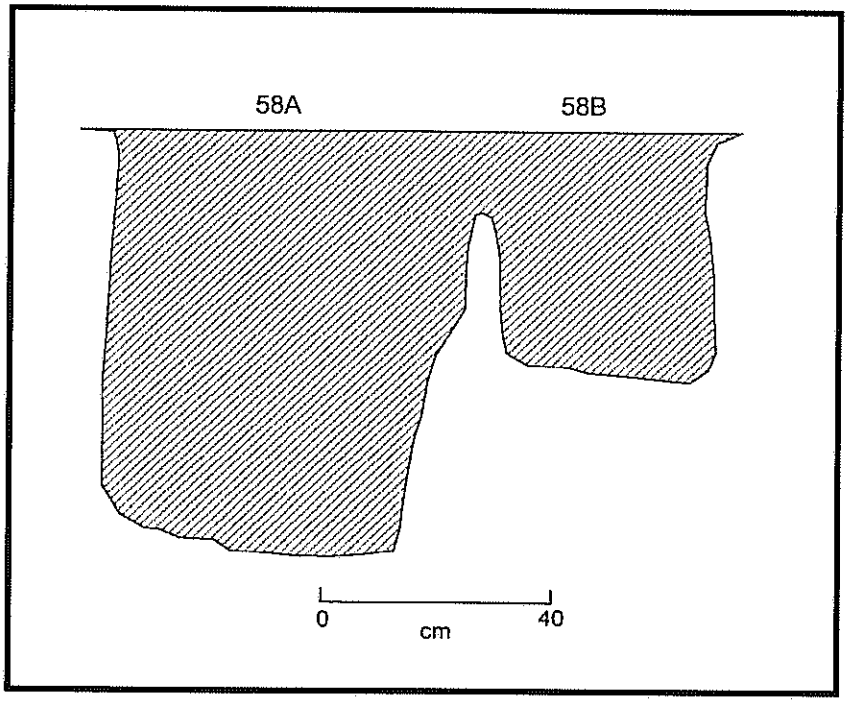

Figure 28. Cross-sections of Features 58A and 58B.

This completes our discussion of features on the Stage II summit according to type. A much more difficult task now presents itself, which is to make sense of all this and to decipher how these wall trenches, support posts, pits, and other features are articulated into structures. Such an exercise is made dicey by the fact that respectable intrusion sequences, particularly those involving the intersection of wall trenches, are few. Nonetheless we shall launch into the business by registering the impression that there are at least four episodes of rebuilding on this surface.

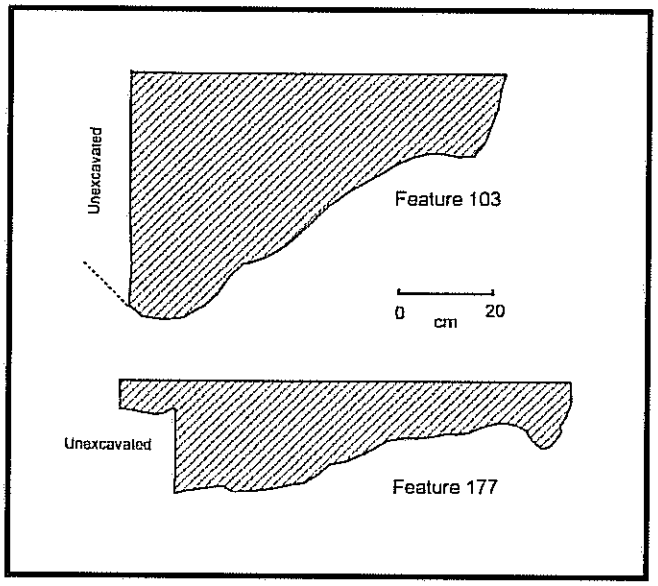

Figure 29. Cross-sections of "dugouts," Features 103 and 177, Stage II summit.

Structures 1 and 2. Among several possibilities, perhaps the most convincing building in the picture is a rectangular wall trench affair, restricted entirely to the confines of the main block. This we shall call Structure 1, and its specifications are as follows. It defines a roofed space 5.3 m by 2.9 m, its wall trenches are of the "deep" variety as previously described, and its corners are closed. Central to Structure 1 and symmetrically positioned within it are two large support posts, 1.1 m apart and oriented to the building's long axis. These weight-bearing members suggest a hipped roof. Within this small enclosure are located the two cylindrical pits already described, Features 58A and 58B, positioned just interior to the south wall.

The deep wall trench that defines the eastern wall of this small building also carries beyond it to the south, implicating this diminutive structure in a larger architectural configuration to which it appears to be conjoined. One plausible way of interpreting the evidence is that the south wall of the smaller structure is shared with a larger structure to the south. A small 1 m section of trench continues this wall to the west, where it conceivably matches up with a deep wall trench forming the west wall of the larger building, leaving a small gap that could be interpreted as an entrance. By this reasoning, the larger building extends outside the main block to the south, where there is plenty of room on the summit to accommodate its missing portion. We shall call this larger building Structure 2. It was approximately 6.5 m diameter; a large support post found within its floor area may have contributed to the support of its roof. Thus, if the apparent sharing of a wall trenches is an accurate indication of contemporaneity, we have a 6.5 m building to which is attached a 5.3 m by 2.9 m separately roofed compartment on the north side, as shown in Figure 30. Remembering that the main block is asymmetrically offset to the west on Mound Q's summit, we include Figure 31 as an aid to envisioning where Structures 1 and 2 lie in relation to the rest of the summit plateau.

Structure 3. Earlier than all of the above, based on several documented intrusions, is a portion of an altogether different sort of building. It is defined by two perpendicular, individually set rows of wall posts on a slightly different axis than Structures 1 and 2, including a north wall

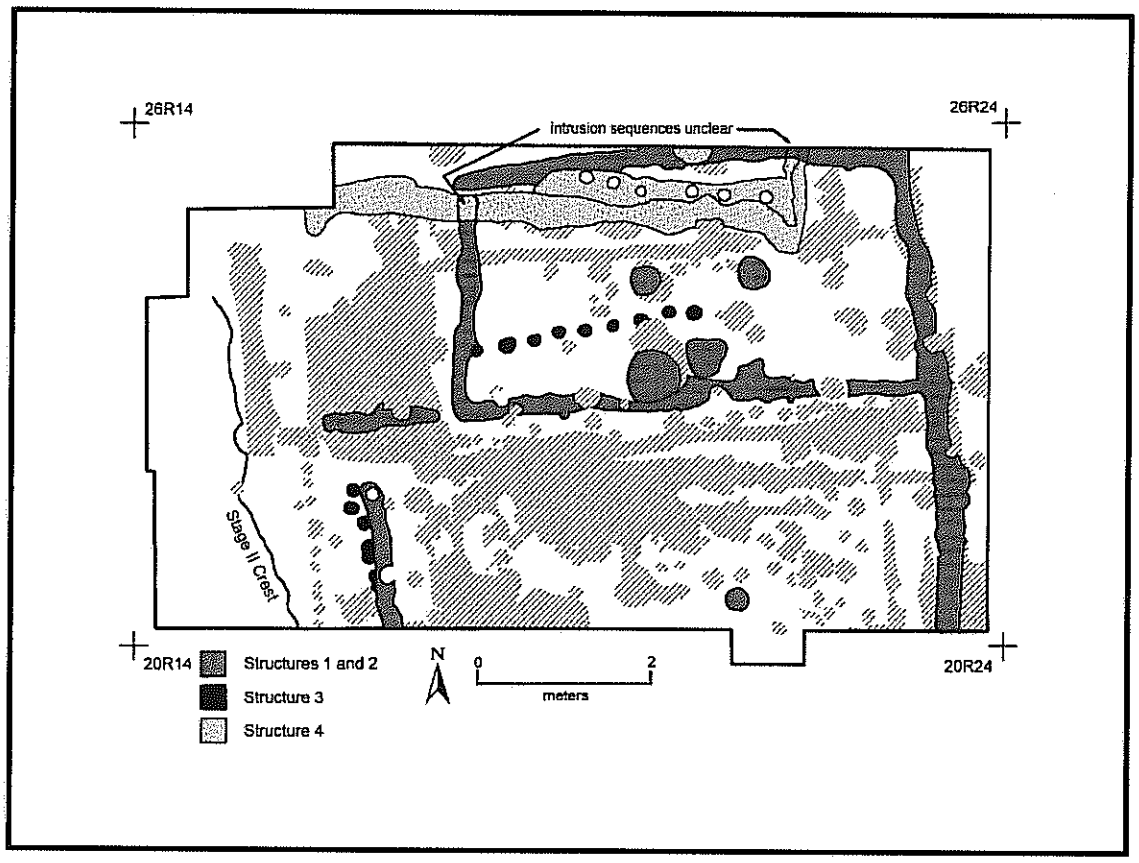

Figure 30. Elements of Structures 1 – 4, Stage II summit. Unbounded hachures indicate intrusive features from above or unattributed features.

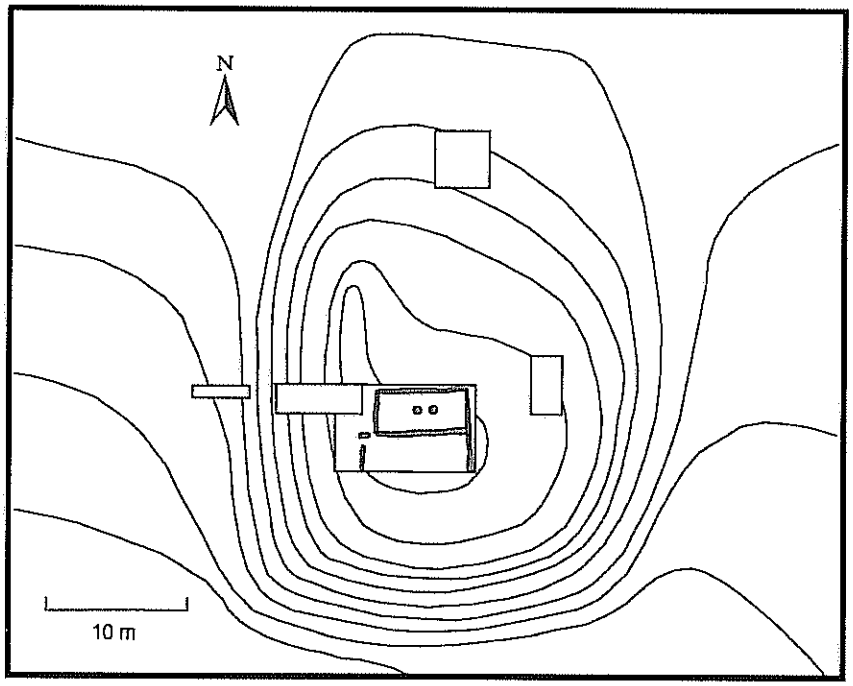

Figure 31. Contour map of Mound Q showing position of Structures 1 and 2 on the summit, Stage II.

running through the center of the main block and a portion of a west wall. One of the "dugouts," Feature 177, obscures its northwest corner, and it extends beyond the excavated area to the south. This building we shall call Structure 3 (Figure 30). Walls feature narrow posts set deeply into the ground, closely spaced about 30 cm apart center to center. A corresponding east wall seems to be missing. Despite the fact that the area through which the east wall would have passed is highly disturbed by later cultural and natural features, some of it should have survived had it been there originally. We are forced to infer an open east side for Structure 3, or at least a form of wall lacking post foundations, not unheard of at Moundville (see Scarry 1995:153). Projecting the position of the northwest corner, at least one dimension can be given: 4.1 m east-west. The clay-lined hearth basin, Feature 128, is roughly central to Structure 3 and may belong to it.

Structure 4. A portion of yet another structure is defined by Feature 34, an east-west trending wall trench of the deep variety. This wall trench forms the south wall of a building, Structure 4, that extends largely outside of the excavated summit block to the north (Figure 30). Justification for designating this as a separate structure is the identification of a south wall, two corners, and short segments of the conjoined east and west wall trenches. There are two peculiarities of the south wall, Feature 34. First, it bows outward on both ends forming acutely angled corners with the east and west walls. Second, a shallower trench runs alongside it on the interior side for a short distance, possessing six shallow post holes virtually abutting the main wall, whose architectural significance is impossible to discern. One of the large support posts belonging to Stage II is located in the interior of Structure 4 at the northern limit of the main block, and may belong to that building. The two corners present allow the statement that Structure 4 was 5.9 m wide, approximately the same diameter as Structure 1. Unfortuntely, because of a lack of differentiation in feature fills where Structures 1 and 4 intersect, the field notes are ambiguous as to the intrusion sequence and thus the relative order of construction. At least one cross section drawing made in the field interprets Feature 34 of Structure 4 as earlier than the west wall of Structure 1, but such an interpretation is contradicted by certain plan drawings. Under these circumstances it is prudent not to commit on the issue; correspondingly, Figure 30 ambiguates the pertinent intersections.

Additional Structures. All remaining wall trenches not accounted for in our interpretation of Structures 1-4 are of the shallow variety. Regarding these, it is possible to imagine certain configurations that would constitute buildings, but we would have no confidence in them. Both "dugout" features, interestingly, are associated with these shallow trenches, and they in turn intrude the remnants of Structure 3. As Figure 31 shows, there is room for additional standing architecture east of the main block, and a segment of shallow wall trench running along the east margin of the block suggests that there was in fact such architecture in that area of the summit.

Summary. All told, we have identified a minimum of four episodes of building replacement on the Stage II summit plateau. Their clarity varies considerably. We are left, moreover, with insufficient evidence to suggest an overall sequence of buildings. Structure 3 is probably the earliest construction; Structures 1 - 2 or Structure 4 is possibly the most recent. Besides the paucity of definable intrusion sequences at the intersection of wall trenches, the size of the main block is partly to blame. A larger window would surely have clarified matters, especially with

regard to the shallow trenches, which may in part be partition walls or may contribute to one or more additional undefined buildings.

Taken as a whole, this Stage II amalgam has the look of lightly framed, roofed architecture that was frequently replaced in novel configurations suited to the circumstance. Sometimes more than one building occupied the summit. Not all structures possessed hearths. None had burned. Much of the architecture has a distinctly ephemeral presentation and some of it displays a surprising crudeness of construction. Ordinary Moundville houses excavated in off-mound areas are, on the average, a bit more substantial and more carefully crafted than these. But the Stage II buildings on Mound Q possessed architectural features not commonly encountered in ordinary houses, such as conjoined rooms, cylindrical sub-floor storage pits, roof support posts, and the odd "dugout" features. Despite the evanescent construction and frequent replacement, this is surely special architecture.

Stage III

A map of features attributed to Stages III and IVA is provided in Figure 32. Here is a greatly simpler picture than that presented by Stage II, but the apparent simplicity is deceptive. Most of what is shown was actually recorded at the base of our excavations, the Stage III summit itself having been radically churned up by disturbances in the upper mound. Almost certainly there were other wall trenches and post holes originating from the Stage III summit and above that did not intrude quite so deeply as these and therefore were destroyed or went undetected. What survived is easily reported: two wall trenches, one rebuilt in place, two large support posts (Features 4 and 68), two post holes of ordinary size (Features 57 and 124), and two clay-lined hearth basins Features 3 and 6). Also included in Figure 32 is Feature 8, the massive post hole associated with the midden-like zone of Stage IVA, previously discussed in the section on the stratigraphy of the main block.

At least one structure of wall trench construction, and probably more than one, occupied the Stage III summit plateau. None seemingly had burned, or at least had burned completely, as was also true of the the underlying Stage II structures, but some slight indications of burning were found nonetheless. A smattering of fired daub was encountered within the fill of one of the large post holes (Feature 4), and there was also a small amount downslope within the Stage III debris zone on the west flank. A few sandy daub fragments from near the Stage III mound crest had an outer surface plastered with white clay. The latter were somewhat novel, as no other fragments of white plastered daub were found in any other context during the course of the project.

In the center of the main block running east and west was a wall trench segment 4.4 m long. The earliest version of this trench, Feature 61, was relatively narrow, averaging about 25 cm wide. It was replaced by Feature 2, a much wider wall trench averaging about 60 cm from margin to margin. Unlike its predecessor, Feature 2 showed the stains of a row of posts of variable diameter. The reason for this difference of appearance in the two trenches is uncertain. Apart from these was another wall trench running north and south near the western crest of the mound. This, Feature 154, was a deep segment about 35 cm wide, containing a clear row of

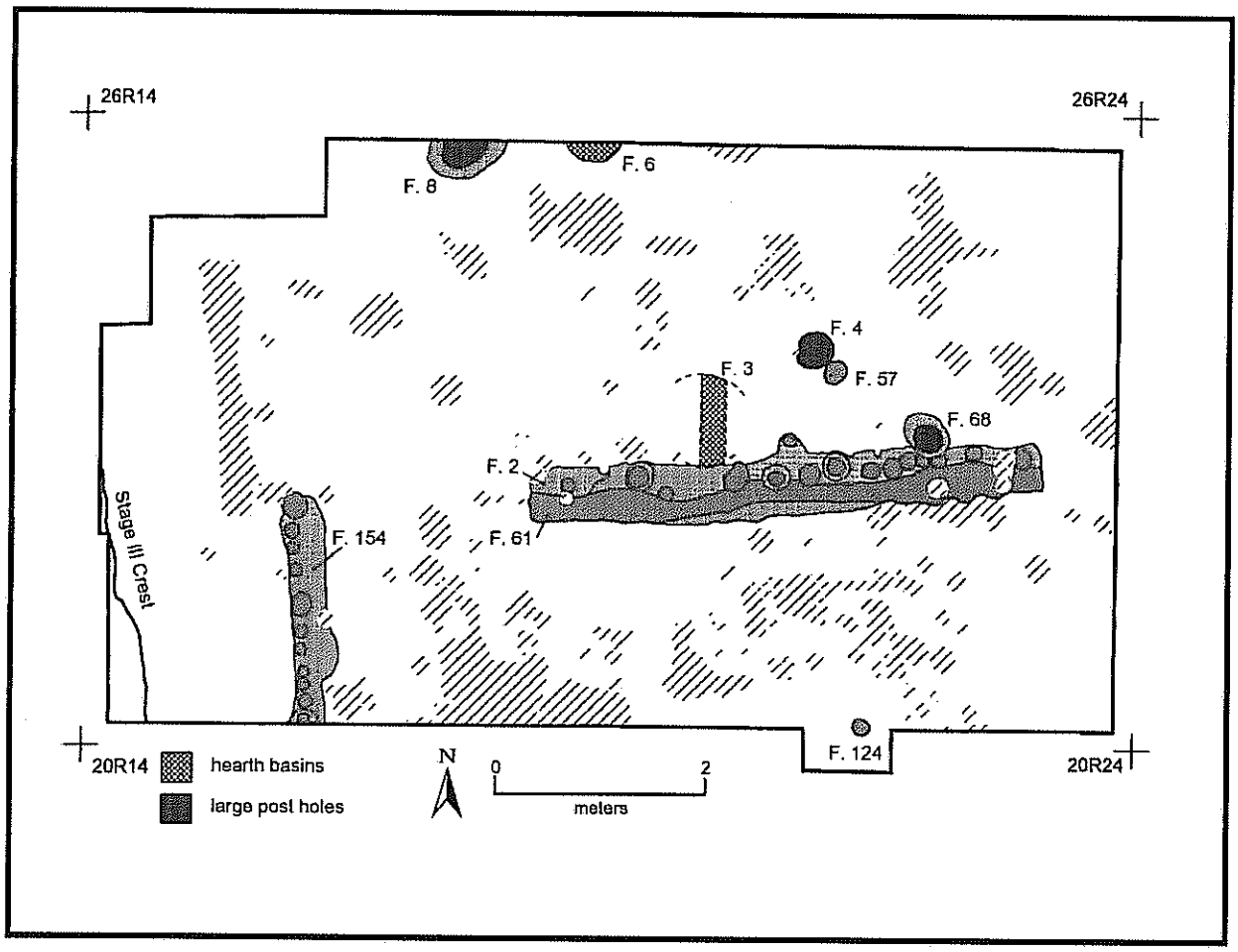

Figure 32. Plan of features attributed to stages III and IVA. . Unbounded hachures indicate intrusive features from above or unattributed features.

closely spaced post stains, most of which were 12 to 15 cm in diameter. The relationship, if any, between Feature 154 and Features 2/61 is not obvious, although they might have been components of the same structure. If so there is an unaccountable gap of two meters between them.

A good indication that other structural components, lost to us, are involved in this problem is the location of the hearth basins and large post holes. The largest of the Stage III hearths, Feature 3, was a red fired clay-lined basin partly overlapping and therefore postdating the wall trench labeled as Feature 2. Inexplicably this hearth basin was cut away by our excavators on its east and west sides before being recognized in both profiles of a standing balk. The remaining section was invaded by a rodent burrow and another unidentified intrusion. The surviving remnant was nonetheless sufficient to allow an estimate of the original diameter at 85 cm. One of the large post holes likely to have been an element of a roof support system, Feature 68, also intruded and therefore postdates Feature 2. Along the north profile wall of the main block was the second hearth basin, far removed from the known wall trenches. This was Feature 6, a smaller clay-lined fire basin that was still filled with ash when covered by the Stage III yellow clay blanket mantle. It can be seen in profile in Figure 20. On the grounds of intrusions and positioning,

Features 3, 6, and 68, while they were probably associated with Stage III summit buildings, were not associated with the particular structure or structures represented by Features 154 and 2/61.

Pertinent to the issue, no doubt, is the discovery of a preserved mud dauber nest in disturbed Stage III fill. Such nests, when found archaeologically in this section, are so closely associated with the remains of standing architecture that they can be regarded as a diagnostic. The wasps are drawn to shaded, elevated, relatively cool, and protected settings for nest building, and as any resident of the South knows, building eaves and upper interior walls are favored sites for these chambered nests of mud.

As the evidence stands, we can be sure that more than one successive building stood on the Stage III summit plateau, just as on Stage II. However, we can be even less certain than before about their configuration, since the elements that have survived are seemingly unassociated structural components. In comparison to the evidence for Stage II there are some contrasts. Two of the wall trenches, Features 2 and 154, are evidently of a different type than seen previously, or at least they were preserved differently, showing rows of post hole stains within trenches. These, along with Feature 61 are very deep and suggest a more substantially built standing architecture than anything seen on the Stage II summit. We have already mentioned the small quantities of white plastered daub as a new and different aspect. Finally it will be recalled that this Stage III surface was covered by a thin blanket mantle of yellow clay, a follow-up treatment lacking on the Stage II surface.

Stages IV and V

As stated earlier, both the Stage IV and V summits were heavily disturbed, Stage V more so than Stage IV. The only surviving vestige of summit architecture for Stage IV was the daub layer previously described. Nevertheless a few aboriginal pit features were recorded as intruding from the mound summit. A map showing these is given as Figure 33, which also depicts the approximate limits of the Stage IV daub scatter. The most that can be said about the stratigraphic position of the aboriginal pit features (with one exception: see below) is that they originated either at the Stage IV or the Stage V summit. Besides those to be discussed individually below, there were six additional, formally recorded pit-like features indicated as originating at the top of the mound. In many cases these were observed in profile only and we lack plan views for them. In several cases they are probably modern intrusions of an unknown origin.

Burial 1. This was the only articulated human burial found by us in Mound Q. For that matter it is the only one found during the entire project. One is sufficient, nonetheless, to prove that Mound Q legitimately belongs in that original category, "mounds with burials," that got us started in our search for symmetries in Moundville's earthworks. Burial 1 is that of a child, supine, with head to the east (Figure 34). It was placed in a pit, labeled Feature 10, that went undetected until the skeleton itself appeared, and was then seen only in marginal remnants of profiles that had not been already dug away. Needless to say, the contrast between pit fill and surrounding soil matrix was poor. Small bits of daub in the fill suggest that the interment postdates the surrounding Stage IV daub layer.

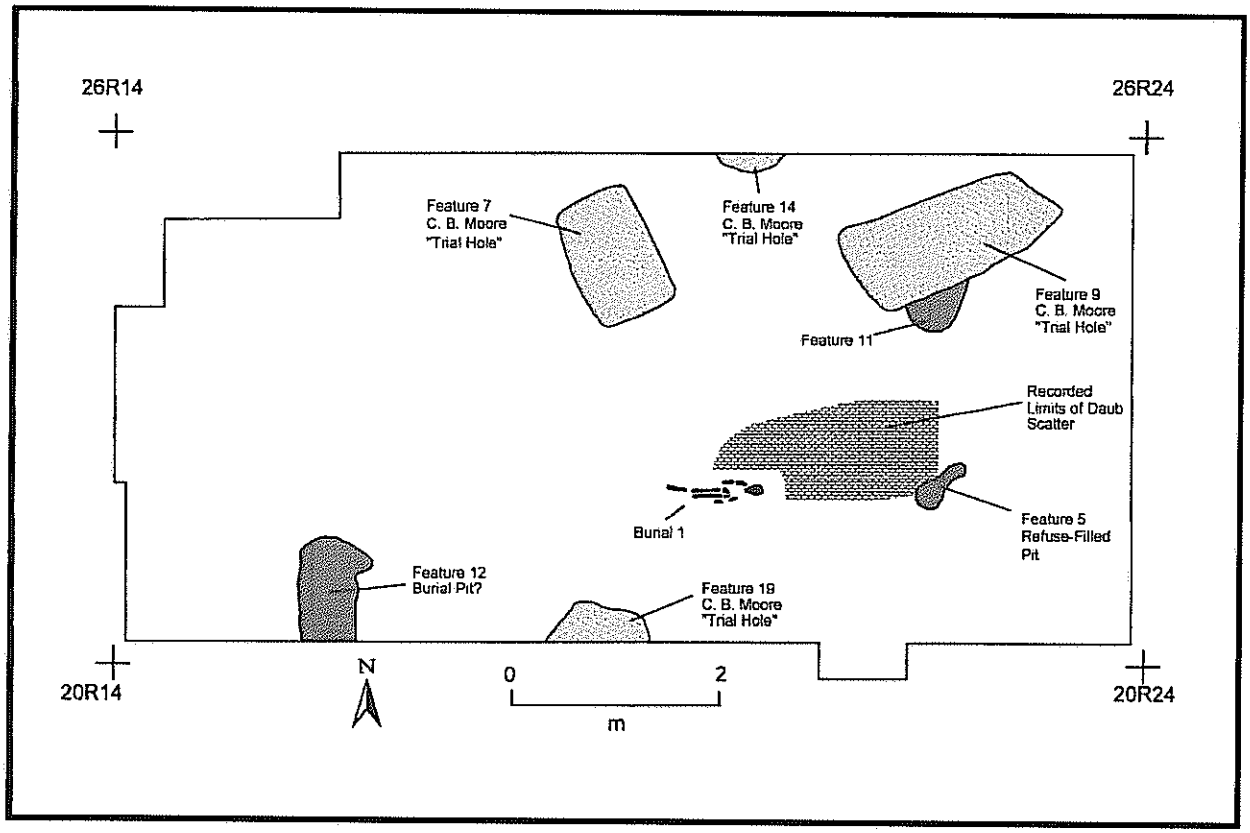

Figure 33. Plan of features associated with Stages IV and V, together with C. B. Moore "trial holes" originating at the top of the mound.

Grave accompaniments were several. Beginning at the head, a large fragmented potsherd of the type Mississippi Plain, perhaps a "pillow sherd" as is commonly found in burials at the site. Also next to the head, the base of an engraved pottery bottle of the type Moundville Engraved *var. Hemphill*, the engraved theme being that of "paired tails" in which the central medallion incorporates the "three fingers" motif. At the left shoulder, an additional large potsherd, and adjacent to that a grooved sandstone abrader. Near the left wrist, a greenstone discoidal, well smoothed, 44 mm in diameter and 8 mm thick, partly stained on both sides by a black substance. The right tibia, near the middle, had a green stain from copper salts; probably from a disintegrated copper ornament. From the pit fill came a broken tabular pendant or gorget of sandstone, perforated. Given the degree of disturbance immediately above the skeleton, this too may have been an intentional grave inclusion.

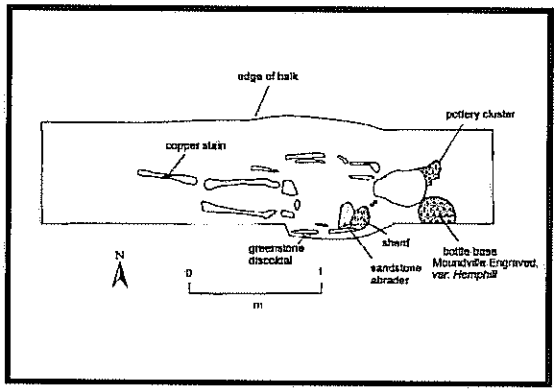

Figure 34. Plan of Burial 1 with accompaniments.

According to the report from our osteological consultant, Dr. Keith Jacobi, the skeletal remains, in degraded and fragmentary condition, were those of an individual 8 to 9 years old based on dental eruption, of indeterminate sex. The only skeletal anomalies noted were dental caries and enamel hypoplasia.

Feature 12, a Second Burial Pit? An elongate pit attributable to Stage IV or V contained two objects suggesting a burial, although it contained no skeletal remains. Feature 12 was an elongate pit approximately 50 cm wide, with a rounded bottom, oriented north and south (Figure 36). Part of it was unexcavated because it ran into the south profile of the main block. Feature 12's stratigraphic assignment is assured from the fact that it intruded the top portion of a Stage III wall trench, Feature 154. Pit fill was recorded as a dark gray soil interspersed with flecks of charcoal and potsherds.

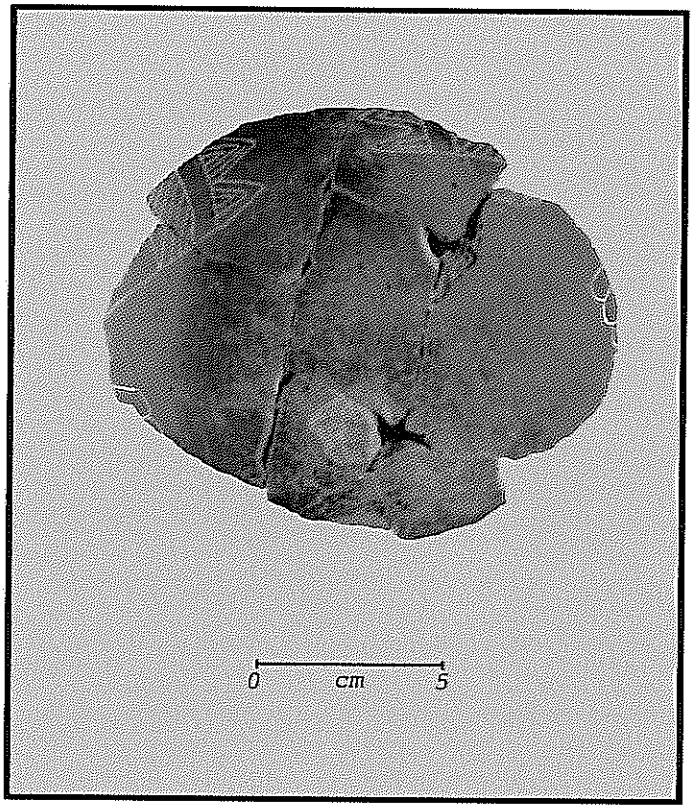

Figure 35. Base of engraved pottery bottle found with Burial 1. Moundville Engraved, *var. Hemphill*, with "paired tails" motif.

The two items of most interest at the base of the pit were a complete pottery vessel and a fragment of a copper covered wooden artifact. The pottery vessel, though partly crushed when discovered, had been intact when it was deposited (Figure 37). It was a delicate bottle of the type Moundville Engraved, *var. Hemphill*, the engraved design being the familiar Moundville winged serpent. The outside of the vessel was extremely eroded and much of the design was consequently irretrievable; the remaining portions are shown in Figure 38. Kevin Schatte, in his stylistic analysis of the winged serpent theme at Moundville, assigns this vessel to his "fur head" subgroup, which falls relatively late in his seriation and which dates, according to his estimate, to Early Moundville III (Schatte 1997:73-77). Near the vessel lay a small piece of a copper covered wooden artifact, the wood having been preserved by copper salts. The fragment was not large enough to determine anything about the original form of the artifact.

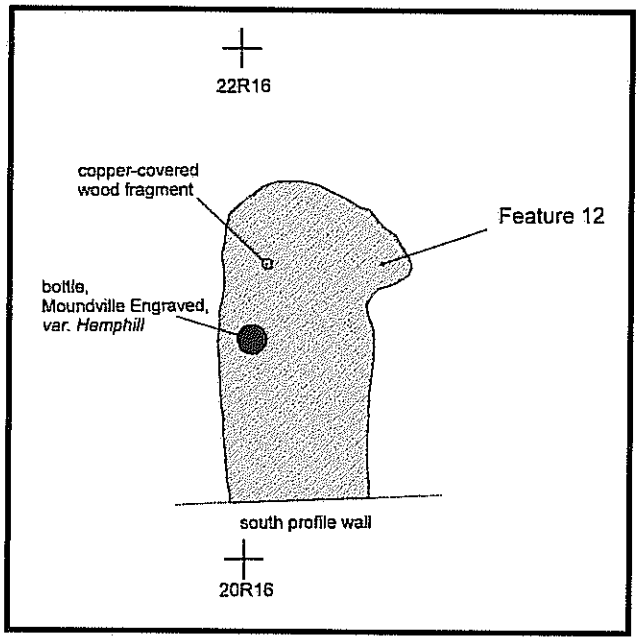

Figure 36. Plan of Feature 12.

These are the kinds of things, obviously, that are rarely found anywhere outside of the context of burials, and the elongate form of the pit reinforces that impression. Thus the complete absence of skeletal remains in the

Figure 37. Subglobular bottle with simple base found in Feature 12. Moundville Engraved, *var. Hemphill*.

pit is a bit of a mystery. Could this absence be blamed on poor preservation? Relevant, perhaps, is that evidence of unusual conditions of local water percolation was found at this point in the main block, as most potsherds from this vicinity were coated with a tenacious, blackened encrustation. As to whether this sort of water percolation could have contributed to the complete dissolution of a skeleton would be guesswork, but we suspect that a process leaving a mineral precipitate would not also dissolve bone. Probably *some* slight traces of bone should have survived, as bone preservation elsewhere in the upper mound was at least fair. A second option is to suppose that the skeleton had been disinterred aboriginally for secondary burial after a period in the ground, leaving the pottery bottle and a fragmentary copper ornament in the pit. As it stands, there is insufficient evidence to nudge our assessment one way or the other.

Refuse-Filled Pits, Features 5 and 11. It remains to describe two irregularly shaped pits and their contents. Feature 5, a shallow pit, was noteworthy in yielding abundant mammal bone and a large, unusual bowl rim sherd classified as Carthage Incised, *var. Unspecified*. This pit intruded the Stage IV daub layer and therefore probably can be attributed specifically to Stage V. Feature 11 was a larger and deeper pit, also of irregular form. It was recognized only in profile after adjacent portions were dug away. Part of Feature 11 had been cut through by a more recent pit, Feature 9, which has been identified as one of Clarence

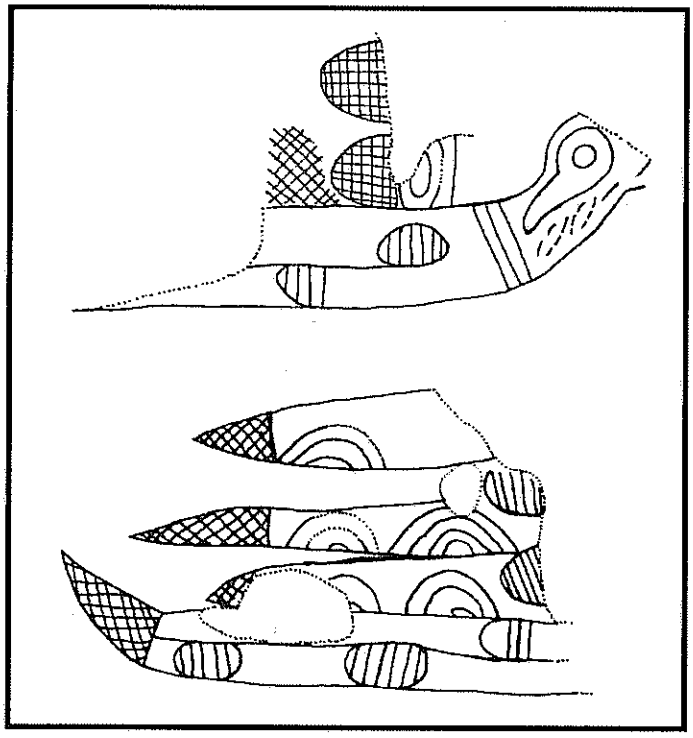

Figure 38. Engraved design of winged serpents on *Hemphill* bottle from Feature 12, damaged from erosion.

B. Moore's trial holes (see below). Large fragments of an engraved indented pottery bottle with a slab base were recovered from Feature 11. This bottle was of an exceptionally large size, having an estimated maximum body diameter of about 34 cm, an extreme outlier in the known range for bottles from burial contexts at the site (McKenzie 1964a:65). Probably it is an example of a previously unrecognized size class for Moundville bottles. Citing this case, Taft's data from rim sherds supplies additional "support for the existence of a large or outsized class of bottles that is not found in the whole vessel sample from burials" (Taft 1996:23). Enough of this specimen was present to reconstruct the design (Figure 39). The design, based on vertical scrolls, has no close counterpart among the whole vessels from the site. By virtue of the vertically oriented design structure, it is by definition a specimen of Moundville Engraved, *var. Northport*, although it incorporates stylistic elements somewhat more commonly found on Moundville Engraved, *var. Wiggins*. The wide cross-hatched bands bordered by plain bands further ally it with certain motifs commonly found on the type Walls Engraved in the Central Mississippi Valley. Based on Steponaitis's (1983) seriation, this combination of characteristics should place the vessel in the Late Moundville II time range.

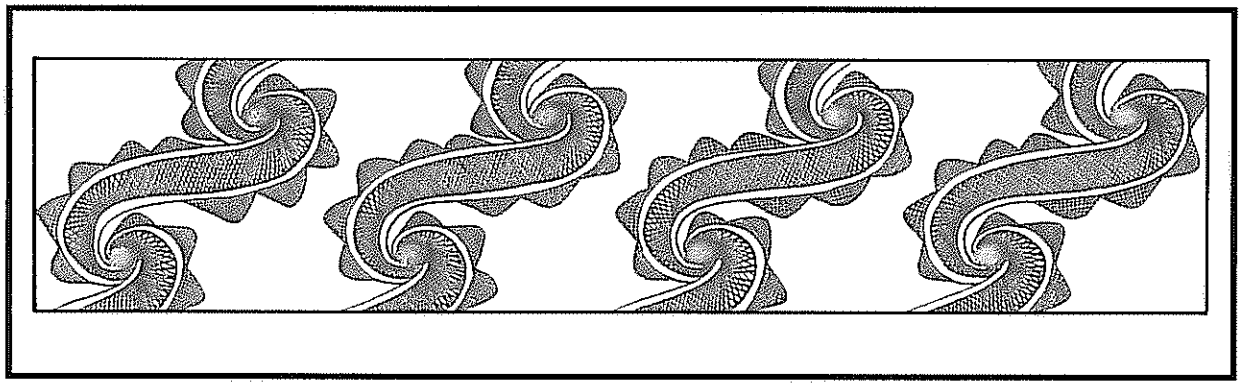

Figure 39. Engraved, indented design, reconstructed, for oversize slab-based bottle from Feature 11. Moundville Engraved, *var. Northport*. Drawing by Andrea Stillwell.

Clarence B. Moore "Trial Holes."

Knowing that in 1905 and 1906 Clarence B. Moore "fairly riddled" the Mound Q summit with test excavations he called "trial holes," we should be able to identify specific features with Moore excavations. Five pit features (Features 7, 9, 14, 17, and 19) are of a uniform shape and size answering to Moore's description of "trial holes," i.e., rectangular and dug to a common depth of 4 feet. This was our first encounter with these features; we were to find many more of them later, essentially identical in form, on the summit of Mound E.

Their location in the main block is included in Figure 33. Repetition of form confirms that Moore gave specific instructions to his diggers about the execution of these test pits. They possessed reasonably straight sides, somewhat rounded corners, and flat bottoms which just reached or barely penetrated the Stage II summit. Average dimensions for this small sample were as follows: length = 173 cm; width = 90 cm; depth below surface = 100 cm. In English units,

then, roughly 6 ft by 3 ft by 3.3 ft deep. A profile drawing of one of them has already been given in Figure 20. Figure 40 shows the appearance of Feature 7 with its dark, mottled fill contrasted against the lighter clays of the lower Stage III fill. Figure 41 is a photograph showing the south profile of the main summit block along the N20 grid line prepared for drawing. In it can be seen two more of the Moore "trial holes" in cross section: Feature 17 to the left and Feature 19 to the right. In between, in plain view are some of the main features of the summit stratigraphy: at the base, Stage II fill; then Stage III fill covered by a clay blanket mantle; above that Stage IV fill topped by a midden-like zone corresponding to the Stage IV daub layer (note the absence of the Stage IV blanket mantle here); above that, remnants of Stage V fill and the modern humus.

Figure 40. Appearance of Feature 7 , a C. B. Moore "trial hole," before excavation.

Moore excavated nine "trial holes" into the summit of Mound Q during his 1905 season at Moundville. The five discussed above are a match for those known to have been excavated that same season into Mound E. Thus most or all of these could be accounted for by what we know of the 1905 work alone. But we also know that Moore returned to Mound Q in 1906, and he says he "riddled" the summit with additional excavations at that time. If these are the only trial holes in the main block, it emphatically does not look riddled. We should ask: Where are the others? A speculative answer is that some of the supplementary Moore excavations did occur in our main block area, but were shallower and perhaps not as formally executed as the ones we have documented. Indeed, various profiles through the upper mound do show intrusions of sufficient scale to have constituted Moore excavations, though they are not nearly so deep as the five

features discussed above. To go further out on a limb, it might be the case that Moore confined his follow-up 1906 work to shallower explorations than those made in the previous year, which being more superficial, routinely went undetected by us in plan view because of the confusion administered by numerous other natural disturbances in the upper mound. Perhaps this shallower work was a deliberate exploration of the midden-like deposits of Stage IV, relating to Moore's comment about finding "rather rich soil in places, which often indicates the presence of burials" (Moore 1905:219).

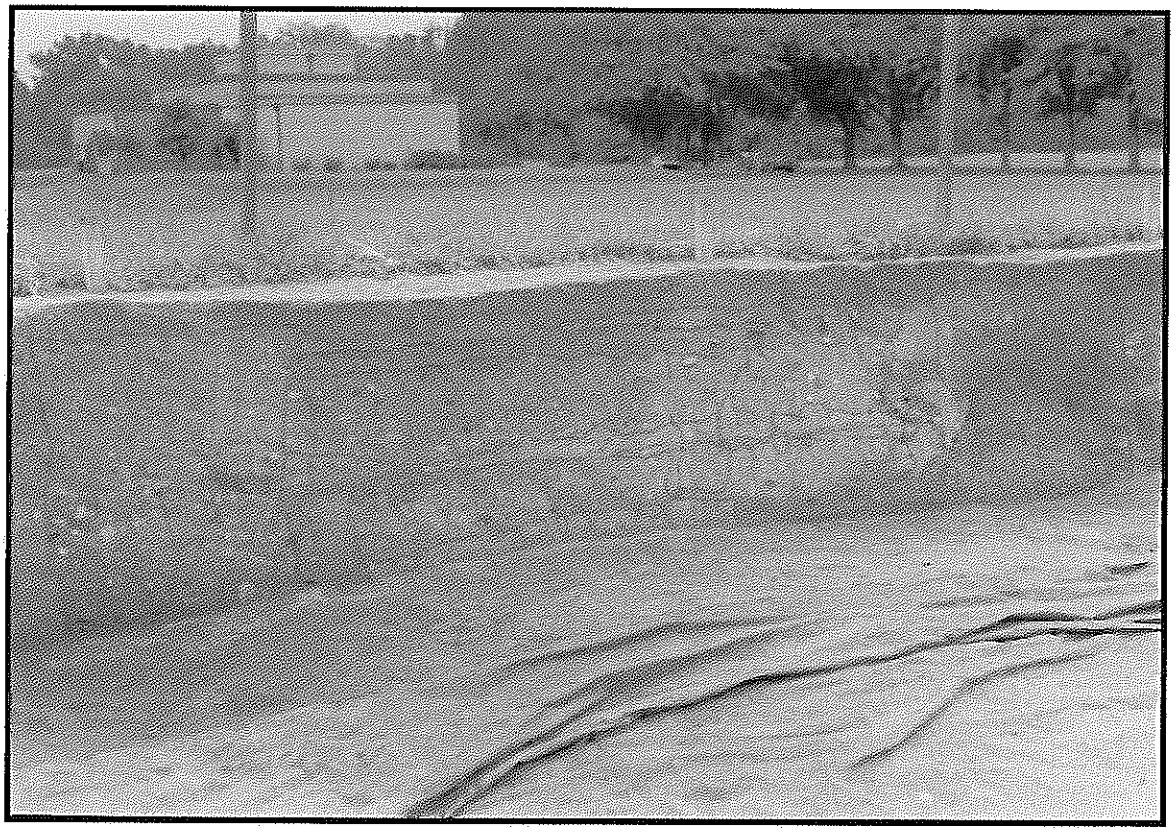

Figure 41. South profile of main summit block along N20 grid line, prepared for drawing. Cross-sections of two C. B. Moore "trial holes" can be seen.

Summit Pottery Chronology

Diagnostic pottery types and modes from the main summit block will be of great value in our attempt to assign upper Mound Q deposits and cultural features to phases in the Moundville chronology. It will be instructive to compare these results with those already obtained for the adjacent west flank trench. The data are segregated into two sets. The first consists of sherds from features assigned to various mound stages; the second, sherds from the mound strata.

Sherds from Summit Features

Sherds from features, numbering 3,072, provide data from closed, midden-filled contexts that are hopefully somewhat more immune from mixture than the general strata. Given the high

level of disruption of the various summit surfaces, sherds from features constitute a record of summit activity that is of critical importance to the dating of mound stages. Pottery types and varieties from summit features ordered by mound stage are presented in Table 3. Table 4 gives the corresponding information on diagnostic modes of decoration and vessel shape for the same sherds. A selection of these sherds is shown in Figure 42.

TYPE	Features, Stage II	Features, Stage II or III	Features, Stage III or IVa	Features, Stage IV or V	Totals
Mississippi Plain	1,428	349	211	193	2,181
Moundville Incised, *var. Carrollton*	1	1			2
Moundville Incised, *var. Moundville*	20	3	4		27
Moundville Incised, *var. Unspecified*	13	4	2		19
Bell Plain	512	86	51	58	707
Carthage Incised, *var. Akron*	1				1
Carthage Incised, *var. Unspecified*	6	1	1	7	15
Moundville Engraved, *var. Elliots Creek*	1				1
Moundville Engraved, *var. Hemphill*	**1**			2	3
Moundville Engraved, *var. Tuscaloosa*	**3**	**1**			4
Moundville Engraved, *var. Unspecified*	36	5	3	28	72
Other Types	22	14	4		40
Totals	2,044	464	276	288	3,072

Table 3. Sherd types, totals from summit features by stage. Items yielding TPQ are in bold.

Features originating at our target floor, the Stage II summit, together yielded 2,044 sherds. Because we possess no corresponding Stage II contexts from the west flank trench, this sample must carry an additional dating burden. The type and variety roster is small, but by applying our model ceramic chronology the data are sufficient to zero in on a chronological assignment. Present are three sherds of Moundville Engraved, *var. Tuscaloosa*, one of Moundville Engraved, *var. Hemphill*, three sherds with indentations, and two polychrome sherds (red and negative black over white), all of which signal Early Moundville II or later. One of the indented sherds (Figure 42a) is engraved with a hint of crosshatched scrolls in a configuration reminiscent of that shown in Figure 39, although it is classified conservatively as Moundville Engraved, *var. unspecified*. Together with the absence of Late Moundville II and Moundville III diagnostics (e.g., no slab based bottles, no beaded rims), an Early Moundville II dating is specifically indicated for this Stage II assemblage.

Apropos of ceramic dating unfortunately there is no additional information from the few isolated features belonging to Stages III and IVA. For those features assigned to Stage IV or V,

however, there are a few sherds with later characteristics than those discussed for Stage II. Specifically, we find three sherds from slab based bottles, indicative of a Late Moundville II date or later, and one rim sherd from a short necked bowl, a Moundville III phase diagnostic.

DIAGNOSTIC MODE	Features, Stage II	Features, Stage II or III	Features, Stage III or IVa	Features, Stage IV or V	Totals
Beaded rim				1	1
Folded rim	7	1	2	2	12
Folded-flattened rim	7				7
Gadrooned			1		1
Indentations	**3**			3	6
Scalloped rim	1				1
Red on white painted	2				2
Polychome/negative painted	**2**				2
Hemagraved	1				1
Short necked bowl				**1**	1
Pedestal base	4			1	5
Slab base				**3**	3
Totals	27	1	3	11	42

Table 4. Diagnostic decorative and vessel shape modes, totals from summit features by stage. Items yielding TPQ are in bold.

Secure attribution of the Stage II summit features to Early Moundville II allows an instructive commentary on some of the other pottery found in these contexts. As we have come to expect, given the accuracy of the model, there appears to be considerable admixture of Early and Late Moundville I material with the Early Moundville II. A strong showing of Moundville Incised, particularly *var. Moundville* which is sometimes considered an "early Moundville" marker, is not troublesome in this regard, because this style of jar decoration was quite certainly still in currency, if not so prominently as before, during Early Moundville II. But in contrast, folded rims and folded-flattened rims on jars are considered by Steponaitis (1983a:102) to be "excellent temporal diagnostics for Moundville I." Hemagraving, and the type Moundville Engraved, *var. Elliots Creek* are also believed to have dropped out of use prior to Moundville II. Yet all are present, even in the midden fills of mound-top features. A scalloped rim from a bowl occurs too, a stylistic trait typically seen in Moundville I contexts.

The appearance of two red on white painted sherds in unambiguous Stage II feature contexts forces pause. Steponaitis's seriation of whole vessels resulted an assessment of this mode of painted decoration as "an excellent diagnostic for late Moundville III" (Steponaitis 1983:117). If we had incorporated this statement into our model of ceramic change, we would consequently be forced to assign the Stage II summit architecture wholesale to Late Moundville III, far later in time than the Early Moundville II assessment that is otherwise indicated. Such an assignment would throw a spanner into the works, forcing the entire upper mound sequence into the waning decades of the Moundville chiefdom. While it is without doubt that red-and-white painting in certain distinctive modes described by Steponaitis is an important Moundville III characteristic, it is now equally clear to us that the trait, of itself and without qualification, cannot be used as a Moundville III diagnostic, at least at the level of potsherds. Thus we part from this small detail of Steponaitis's sequence and have not included it in our model. One good reason is that polychrome pottery, which at Moundville is most commonly negative painted black and direct painted red over a white slip, is clearly present in the sequence by Early Moundville II times; indeed we have said that there are two such polychrome sherds in the assemblage now under scrutiny. The breaking up

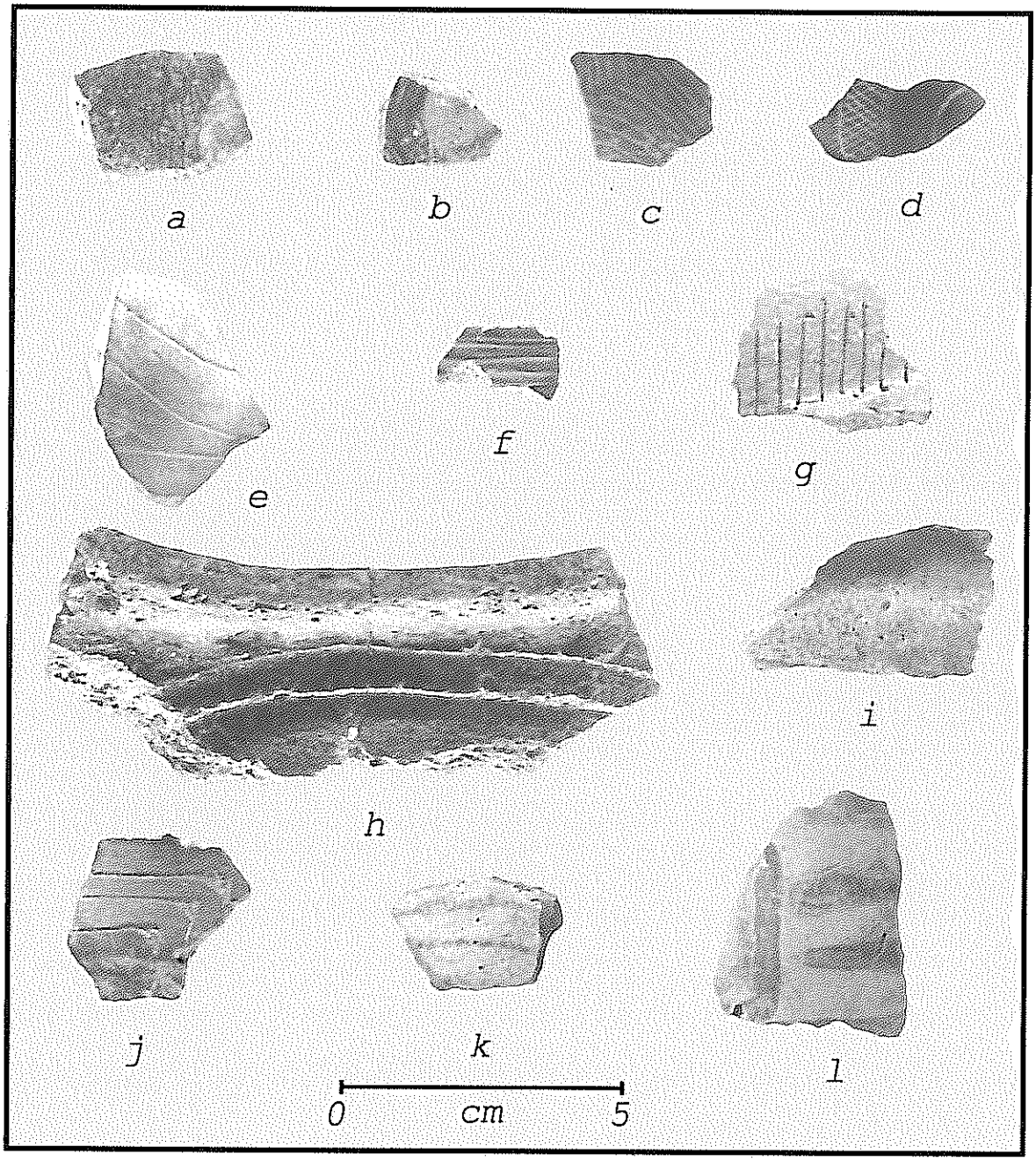

Figure 42. Sherds from Stage II features, main block, summit, Mound Q. (a) Moundville Engraved, *var. unspecified*, with indentation; (b and c) Moundville Engraved, *var. Tuscaloosa* – b has indentation; (d) Moundville Engraved, *var. Hemphill*; (e) residual engraved, temperless; (f) Carthage Incised, *var. Akron*; (g) Moundville Incised, *var. Moundville*; (h) Moundville Incised, *var. Carrollton*, jar rim; (i) residual plain, fine grog and shell tempered, pedestal base of bottle; (j) Moundville Engraved, *var. Elliots Creek*; (k) Bell Plain, negative painted black on white; (l) Bell Plain, negative painted polychrome, red and black on white.

of a whole polychrome vessel of this sort into potsherds of ordinary size would unfailingly produce specimens that could only be classified as red on white. While we are on the subject, as to the reverse situation, namely white on red pottery, this cannot be a valid Late Moundville III diagnostic either. A convenient counterexample is a carafe neck bottle from Mound C bearing white on red painted decoration, found by Moore, in a burial seriated by Steponaitis as Late Moundville II or Early Moundville III (Moore 1905: 143-145; Steponaitis 1983a:Table 35).

Four pedestal bases from bottles in the Stage II feature contexts are entirely in line with an Early Moundville II dating.

Sherds from Summit Levels

Turning to the sherds from the main summit block levels, we are rather well off in the department of sample size (12,129 sherds), but in worse shape as regards control over mixing of deposits. As explained before, as excavated our Cut 2 crudely corresponds to the Stage IV and Stage V fill zones, our Cut 3 roughly translates as Stage III fill, and an effort was made, again somewhat ineffectively, to isolate the Stage IIIA deposits in the lowermost section of Cut 3. To reiterate, these contexts were intruded to a serious extent by numerous disturbances, the more so the higher in the mound stratigraphy. Types and varieties from these contexts are presented in Table 5; the corresponding decorative and vessel shape modes are found in Table 6. These tables include sherds from the following contexts besides those listed above: piece plotted material from the Stage II summit, the screened Stage IVA midden, the Stage IV daub layer, and the humus. Examples of sherds from these levels are shown in Figures 43-49.

Forty-four sherds are cataloged as coming from the Stage II surface. To continue our discussion of the chronological placement of Moundville Engraved, *var. Middleton*, first engaged in the section on the pottery chronology of the west flank trench, here we note one sherd of the type suggesting an initial appearance in Early Moundville II.

It is gratifying to see that there is at least some stratigraphic integrity to the series of upper mound levels, despite our litany of opportunities for mixture. For example, in view of a strong Moundville III phase presence in the upper mound sequence, as already documented from the west flank trench "overburden" stratum, Moundville III phase diagnostic sherds cluster in Stage IV and above, right where they belong, and are entirely lacking from the lowermost fill contexts.

What we do find in the somewhat disturbed Stage IIIA and Stage III fill levels are chronologically diagnostic sherds from beaded rim bowls and slab based bottles, which on the face of it would suggest a dating of Late Moundville II or later. Nor is this appraisal inconsistent with certain other diagnostics found in the same levels, including strong showings of Moundville Engraved, *var. Tuscaloosa*, and, making its initial appearance in the Stage III fill, Moundville Engraved, *var. Hemphill*. A cutout rim from an eccentric bowl was also found in the Stage IIIA fill. Based on these data a Late Moundville II attribution for Stages IIIA and III will be proffered as a refinement of our initial dating assessment based on less than 100 sherds from the Stage III flank midden.

TYPE	Stage II surface	Stage IIIa fill, disturbed	Stage III fill, disturbed	Stage IVa midden	Stage IV, daub layer	Stage IV and V fill, disturbed	Humus	Totals
Mississippi Plain	21	1,141	1,607	991	36	2,011	2,688	8,495
Moundville Incised, *var. Carrollton*		2	6		1	2	3	14
Moundville Incised, *var. Moundville*	2	17	30	6	1	7	7	70
Moundville Incised, *var. Snows Bend*		2						2
Moundville Incised, *var. Oliver*		2						2
Moundville Incised, *var. Unspecified*		10	13	4		13	8	48
Bell Plain	14	395	576	341	13	729	694	2,762
Carthage Incised, *var. Akron*	1	2	4			3	3	13
Carthage Incised, *var. Carthage*					**1**	**6**	**7**	14
Carthage Incised, *var. Fosters*						**8**	**3**	11
Carthage Incised, *var. Lupton*						**1**	**1**	2
Carthage Incised, *var. Moon Lake*		1	2	1		2	1	7
Carthage Incised, *var. Summerville*						1		1
Carthage Incised, *var. Unspecified*	1	13	24	8		41	55	142
Moundville Engraved, *var. Elliots Creek*		2	1	1		2		6
Moundville Engraved, *var. Havana*		3	1		1	6		11
Moundville Engraved, *var. Hemphill*			9	7		32	3	51
Moundville Engraved, *var. Maxwells Crossing*						1		1
Moundville Engraved, *var. Middleton*	1	5	3	3				12
Moundville Engraved, *var. Prince Plantation*						1		1
Moundville Engraved, *var. Stewart*		3				1		4
Moundville Engraved, *var. Taylorville*			1			1		2
Moundville Engraved, *var. Tuscaloosa*		7	8	24		4	2	45
Moundville Engraved, *var. Wiggins*							2	2
Moundville Engraved, *var. Unspecified*	4	37	48	62	1	118	52	322
Baytown Plain		4	1			1	2	8
Alligator Incised						1		1
Coles Creek Incised, *var. Hardy*			1					1
Parkin Punctated				1			1	2
Langston Fabric Marked			1					1
Lake Jackson Plain			1					1
Other Types		9	14	9	1	23	19	75
Totals	44	1,655	2,351	1,458	55	3,015	3,551	12,129

Table 5. Sherd types from summit levels, main block. Items yielding TPQ are in bold.

The screened sample from the Stage IVA midden deposit offers a total of 1,458 sherds, this being a context in which much better confidence can be placed on the question of freedom from mixture. Here again is a strong showing of Moundville Engraved, *var. Hemphill*, plus two beaded rims. The latter, considered in conjunction with the absence of any Moundville III phase diagnostics, allows a reasonably confident assignment of the Stage IVA deposit to Late Moundville II.

DIAGNOSTIC MODE	Stage II surface	Stage IIIa fill, disturbed	Stage III fill, disturbed	Stage IVa midden	Stage IV, daub layer	Stage IV and V fill, disturbed	Humus	Totals
Band of nodes			1				1	2
Beaded rim		**1**	**1**	**2**		8	8	20
Beaded shoulder				1			1	2
Cutout rim		1				3		4
Folded rim		8	18	5	1	17	15	64
Folded-flattened rim	2	10	6	1		4	2	25
Indentations		3	3	9		3		18
Notched lip	**1**	6				2		9
Scalloped rim		4	1					5
Red on white painted						1		1
White on red painted				2				2
Polychome/negative painted			1			33		34
Hemagraved				1			1	2
Short necked bowl						**1**	**1**	2
Pedestal base		1	1			2		4
Slab base		**2**	**3**			4		9
Fish effigy features						**1**		1
Totals	3	36	35	21	1	79	29	204

Table 6. Diagnostic decorative and vessel shape modes from summit levels, main block. Items yielding TPQ are in bold.

The daub layer just below the humus and overlying Stage IV fill yielded only 55 sherds, but this total includes a good Moundville III phase diagnostic in the form of one sherd of Carthage Incised, *var. Carthage*. It is, unfortunately, another potential note of discord, a situation we are obliged to explain. If our understanding of the upper mound stratigraphic sequence is right, the daub layer should be the stratigraphic equivalent of the Stage IV midden in the west flank trench. Regarding the latter, it will be recalled that a substantial sample of pottery from that midden received a confident assignment to Late Moundville II, based on diagnostics including slab based bottle sherds in addition to Moundville Engraved, *vars. Taylorville and Tuscaloosa*, bolstered by the *absence* of any Moundville III types. Thus, to the degree that the daub layer is a trustworthy context we are required by the model to assign that depositional event to a later period than the Stage IV flank midden, based on the lone sherd. It is a conclusion, however, that fails to rock our relative level of assurance about the ceramic dating of the Stage IV flank midden. Perhaps it is not too much of a rationalization to claim that Stage IV summit plateau was occupied predominantly during Late Moundville II, but that the burned structure that terminated use of that summit was occupied into Early Moundville III times.

Next, the upper mound fills and humus in the main block contain just what one might expect from a disturbed Stage V construction that dates, as the west flank trench abundantly reveals, to the Moundville III phase. Carthage Incised, *vars. Carthage*, *Fosters*, and *Lupton* all occur repeatedly, as do sherds from short necked bowls, and one from a fish effigy vessel. All of these

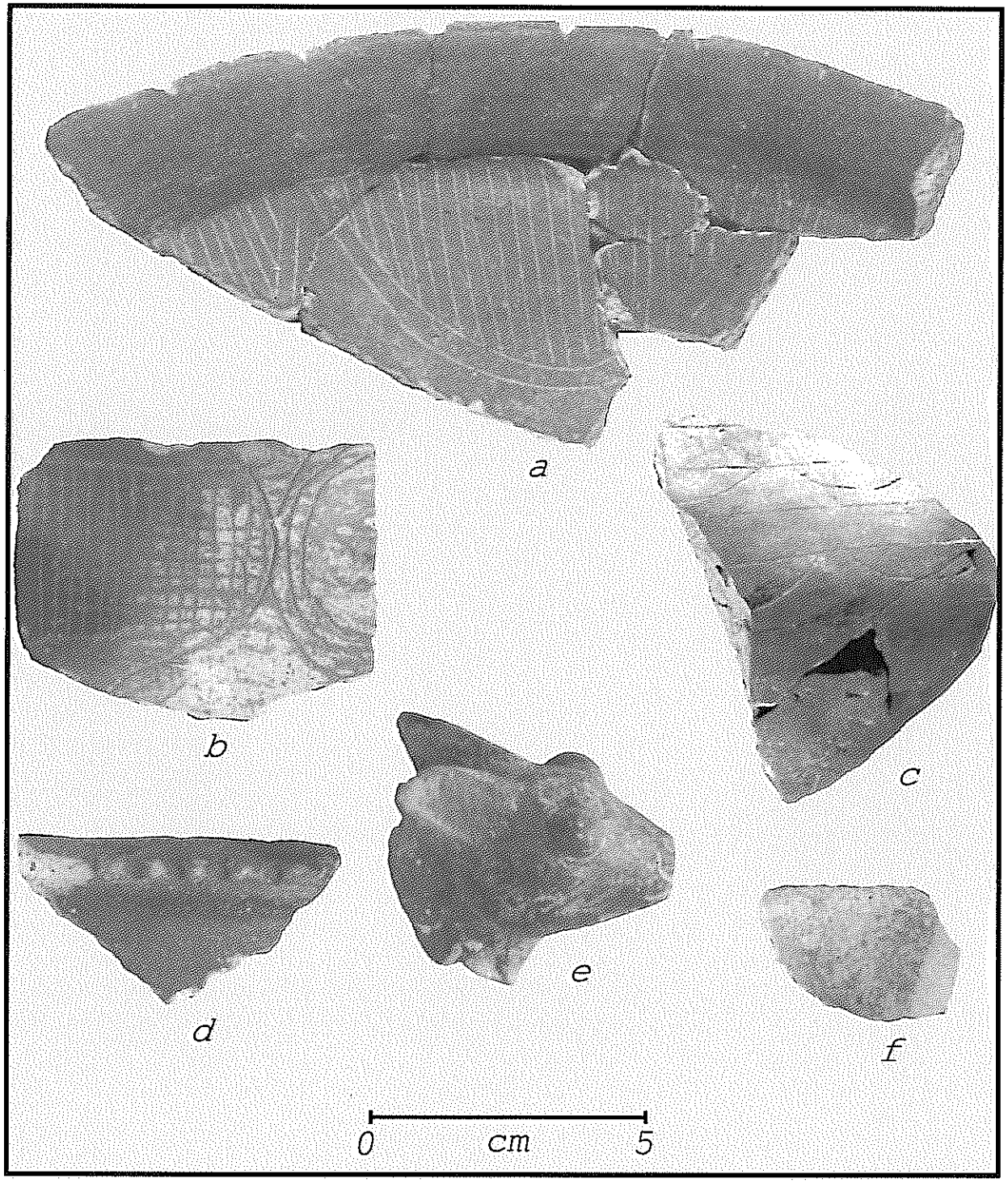

Figure 43. Sherds from Stages III and IIIA, main block, summit, Mound Q. (a) Moundville Engraved, *var. Middleton*; (b) Moundville Engraved, *var. Hemphill*, center symbols and bands; (c) residual temperless engraved, simple bowl with glauconite caked on interior; (d) Bell Plain, simple bowl with beaded rim; (e) Bell Plain, rabbit (?) effigy rim adorno; (f) Bell Plain, negative painted black on white, narrow-necked bottle rim.

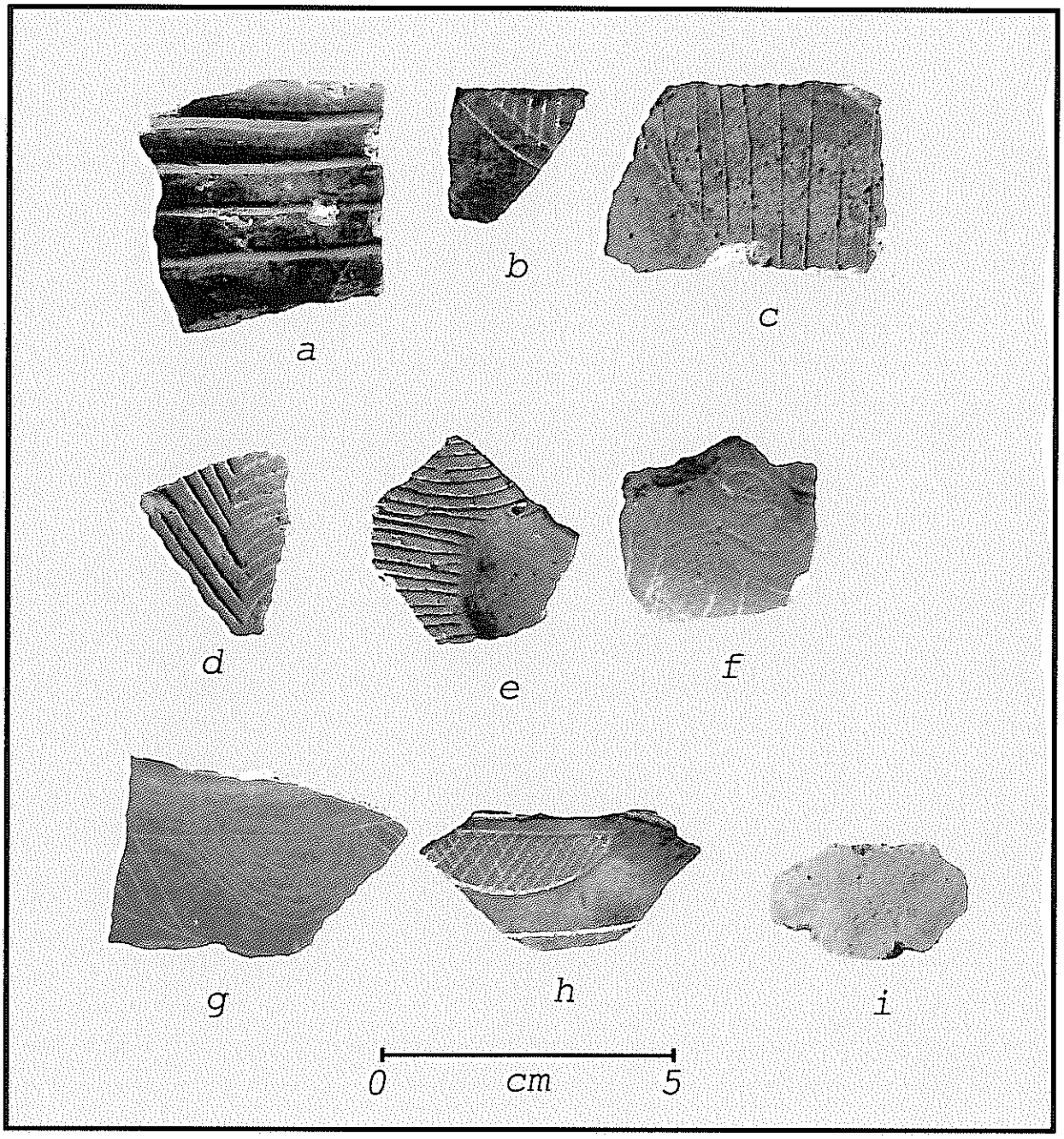

Figure 44. Sherds from Stages III and IIIA, main block, summit, Mound Q. (a) Carthage Incised, *var. Akron*; (b and c) Moundville Engraved, *var. Middleton*; (d and e) Moundville Engraved, *var. Tuscaloosa* — e has indentation; (f-h) Moundville Engraved, *var. Hemphill* – f has crested bird, g has serpent or raptor wing; (i) Bell Plain, negative painted black on white.

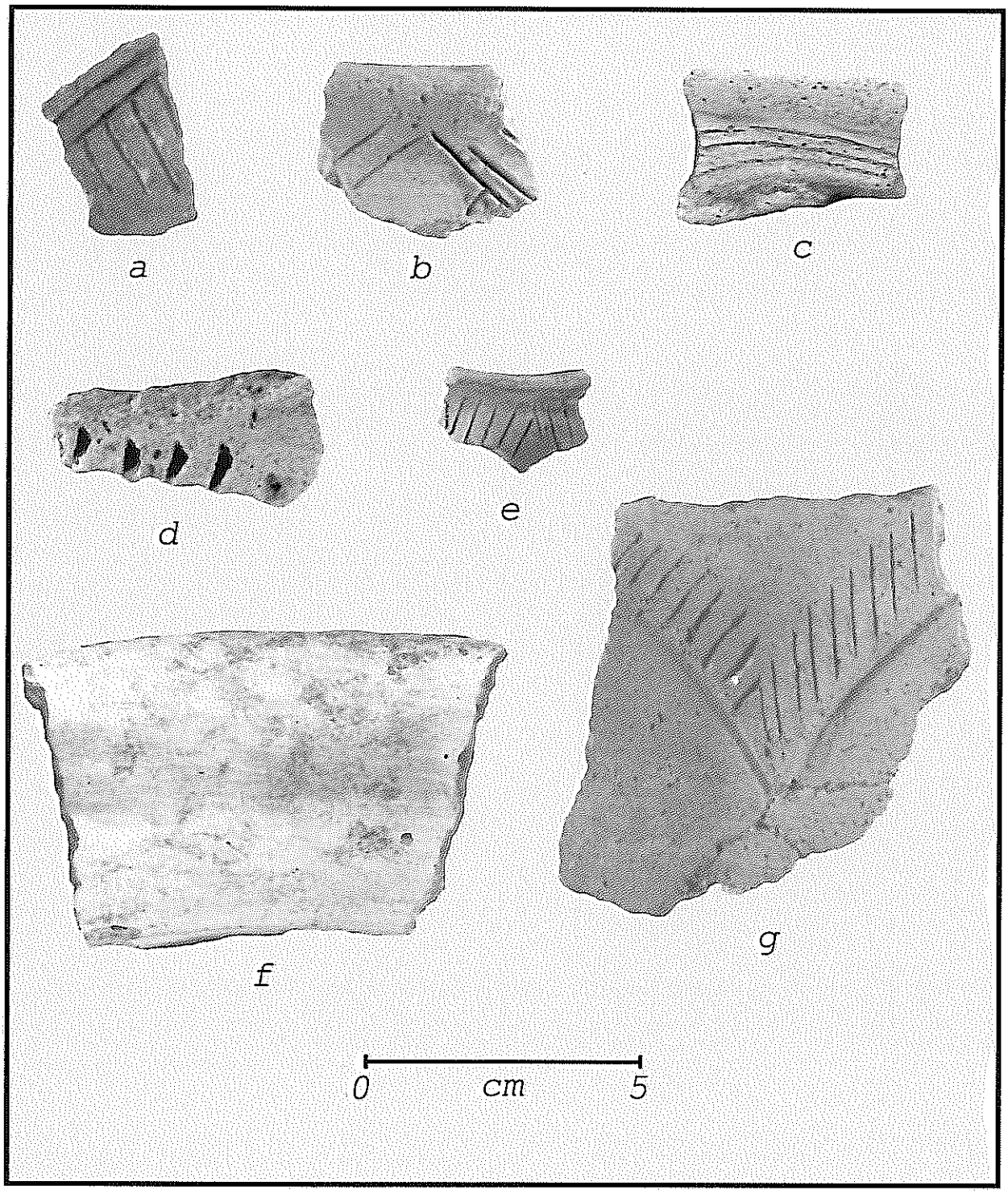

Figure 45. Sherds from Stages III and IIIA, main block, summit, Mound Q. (a and b) Moundville Incised, *var. Oliver*; (c) Moundville Incised, *var. Carrollton*; (d) Moundville Incised, *var. Snows Bend*; (e) Moundville Incised, *var. Moundville*, miniature jar rim; (f) Bell Plain, flaring-rim bowl, white filmed; (g) Moundville Incised, *var. Moundville*.

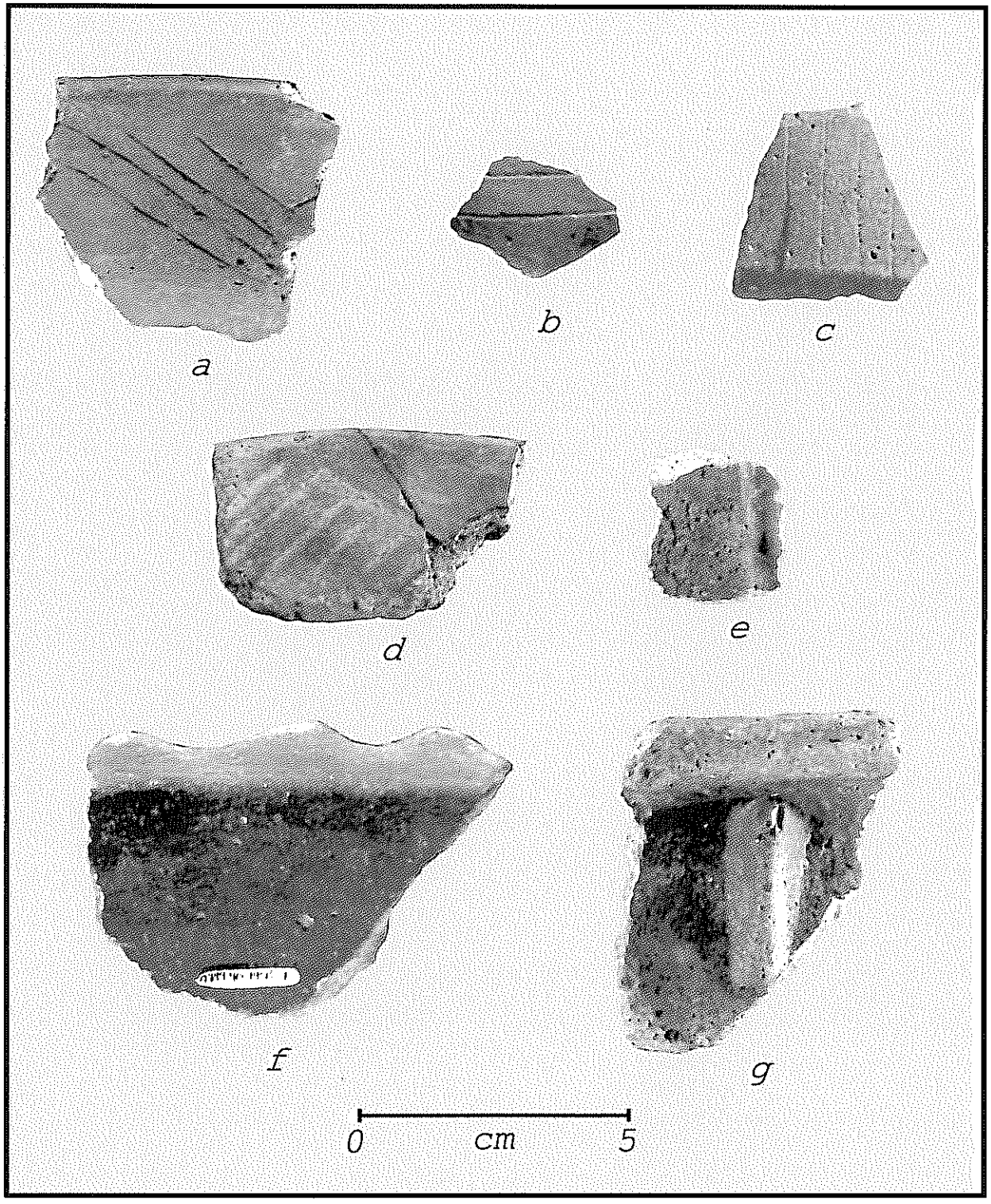

Figure 46. Sherds from Stages III and IIIA, main block, summit, Mound Q. (a) Moundville Engraved, *var. Stewart*, flaring-rim bowl; (b) Moundville Engraved, *var. unspecified*, hemagraved; (c) Moundville Engraved, *var. Elliots Creek*; (d) Carthage incised, *var. Moon Lake*, flaring-rim bowl; (e) Bell Plain, gadrooned; (f) Bell Plain, simple bowl with scalloped rim; (g) Mississippi Plain, unusual jar rim with vertical lug.

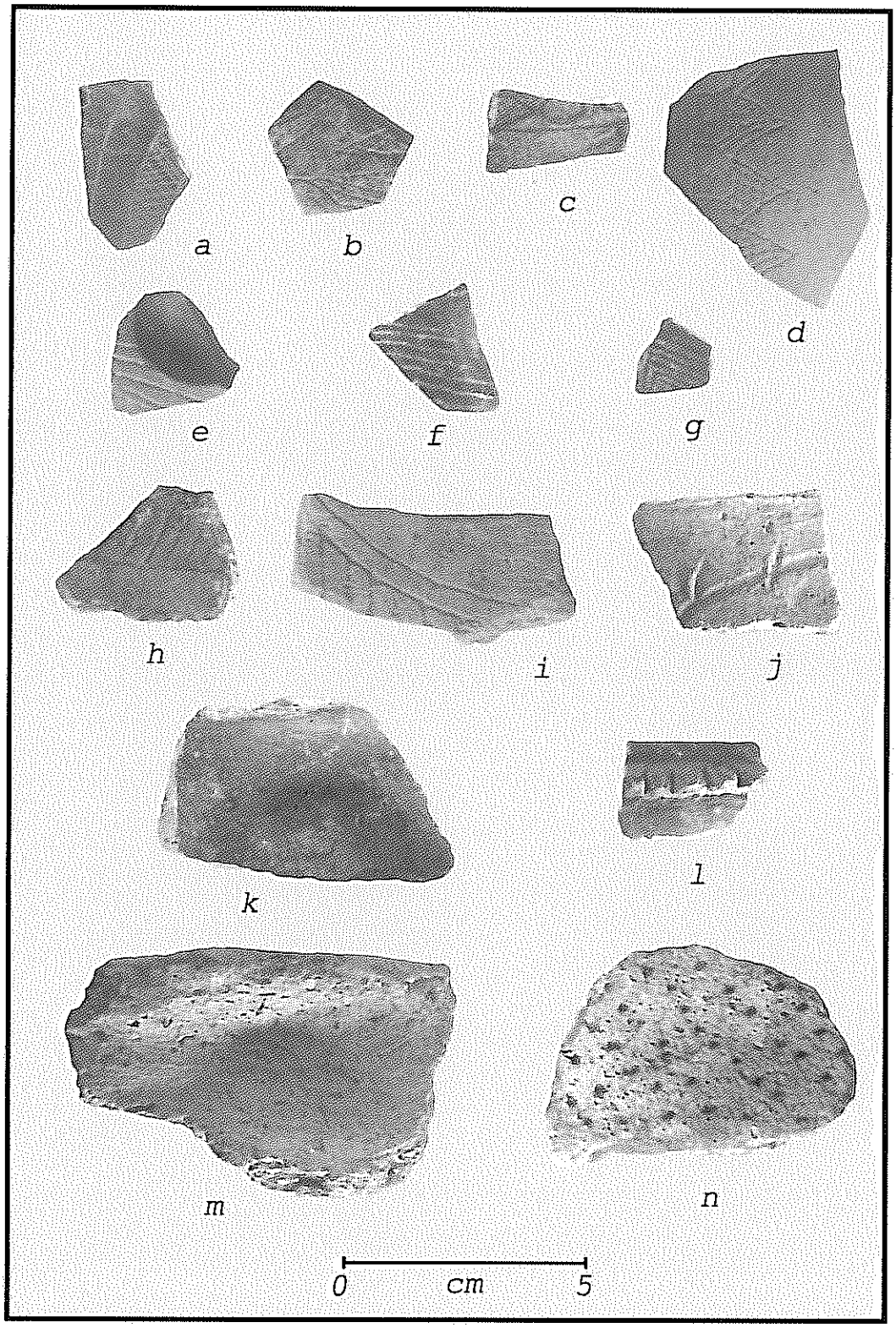

Figure 47. Sherds from Stage IVA midden, main block, summit, Mound Q. (a-d) Moundville Engraved, *var. Hemphill* – c and d have crested bird; (e-g) Moundville Engraved, *var. Tuscaloosa* – e and f have indentations; (h and i) Moundville Engraved, *var. Middleton*; (j) Moundville Incised, *var. Moundville*; (k) Bell Plain, bottle with indentation; (l) Bell Plain, simple bowl with beaded rim; (m) Mississippi Plain, jar rim with horizontal lug; (n) Parkin Punctated.

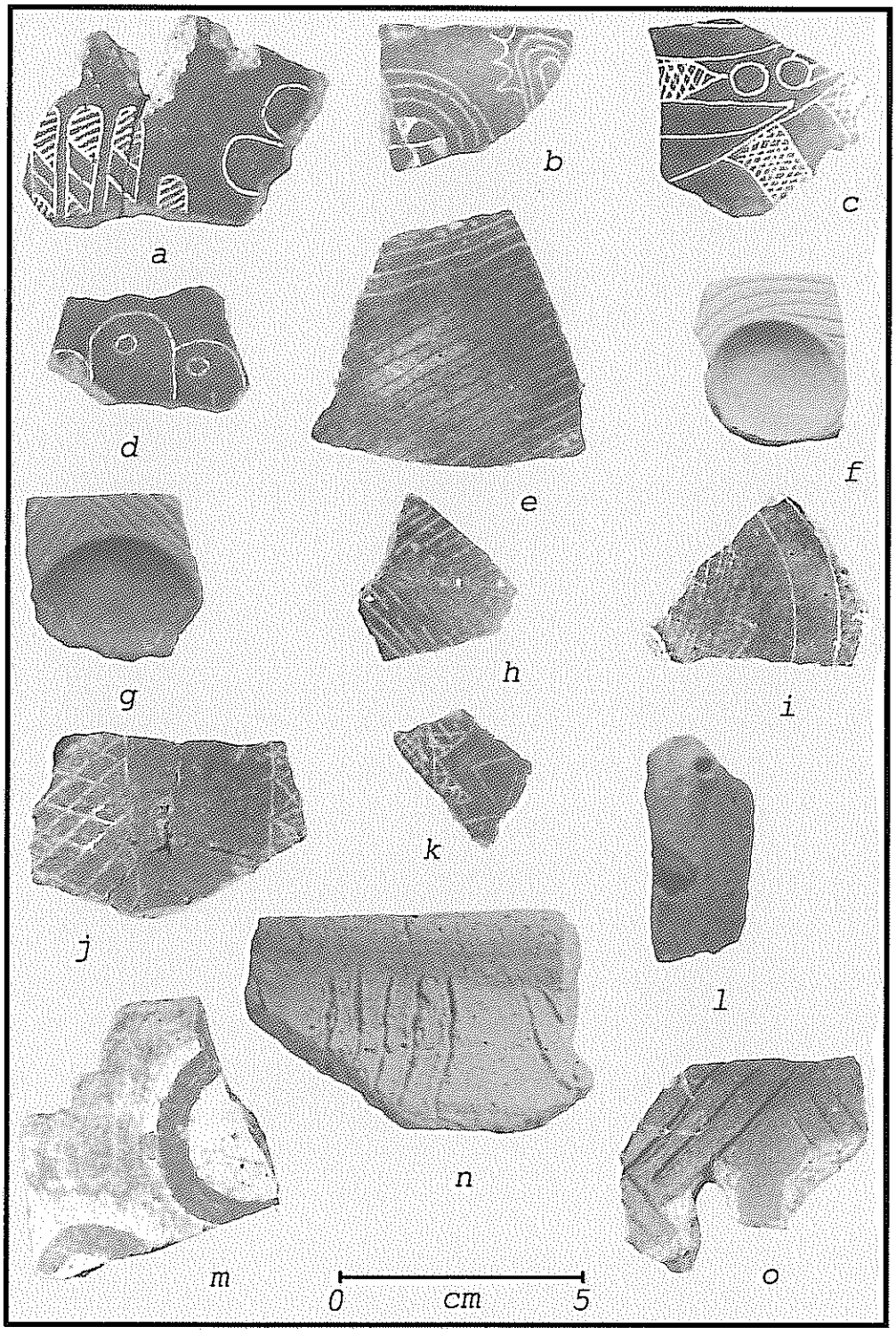

Figure 48. Sherds from Stages IV and V, disturbed, main block, summit, Mound Q. (a-d) Moundville Engraved, *var. Hemphill* – a has hand and forearm bone, b has swastika and rayed loop, c has crested bird, d has fingers; (e-h) Moundville Engraved, *var. Tuscaloosa* – f and g have indentations; (i) Moundville Engraved, *var. Taylorville*; (j) Moundville Engraved, *var. Maxwells Crossing*; (k) Moundville Engraved, *var. Wiggins*; (l) Bell Plain, fish effigy adorno; (m) Bell Plain, negative painted polychrome, red and black on white, eccentric bowl rim; (n) Moundville Incised, *var. unspecified*, jar rim; (o) residual shell tempered incised; (a-d, i, have pigment added to engraved lines for photography.)

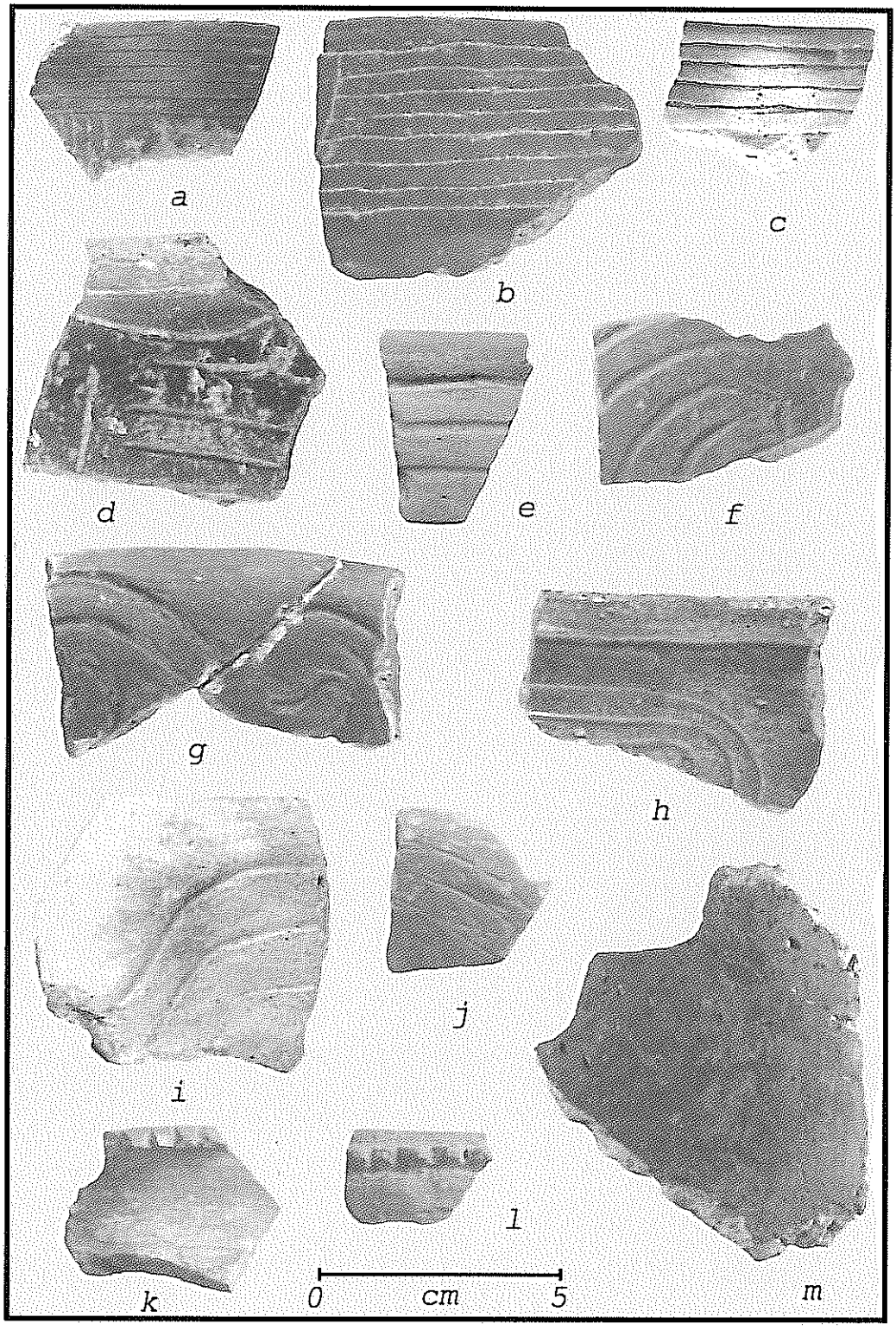

Figure 49. Sherds from Stages IV and V, disturbed, main block, summit, Mound Q. (a-c) Moundville Engraved, *var. Havana*, cup-shaped bowl rims – c is beveled below bottom line; (d) Carthage Incised, *var. Fosters*, short-necked bowl rim; (e) Carthage Incised, *var. Akron*, red on white cup-shaped bowl rim; (f and g) Carthage Incised, *var. Carthage* – g is flaring-rim bowl; (h and i) Carthage Incised, *var. unspecified* – h is short-necked bowl, i is white filmed; (j) Moundville Engraved, *var. unspecified*, eccentric bowl rim; (k-m) Bell Plain – k is jar with beaded rim, l is simple bowl with beaded rim, m is eccentric bowl rim.

are believed to be trustworthy Moundville III phase diagnostics. This is the first appearance so far noted of *var. Lupton* in Mound Q, and incidentally too, the first showing of Moundville Engraved, *var. Wiggins*, although this last is not an exclusive Moundville III type like the others.

The uppermost levels, including the disturbed Stage IV and V mound fills plus the humus, yielded the highest frequencies of Moundville Engraved, *var. Hemphill* seen in the main summit block. The same thing can be said for beaded rims (16 of 20 total), negative painted and polychrome pottery (33 of 34 total), and cutout rims from eccentric bowls (3 of 4 total). These are all forms that probably reached a peak of popularity during Late Moundville II times or later (cf. Steponaitis 1983).

East Summit Unit Excavations

The main excavation block, discussed in the preceeding paragraphs, was located on the highest and best preserved portion of the summit plateau of Mound Q, which lay to the west and south. The main block was also positioned so as to adjoin the previously excavated west flank trench. This meant that the main block was off-center. Therefore it was desirable to obtain comparable stratigraphic information from the otherwise unexcavated east side of the summit, the side facing the plaza. Such an excavation could test the symmetry of Mound Q, could check for additional Stage II architecture, and, time permitting, could penetrate below the Stage II floor to check for earlier construction stages. To these ends, two adjacent 2 x 2 m test squares (26R30, 28R30) were excavated in the summer of 1992. Their placement is indicated in Figure 4.

The east summit units were excavated separately but concurrently, leaving a balk in between for stratigraphic control. Work on these units commenced in late June, 1992 and was finished three weeks later. In both units, the initial cut consisted of the removal of the humus, followed by a series of arbitrary levels. In Unit 26R30, the second cut was taken to an level of 49.12 m, below which the following six cuts (3 – 8) were taken down in 10 cm increments to a depth at elev. 48.49 m, just over one meter below the surface. Adjacent Unit 28R30 was carried in four cuts to a somewhat shallower depth at elev. 48.69 m. In the latter excavation unit, Cuts 3 and 4 departed from the procedure of digging in arbitrary levels in order to isolate a sloping midden, presently to be discussed, which was first recognized in troweling at the base of cut 2. In this case, Cut 3 corresponds to the mound fill overlying the midden, while Cut 4 corresponds to the midden itself, which was dry screened through ¼ in mesh.

Stratigraphy of the East Summit Units

Although the east summit units lay a mere four meters from the main excavation block, correlation of their stratigraphy with the well worked out sequence from the main block was neither obvious nor straightforward. Because of this, we shall present the details of the east summit unit stratigraphy first, using all of the internal evidence at hand, without reference to the construction stages so far defined. Afterward, a correlation will be proposed. For this discussion, stratigraphic components will be labeled alphabetically, beginning with the earliest deposit. Figures 50 and 51 offer selected profile and plan views illustrating these components.

A. A small patch of flat lying midden, dark gray-brown in color, discovered in the lowermost level of Unit 26R30 at an elevation of 48.55 m. In plan view (Figure 51), the midden is confined to the southwest corner of the excavation unit, where it is intruded by a later pit (Feature 13), to be described momentarily. Presumably there is a stage break at this level. (The adjacent excavation unit did not reach this depth).

B. A layer of mottled sandy clay mound fill, up to 35 cm in thickness, overlying the midden described in *A.*

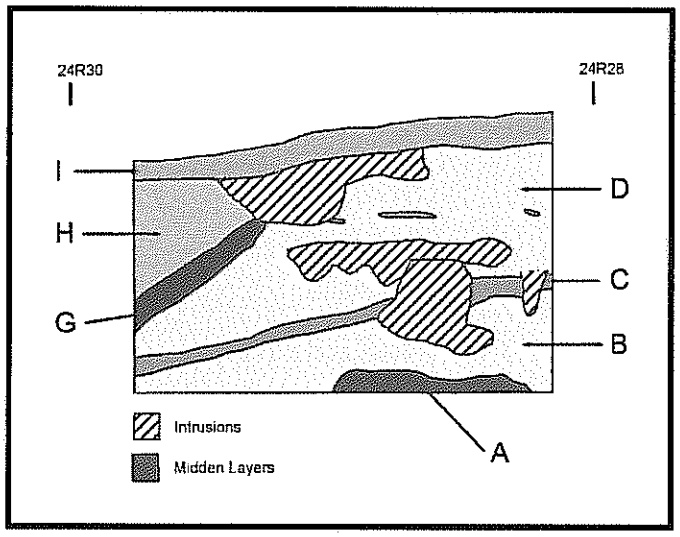

Figure 50. South profile of unit 26R 30, east summit.

C. A thin deposit of light brown sand with inclusions of charcoal flecks, sloping gently to the east, reaching an elevation of 48.96 at its highest point. This layer, 4 to 8 cm in thickness, was noticed only in the south profile of Unit 26R30. It conceivably defines a stage break, but if so it is curious that it could not be traced in the west and north profiles of the same unit.

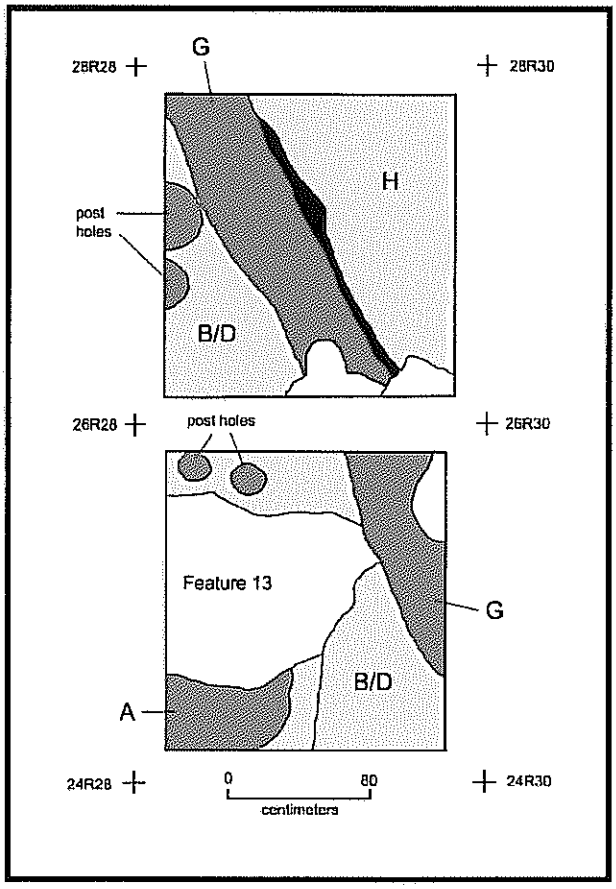

Figure 51. Plan of east summit units at elev. 48.7m, showing middens A and G, post holes, and Feature 13.

D. A layer of mottled, yellow-brown clay mound fill, up to 40 cm in thickness, distinguishable from *B* only in the south profile of Unit 26R30.

E. A reasonably clear stage break at the top of fill *D*, an elevation of 49.19 m. The field drawing of the west profile of Unit 26R30, not shown, describes it as a thin "floor," whereas in the adjoining south profile it is marked by thin, flat-lying humic lenses.

F. A large pit, Feature 13 (Figures 51, 52), appearing to originate at or just above floor *E*, which it intrudes. A minimum depth can be placed at 63 cm, although the base of the pit was not yet reached in the floor of our excavation unit at 48.49 m. Its vertical sides and fairly large size of approximately 65 cm diameter, led the field party to suspect at the time of its discovery that it was someone's early test pit, perhaps one of the "trial holes" of C. B. Moore. Three bits of evidence from

Figure 52. West profile of unit 26R30, east summit, showing Feature 13 in profile, prepared for drawing. The tapered vertical stain running through the middle of the feature is a root disturbance.

the field records, however, allow us to discard that premature hypothesis. First, Feature 13 does not appear to originate from the top of the mound, as is suggested by an apparently intact, horizontal lens of unrelated orange clay in the fill above it. Second, Feature 13 seen in plan view (Figure 51) is clearly intruded by midden layer *G* (discussed below), which the pit therefore predates. Finally, the fill of the pit exhibits characteristics not seen in any other pit attibuted to Moore. At the base of our excavation unit, which must have been close to the bottom of the feature, the fill of Feature 13 consisted of a mottled wash of clays and water sorted silt and sand. Clearly, the pit had lain open for a time, and were it not for the vertical sides we might have been inclined to interpret it as a severe filled-in gully. The fill within, as seen in profile, was variegated and traversed by clay bands, some horizontal and some sloping, in such a manner as to suggest a sequence of fill episodes spanning perhaps some time, or at least more time than it took for C. B. Moore to backfill his "trial holes." The various soils comprising the fill were essentially devoid of artifacts. In the end, we are left without a satisfactory interpretation of this pit, although we may be assured that it is an intentional "aboriginal disturbance," to use Moore's phrase. We simply did not get to the bottom of it.

G. A highly conspicuous sloping layer of midden (Figures 50, 51), dark brown in color and somewhat mottled, containing small daub fragments, flecks of charcoal, and potsherds. In places its upper surface was defined by a thin lens of charcoal. Its base clearly defines a stage break, probably, though not demonstrably, the same as that defined just upslope by *E* (The profile that

might have resolved this was intruded by an animal burrow at the key intersection). Midden *G* was traceable through both excavation units on the east summit, a fact which allows us to provide certain details as follows.

In plan view, at the base of our excavation units, the trend of the midden is conspicuously offset from grid north. As the orientation is not significantly different from that of Mound Q's present surface at the same position, we can state that at the time the midden was laid down, the contours of the mound on the eastern flank were similar to those at present. It overlies and postdates the eroded base of Feature 13, discussed above. Midden *G* is steeply sloped to the east, lying at about 35 degrees from horizontal, which is evidence that the mound crest at this stage of deposition lay within the horizontal confines of the east summit units. The midden slopes more gently so to the north, at about 15 degrees from horizontal. It becomes much thicker to the north as well, reaching a depth of 27 cm in the north end of Unit 28R30. This depth of midden expanding to the north anticipates the great thickness of flank middens on the north side of Mound Q in its later history, whose investigation we shall visit presently. Intruding from the base of midden *G* were four post holes, not in alignment and of variable diameter, shown in plan in Figure 51. These four post holes were the only structural remains documented in the east flank units.

H. A thick layer described as mound fill overlying midden *G*. Its maximum undisturbed depth is 47 cm. The field records describe this layer as being composed of brown silty clay, rather darker in color than the more yellow-orange mottled fills below. It is perhaps analogous to the ambiguous "overburden" layer that we have described for the flank trench on the opposite side of the mound.

I. The modern humus, about 10 - 12 cm in thickness. From this superficial zone originated a number of natural disturbances, among them animal burrows intruding as deeply as 90 cm below the surface, abandoned fire ant nests, tap roots, and others of unspecified genesis.

In summary, these isolated excavation units present us with a stratigraphic sequence involving at least two and possibly three stage breaks below the present surface, within the upper one meter of deposits. Two of these stage breaks are associated with definite midden deposits. There are definable differences in the sequence of observed mound fills. Architectural evidence, in the form of post holes, are seen at only one point in the sequence. The problem remains to correlate this evidence with Stages II -V as seen in the nearby main excavation block.

East Summit Unit Pottery Chronology

It will be worthwhile to review the diagnostic pottery recovered from the east summit units, in particular from midden *G*, which was isolated and separartely dry screened, towards the end of establishing a correlation with the stratigraphy in the main block. With that issue in mind, the pertinent data may be found in Tables 7 and 8. These two units produced 556 sherds combined, of which 347 are from midden *G*, and the remainder from various arbitrary levels combined with the humus. Unfortunately, as we have seen repeatedly at Moundville, sherd sample sizes in this range are precariously small for the work of establishing chronology. Such is the case

here. Within midden *G* the only specific varieties identified are the ubiquitous Moundville Incised, *var. Moundville*, and the much rarer Moundville Incised, *var. Snows Bend*. In such a small sample these two long-lived varieties are virtually without value for dating purposes. The remaining levels produced sherds classified as Carthage Incised, *var. Akron* and Moundville Engraved, *var. Tuscaloosa*, the latter indicating a date of Moundville II or later, which is hardly a surprise given what we already know of the upper mound stratigraphy. Diagnostic modes add nothing to the picture, there being only the obligatory smattering of folded and folded-flattend jar rims. We must conclude that these data are of little use in the business of correlating the stratigraphy here with the sequence in the main summit block.

TYPE	Midden G	Upper mound, mixed	Total
Mississippi Plain	268	158	426
Moundville Incised, *var. Moundville*	1	2	3
Moundville Incised, *var. Snows Bend*	1		1
Moundville Incised, *var. Unspecified*	2	1	3
Bell Plain	66	39	105
Carthage Incised, *var. Akron*		1	1
Carthage Incised, *var. Unspecified*	2	3	5
Moundville Engraved, *var. Tuscaloosa*		1	1
Moundville Engraved, *var. Unspecified*	4	3	7
Other Types	3	1	4
Totals	347	209	556

Table 7. Sherd types, east summit units.

Stage I, Lost and Found

Accounting for the existence of Stage I necessitates a quick review of the development of our construction stage nomenclature for this mound. As initially percieved during our first two field seasons in the west flank trench, the upper stratigraphy of Mound Q was seen to involve at least three major construction episodes. By the third season this number was amended to four, as beginning excavations in the summit allowed us to better discriminate between the final two construction stages of the sequence. When Roman numerals were imposed for the first time following the summer, 1992 field season, replacing temporary letter designations, the four previously recognized construction stages became Stages II - V. It was at that time that a fifth stage, designated as Stage I, was recognized. We had previously suspected that at least one construction stage underlay our well defined target floor, and was probably within reach of our excavations, as all construction stages in the upper mound constituted relatively small additions. With the excavation of the east summit units, we believed we had found such evidence.

That evidence was based upon the discovery of midden *A*, interpreted as a stage break as discussed above, at an elevation of 48.55 m., which is 45 cm below the elevation of the Stage II floor only four meters away

DIAGNOSTIC MODE	Midden G	Upper mound, mixed	Totals
Folded rim	3	3	6
Folded-flattened rim	1	2	3
Totals	4	5	9

Table 8. Diagnostic decorative modes, east summit units.

horizontally. A seemingly much better match for the Stage II floor, using elevation as a guide, was layer *C*, a possible stage break at elev. 48.96 (compared to 49.00 for Stage II at the closest known point). Fleshing out this developing scenario, the remaining stratigraphy would be matched up as follows. Fill zone *D* and floor *E* of the east summit units would correspond with Stage III, midden *G* would correspond with the Stage III flank midden on the opposite side of Mound Q, fill zone H would match up with the Stage IV fill, and the ephemeral Stage V would be interpreted as locally eroded away or mechanically removed, as it was also in the nearest portion of the main block.

However satisfactory this solution seemed in the fall of 1992, subsequent observations would prove it wrong. Specifically, as we began to core out Stage II floor features of the main block in earnest during the 1993 and 1994 field seasons, it was realized that excavation of the deeper features provided additional profile data on the fill below. The deepest of these, described in an earlier section (p. 36), was Feature 58A, a cylindrical storage pit that penetrated 78 cm below the Stage II floor. Upon seeing the Stage II fill in profile through the window of this and other deeper features, it was quickly realized that there was no sign of a Stage I surface lying at the expected elevation, 45 cm or so below the Stage II summit. Instead, Stage II was seen to be a realtively massive fill zone as compared to the series of fills above it, a minimum of 78 cm thick, the base of which was never reached in our explorations.

Thus did Stage I evaporate, leaving us with the uncomfortable situation of having a stage nomenclature that began with Stage II. One solution, of course, would have been to revise and re-number the sequence. This was not so great a problem with the reporting already done, since nothing had yet reached publication. The only document bearing that nomenclature was a preliminary report to the National Science Foundation, also delivered as a paper at the fall, 1992 Southeastern Archaeological Conference in Little Rock and distributed as photocopies in limited numbers. A much weightier problem was that a considerable volume of notes and records postdating summer 1992 bore the now problematic labels. In the balance, our decision was to live with the mistake rather than to attempt to fix it with a new stage enumeration, out of respect for the chaos such a belated change might produce in making sense of the curated field records.

However, at this writing, with the smiles of fortune, it now appears that we may be exonerated. There is evidence for something answering to Stage I after all. In 1998, four years after the close of our excavations, Mr. Matthew Gage of the University of Alabama Office of Archaeological Research, obtained a grant from the Alabama Historical Commission that involved the core drilling of five mounds at Moundville, including Mound Q. He has been kind enough to share his preliminary results. Four cores, labeled CS-1 through CS-4, were extracted from different areas of the summit, all penetrating through to the subsoil. CS-1 was placed near the southwest summit corner outside of our former main excavation block (now backfilled). CS-2 was positioned within the area of the former main block. CS-3 was placed on the north side of the summit near the top of the artificially graded north flank, while CS-4 was placed on the northeast summit outside the main block. Mr. Gage's result of most importance to the present discussion is that three of his cores (CS-1, CS-3, and CS-4) yielded evidence of stage breaks at elevations that I estimate fall between 46.3 and 47.5 meters. Some of these breaks are associated with charcoal and fired clay. Unfortunately, mound fill thickness and stage break information is inconsistent across

the four samples. Above this general level, however, Gage found stratigraphy that appears to agree with what we have described for the upper mound. Accordingly our Stage II, with a summit at elev. 49.0, is probably at least 1.5 m thick, and it appears to be underlain by a low core mound at least 90 cm tall on the southern side, which was perhaps remodeled or capped once or twice before the more massive addition of Stage II.

Gage's coring results yielded another fact of importance. Underlying the mound is an old humus layer about 11 cm thick yielding flecks of charcoal, fired clay, and potsherds. I interpret this as a premound midden, showing that the Mound Q area was occupied before construction of the mound began.

Stratigraphic Correlations with the Main Block

All of this, of course, causes us to revisit the question of a correlation between the east summit unit stratigraphy and that of the main block. Starting with the notion that midden *A* of the east summit units does indeed correspond with a known stage break to the west, that stage break could only be the summit of Stage II. If so, the eastern stage II summit is not level but rather drops 45 cm in the space of four meters, at an angle of about six degrees from the horizontal. That is not an impossible slope for a pristine platform mound summit in comparative perspective, but it does have implications for the nature of the summit architecture. It suggests, firstly, that the slightly higher western section of the current Mound Q summit was also slightly higher earlier in the mound's history. Secondly, it suggests that the buildings found seemingly off center on the Stage II summit (Figure 31) actually are centered on the higher, relatively flat portion of that summit. Architecture on the unexcavated eastern side of the Stage II summit, if any, would have rested somewhat uncomfortably on sloping ground, and it may well be the case that this area was relatively free of additional buildings. In that event a claim might be made that our main excavation block came down squarely upon the more important buildings of that stage after all, and that midden A on the eastern summit may represent debris from these primary buildings discarded onto a bare area facing the plaza.

If midden *A* does correspond to Stage II, then what of the rest of the east summit unit sequence? We should expect to see evidence of at least Stages III and IV, if not V, and perhaps the uppermost portions of flank debris zones corresponding to any of these, based upon corresponding aspects of the western flank deposits. In search of the next stage break, all things considered, we are inclined to dismiss layer *C*, a light brown sand deposit seen in only one profile, as legitimate. In that case fill zones *B* and *D* must correlate with Stage III fill, bringing the eastern summit to a level of 49.19 m at floor *E*. This is some 41 cm lower than the corresponding elevation of Stage III in the main block, thus reproducing, a little more shallowly, the gently sloping apron to the east that now figures in our interpretation of the Stage II summit. As this scenario plays out, the highly conspicuous midden *G* is to be interpreted as Stage III flank midden. If so, it is noteworthy, in view of what will be said of the northern flank middens yet to be discussed, that we here find Stage III midden increasing in thickness to the north. The post holes stratigraphically identified with midden *G* would thus belong to the complex of Stage III architecture discussed for the main block. As midden *G* is known to be covered by darkly hued mound fill up to 47 cm in thickness, this layer, fill *H*, can best be correlated with Stage IV fill. The

only alternative, Stage V, can probably be ruled out as the fill of that construction stage was much thinner than 47 cm, even where well preserved on the western edge of the summit. In portions of the main excavation block closer to the east summit units, Stage V fill was not apparent, having been eroded away or otherwise removed. Identifying fill *H* with Stage IV fill would allow the conclusion that substantially more fill was added to the eastern or plaza side of Mound Q than was added on the opposite side during Stage IV construction.

North Flank Midden Excavations

Whereas our original research design called for only one flank excavation in Mound Q, that being realized as the west flank trench, subsequent events convinced us of the merit of investing in a second flank excavation, placed near the base of the mound on the northern side (for the location see Figure 4). In our opinion, the north flank initially had appeared to be an inauspicious place for a productive test because of the obvious historic truncation that greatly modified the mound's contours on that side. By the end of the fall, 1989 field season, however, our appraisal had changed.

In December of 1989, as the west flank trench operation was well underway, we acted on a suggestion provided by Dr. J. Mark Williams of the University of Georgia to quickly and sytematically sample the flank debris around the periphery of the mound base using a series of screened auger tests. Accordingly, eight such auger tests were placed around the mound at 45 degree intervals from a point on the summit, each sited about one meter inward from the perceived toe of the mound. The numbered holes were dug down to sterile subsoil using a manual post hole digger. Soils from these tests were dry screened through 1/4 in mesh, and in order to obtain immediate feedback, the recovered artifacts were cleaned, counted, and weighed in the field. The results of this simple exercise, a modified version of which we would subsequently adopt as a protocol for locating flank deposits in other mounds, showed unambiguously that the primary area for refuse deposition on Mound Q was the north flank. Here there was deep and well preserved midden, not localized but rather seemingly draped around the entire northern side, diminishing gradually southward along the east and west flanks.

Impressed by the apparent density and thickness of this northern midden as seen in the auger tests, and viewing the matter as an opportunity to greatly supplement our samples of off-mound refuse, we first mapped in a single 2 x 2 m square, Unit 43R23, set up a vertical datum nearby at elev. 48.50 m, and began work on the unit at the beginning of September, 1990. Our pattern, already established at that point, of first digging a narrow reference trench and then a control trench adjacent to it was in this instance abandoned. That decision was based on the judgment, a naive one in hindsight, that the stratigraphy of a deep midden of this sort would be sufficiently straightforward that no special problems would be encountered in following that stratigraphy without the benefit of a profile reference.

The strategy here, then, was to excavate the north midden deposit by cuts conforming to the stratigraphy that presented itself, not yet knowing to what degree this deposit had been disturbed by the quite visible historic truncation of Mound Q's northern flank. Work in Unit 43R23 commenced with the removal of the modern humus as Cut 1, followed by a shallow plow-

disturbed layer as Cut 2. With Cuts 3 through 6, we slowly removed the intact midden by trowel only, dry screening the whole except for periodic soil samples removed for flotation and fine screening. Working in this manner, usually assigning two persons to the unit on a given day, excavationsof Unit 43R23 consumed the whole of the fall 1990 and fall 1991 seasons, plus the first two weeks of the summer, 1992 season. Subsoil was reached approximately 90 cm below the surface.

Preservation was very satisfactory within the sloping midden layers, including that of both massive and delicate faunal remains, carbonized botanical remains, and scattered shell. Large potsherds were routinely recovered, and sherd clusters, mostly consisting of crushed sections of vessels, were plotted in situ. In general, this area was less obstructed by natural distubances such as tree roots, animal burrows, and abandoned fire ant nests than was the mound summit and west flank.

Upon the completion of Unit 43R23, having a large crew available for the remainder of the summer 1992 field season, we set out three additional 2 x 2 m squares adjacent to the first, forming a four meter block as shown in Figure 53. Two of these units were placed upslope of the first one, in hopes of obtaining a better cross section of the north flank stratigraphy. Work on these additional units commenced in late June, 1992, following the method of excavation employed previously for Unit 43R23. Balks were left standing between the units. As before, the modern humus was excavated as Cut 1 and the plow zone as Cut 2. With Cut 3 began the midden proper. By mid-July, 1992, Units 41R25 and 43R25 had been carried down through Cut 4, and Unit 41R23 through Cut 6.

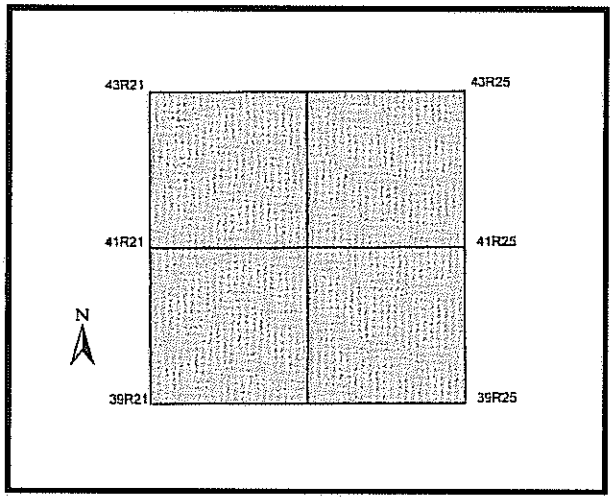

Figure 53. Layout of north flank excavation units.

Something of the field logic governing these cuts needs to be addressed. Within the initial north flank midden excavation, Unit 43R23, the perceived stratigraphy, as of 1992, was that the midden was divided into three zones. First, there was a massive upper midden zone, the base of which was seen to correspond to a thin layer of yellowish-brown clay that could be followed only in the southern (upslope) portion of the unit. This thick upper zone was immediately recognized as being a Moundville III deposit based on pottery diagnostics. Under this light colored clay layer was an earlier midden zone, seemingly smaller in magnitude, followed by a shallow third midden zone resting directly upon the subsoil. This third midden zone, distinguishable by color and by a much lower density of artifacts, was suspected of being a premound midden running beneath Mound Q.

The decisive landmark, then, separating the perceived upper midden from what lay below it was the yellowish-brown clay layer, and that layer, therefore, is one to which the field notes

make frequent reference. But the clay was not present in the entire unit, nor was it ever an easy matter to follow it where it was present. For example, field notes made during June, 1992 testify to an egregious confusion surrounding the excavation of Cuts 5 and 5A in the vicinity of this boundary. Nonetheless, when excavation began on the adjoining units, the field party was conditioned to look for a tell-tale clay layer that would provide separation. Beginning with Unit 41R23, patches of yellow clay were indeed found within the upper part of the midden starting with Cut 3, but these clay patches were discontinuous, and separated in space, so that one could not be certain that they were stratigraphically equivalent to the clay layer that had figured so prominently in the previous unit. Attempts to define stratigraphy based on following out these small patches of clay proved highly frustrating, so the effort to do so was ultimately abandoned. Consequently, for Cuts 3-6 in Unit 41R23 and Cuts 3-4 in Units 41R25 and 43R25, the field party fell back upon arbitrary divisions of the midden based upon depth below surface, with the slope of the cuts based upon the slope of the neighboring ground.

At the beginning of the fall 1992 field season, returning with a much smaller crew of students, we made a decision to concentrate our effort on completing the excavation of Unit 41R23, just upslope of Unit 43R23 whose excavation had been completed the previous summer. We hoped that such an excavation would supplement our meager samples from the earlier midden levels glimpsed in the initial unit. Work in the two remaining excavation units was abandoned. So, at this point Units 43R23, 41R25, and 43R25 were backfilled using a rented end loader.

Excavation of the remaining deposits in Unit 41R23 down to subsoil, beginning with Cut 6, occupied two full field seasons, from fall 1992 through fall 1993 (Figures 54, 55). To pick up the narrative of excavated cuts and their field interpretation, the importance of which will become apparent soon, Cut 6 constituted yet another effort to trace out a shallow yellow clay lense confined to the south section of the unit, while Cut 7 was perceived as penetrating into a dark midden zone below that clay. With Cut 8 a lighter, sandier deposit was encountered. We now realized, based on the developing profiles and not without some alarm, that the slope of all of the preceding cuts had been much too shallow, having nothing to do with the slope of the current surface. We therefore devoted Cut 8 to correcting that problem by bringing the unit floor to a steeper, more accurate pitch. Resuming work with the 1993 field season, Cut 9 followed yet another layer of yellowish-brown sandy clay, seen in the north end of the unit, followed by Cuts 10 through 14, all arbitrary divisions within a homogeneous layer of midden, resting upon sterile clay subsoil. In this unit there was no definite indication of a premound midden, as had been suggested for Unit 43R23 just downslope.

So far, discussion of the stratigraphy of the north midden units has been, from the top down, that is, based upon what the field notes tell us about changing characteristics of the superimposed middens while they were under excavation, without much reference to unit profiles and absent an effort to correlate strata from the two adjacent units that were dug to subsoil. Once excavations in Units 41R23 and 43R23 were completed, however, it was possible to make detailed final drawings of the profile walls, and in particular to match up the east and west profiles of the two units. Discussion of these profiles permits a more coherent account of the north midden unit stratigraphy, and it is to that account that we now turn.

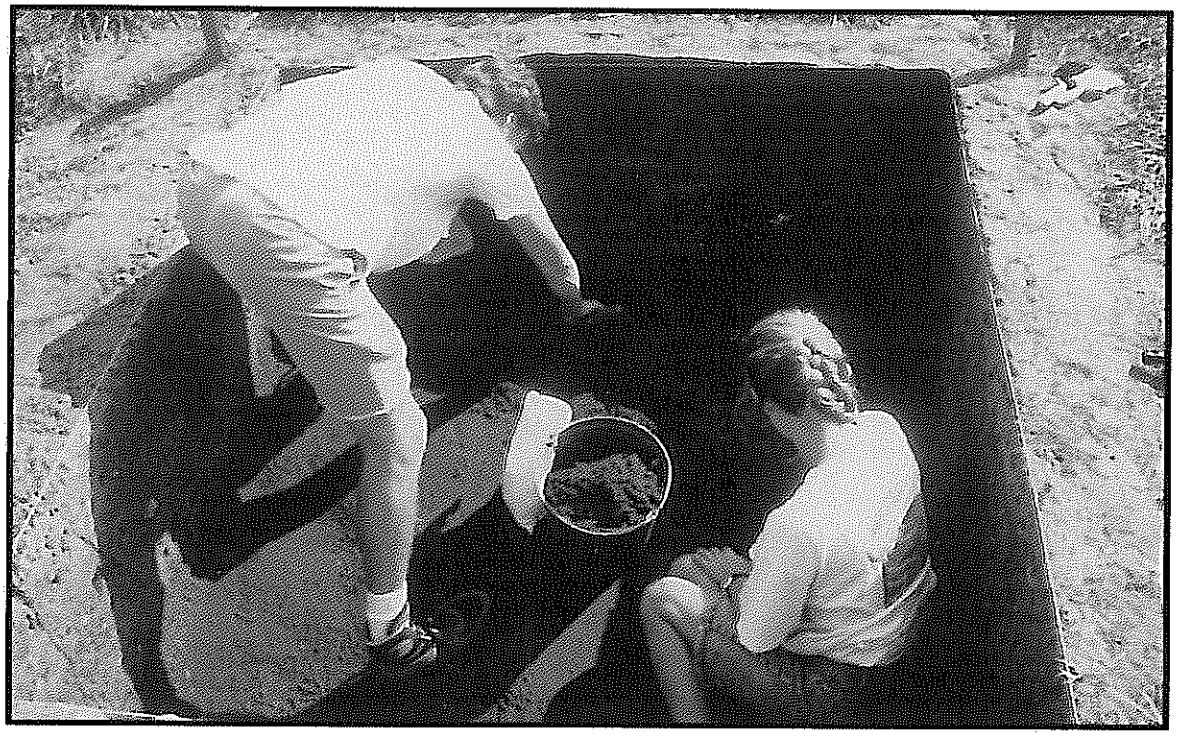

Figure 54. Troweling north flank midden in Unit 41R23, fall 1993.

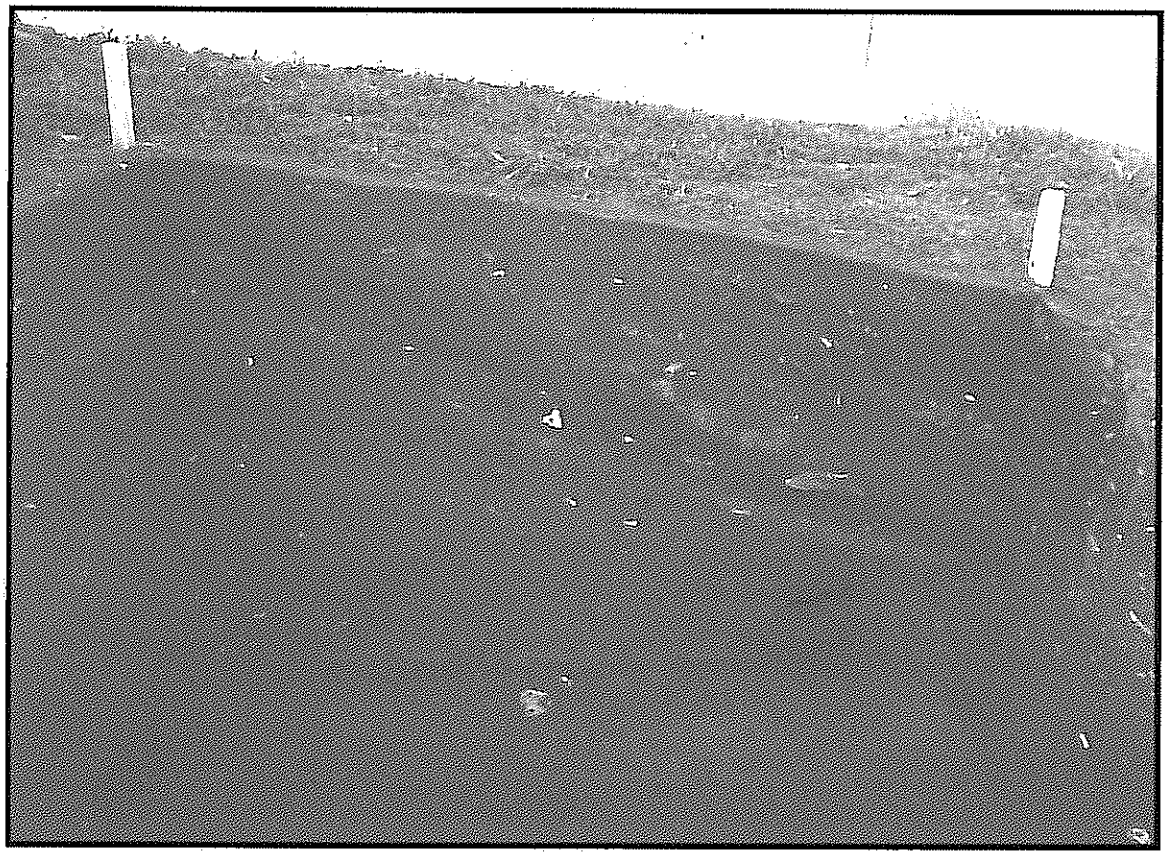

Figure 55. West profile of Unit 41R23, north flank midden.

North Flank Midden Stratigraphy

Figures 56 and 57 depict the east and west walls of the two completed excavations units of the north flank midden, simplified somewhat from the original field drawings for the sake of clarity. With regard to these profiles, several things are immediately apparent. For one, the effects of the historic truncation of the north face of Mound Q are plainly seen. The face has been simply carved off to a much shallower slope than the pitch of original deposits. Earlier surfaces held an angle of repose comparable to that of the other three undisturbed flanks, which tends to confirm the idea that Mound Q was originally a symmetrical construction. There is no sign of the displaced earth downslope, as would occur from a combination of plowing and slumping. Our impression that Mound Q was used in the nineteenth century as a source of fill dirt finds support in these observations. Nor is there any sign of surface erosion or gullying after the historic modification was made. The surface at the base of the mound was plowed after the truncation event, resulting in a well defined plow zone.

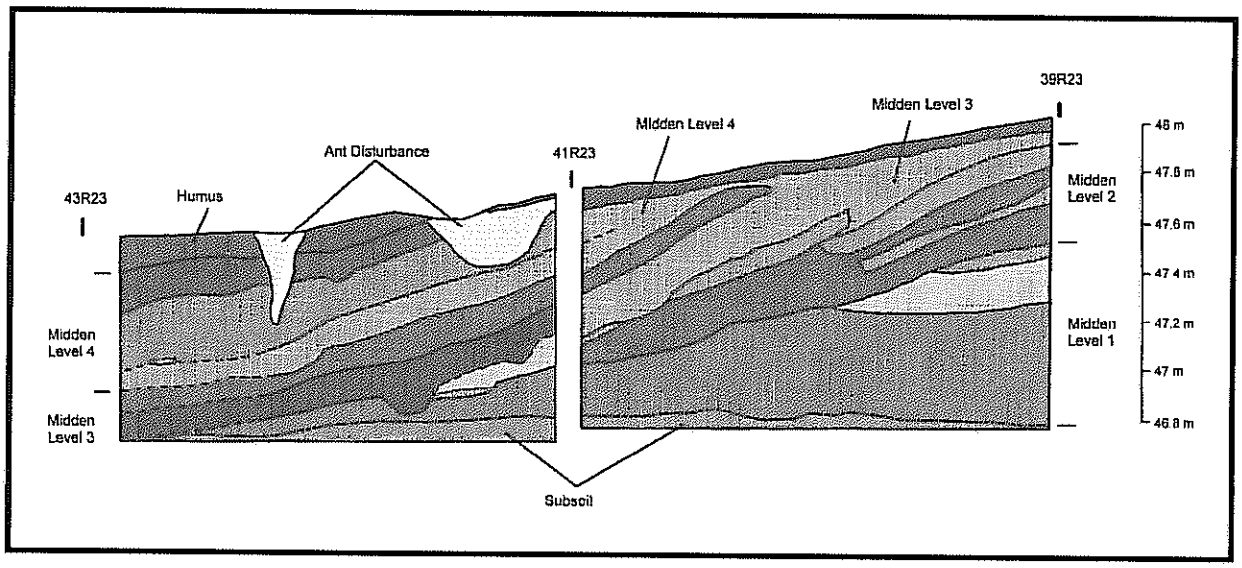

Figure 56. East profile, Units 41R23-43R23, north flank midden.

Moreover, the profiles confirm what was perfectly obvious during the excavation of these units, namely that the deposits at the base of Mound Q on its northern flank are composed almost exclusively of midden, cast off, we believe, from summit activity. The sheer mass of this midden, which we know from auger testing covers the entire northern skirt, impressively bespeaks of a dynamic use of successive summit plateaus in the later history of the mound. Some thin clay lenses, light in color, appeared locally, separating episodes of midden deposition. However, although they were prominent in appearance against the dark background of the midden, in no case did clay lenses completely cover earlier mound surfaces, a situation comparable to that seen in the west flank units. Conspicuously absent were obvious layers of basket loaded mound fill in these profiles. To be sure, there were differences in the composition, color, and intensity of the midden, and such distinctions do allow us to define major stratigraphic divisions, but they are

largely subtle, having to do principally with sand versus silt content and slight variation in organic content.

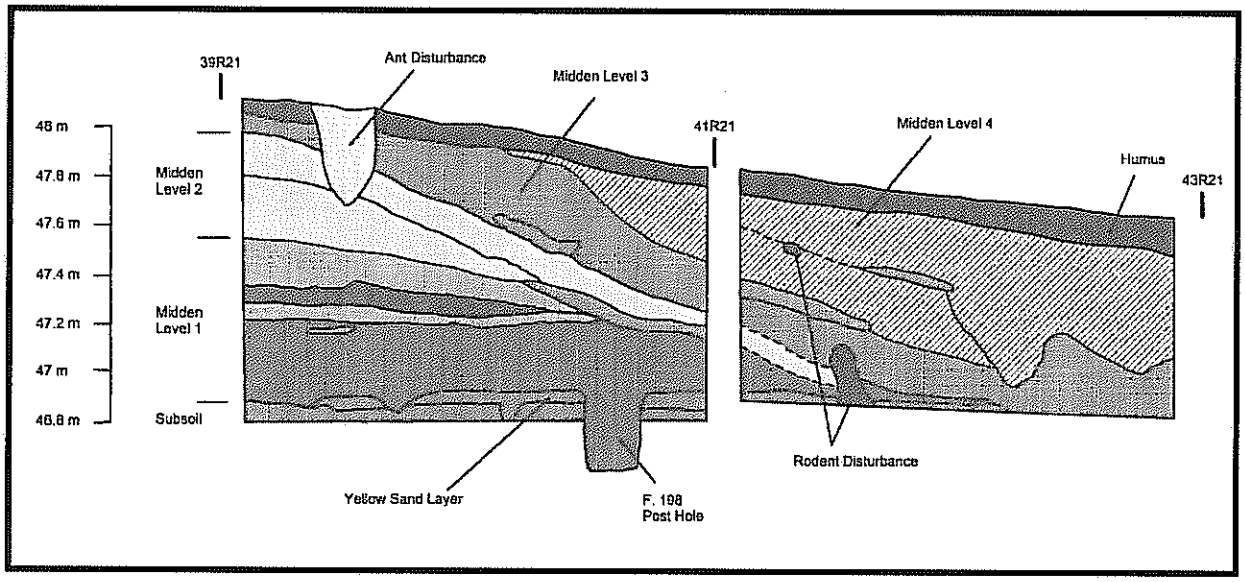

Figure 57. West profile, Unites 41R23-43R23, north flank midden.

An examination of the profiles of these units allows us to define four major periods of midden deposition, which will be labeled from early to late as Midden Levels 1-4. They are described below. It will be a special problem, handled later on, to correlate this sequence of midden deposition with the summit stratigraphy already described.

Midden Level 1. The earliest depositional unit of the sequence, Midden Level 1, takes the form of a wedge thickening to the south, its bulk lying largely within the upslope excavation unit, 41R23. Its thin feather edge trails into the downslope unit, 43R23, where, during excavation, it was mistaken for a premound midden. At the southern end of our window of observation, Midden Level 1 reaches a maximum thickness of 70 cm.

In most places, mound related midden appears to be lying directly upon a sterile subsoil of brown clay. An absence of any trace of an old A horizon may indicate that the old sloping surface was eroded when the midden began to be deposited. Elsewhere, in portions of the west profile, there is a thin layer of yellow sand introduced between the subsoil and the initial midden.

The lower portion of Midden Level 1 is described as a dark brown sandy clay midden laden with charcoal, relatively large potsherds and other artifacts, scattered shell, and animal bone. Originating near the base of this lower zone is the only post hole found in the north midden units, Feature 198, visible in the west profile. The upper portion of Midden Level 1, deposited when the upper surface was basically flat-lying, had a more layered appearance, starting with a band of soil slightly lighter in color than the midden below due to a mottling of clay inclusions, locally overlain in turn by minor lenses of clay, ashy midden, and yellow sand.

Midden Level 2. Above a consistently recorded break was a second depositional unit, again consisting of midden soils with minor variations of composition, texture, and appearance. Much of it is described as dark brown midden of silty sand, mottled with yellow-brown clay. Along with the usual charcoal, potsherd, shell, and bone inclusions, profiles record the prominence of daub fragments in these soils as distinguished from those below. This depositional unit includes soils of a slightly lighter color, and a prominent, thin lens of strong brown clay seen locally in the southernmost section of the excavation. Midden Level 2 reaches a maximum thickness of 45 cm at the upslope end of our profile. Downslope, at the feather edge, the presence of an intevening balk and the problem of profile sections drawn on different dates by different observers conspire to make its resolution less than clear.

Midden Level 3. A third unit of deposition, Midden Level 3, again incorporates several locally distinguishable lenses of dark midden soils together with smaller, more clayey or silty patches. Referring to the field descriptions of these lenses and their colors as determined from Munsell Soil Color Charts, they are so similar as to defy separate characterization here. Commonly there was a dark brown sandy loam, described as heavily mottled (probably more so than other deposits within the midden complex), containing charcoal, small bits of daub, pottery, shell, and abundant animal bone. Particularly within portions of Unit 43R23, the first to be excavated, the uppermost part of Midden Level 3 consisted of a thin lens of yellow-brown clay. This clay lens, as already discussed, figured prominently in our attempts to follow the stratigraphy during the field work. Midden Level 3 had been almost completely truncated at the upslope end of our excavation by the historic period soil removal episode to which we have referred several times. Farther downslope, where it is covered by Midden Level 4, Midden Level 3 attains a maximum thickness of 36 cm.

Midden Level 4. The final depositional unit within the north midden complex was also the most massive, reaching a maximum depth of 70 cm at the downslope end. As was the case for the Midden Level 3 deposits, those portions previously occupying the upper flank of Midden Level 4 were truncated historically. Much of the deposit is described as a silty clay midden, variably mottled, containing charcoal, bits of daub, pottery (including in places numerous large sherds), animal bone and shell. As with other depositional units, occasionally present were isolated lenses of yellow-brown clay.

Relationship of Cuts to Depositional Units

With the definition of these four numbered depositional units, themselves generalized from a somewhat larger number of localized, discrete deposits, we may now examine the relationship between these units as determined from profile drawings and the excavation cuts according to which all of our samples are labeled. Determining this relationship is reasonably straightforward. We possess elevation data from the top of each cut in each of the four 2 x 2m excavation units in the north midden area, minimally for the four unit corners, and these elevations can be compared with the corresponding elevations of deposits as seen in profile. This exercise, together with an examination of the field notes to match descriptions of excavated deposits to profile data, yeilded the following table of correspondences.

Excavation Unit	Cuts	Depositional Unit
43R23	cut 1	humus
	cut 2	plow zone
	cuts 3 - 4	Midden Level 4
	cuts 5, 5A	Midden Levels 3 and 4, mixed
	cut 6	Midden Levels 1 and 2, mixed
41R23	cut 1	humus
	cut 2	plow zone
	cuts 3 - 5	Midden Levels 2 - 4, mixed
	cuts 6 - 8	Midden Levels 2 and 3, mixed
	cuts 9 - 15	Midden Level 1
43R25	cut 1	humus
	cut 2	plow zone
	cuts 3 - 4	Midden Level 4
41R25	cut 1	humus
	cut 2	plow zone
	cuts 3 - 4	Midden Levels 2 - 4, mixed

Table 9. Correspondence of excavated cuts to post-hoc depositional units, north flank midden.

Unfortunately, as this table shows, a great deal of mixture has been introduced by excavation cuts that, despite our best efforts to follow the stratigraphy, actually crosscut two or more depositional units. The primary culprit is the basic homogeneity of the entire series of middens, in which stratigraphic breaks could not be traced with clarity except in profile view. This situation is at its worst in cuts 3 through 8 in Unit 41R23, where, as we have already reported, the cuts were much too shallowly angled to match the actual slope of the deposits. As a result, we possess no samples that correspond specifically to Midden Level 2, although we do have material from cuts that can be treated as coming from Midden Levels 1 and 2 combined and from Midden Levels 2 and 3 combined. On the brighter side, we have an abundance of material from cuts that conform unambiguously to Midden Level 1 and likewise from cuts that conform to Midden Level 4.

In sum, we still have an abundance of stratigraphically unmixed material to work with in these north midden units. However, candor compells the admission, in hindsight, that it would have been far better had we begun with a narrow reference trench and expanded laterally using a profile as a guide. It ends up as a back-handed endorsement of the procedure we have employed to test mound flanks in all other circumstances during this project. The lesson is as follows: One simply cannot excavate downward into complex, sloping, homogeneous deposits (or, we suspect, *any* complex deposits), without a profile reference, and expect to get the stratigraphy right.

North Flank Midden Pottery Chronology

Data on pottery types and diagnostic modes from the north flank midden are given in Tables 10 and 11. Here the total sample is 22,668 sherds, so the sample sizes from individual midden levels are, on the whole, comfortably large. That fact should grant us confidence in assigning these units to ceramic phases in our chronology. Once these assignments are made, we will be in a better position to tackle the problem of correlating these midden deposits with construction stages in Mound Q. Sherds illustrating the diagnostic material from the north midden are shown in Figures 58-64.

Beginning with Midden Level 1, with a sample size of 3,367 sherds, it will first be noted that Moundville Engraved, *var. Hemphill* and Moundville Engraved, *var. Prince Plantation* are both in evidence, and that these are Moundville II or later diagnostics. Taken together with the fact that

TYPE	Midden level 1	Midden levels 1 & 2, mixed	Midden levels 2 & 3, mixed	Midden levels 3 & 4, mixed	Midden levels 2-4, mixed	Midden level 4 and humus	Totals
Mississippi Plain	2,298	151	1,544	1,056	3,492	8,231	16,772
Moundville Incised, *var. Carrollton*			2		3	1	6
Moundville Incised, *var. Moundville*	17	1	4	9	14	26	71
Moundville Incised, *var. Snows Bend*	2		2		1	2	7
Moundville Incised, *var. Oliver*	1		1			3	5
Moundville Incised, *var. Unspecified*	19	2	10	10	22	14	77
Bell Plain	852	55	366	431	728	2,305	4,737
Carthage Incised, *var. Akron*	3				2	13	18
Carthage Incised, *var. Carthage*						**15**	15
Carthage Incised, *var. Fosters*						**8**	8
Carthage Incised, *var. Lupton*						**1**	1
Carthage Incised, *var. Moon Lake*	5		1				6
Carthage Incised, *var. Poole*						**1**	1
Carthage Incised, *var. Unspecified*	20		6	9	14	76	125
Moundville Engraved, *var. Cypress*				**1**		**2**	3
Moundville Engraved, *var. Elliots Creek*			1			1	2
Moundville Engraved, *var. Havana*	4			1	4	4	13
Moundville Engraved, *var. Hemphill*	8		2	5	12	37	64
Moundville Engraved, *var. Maxwells Crossing*					1		1
Moundville Engraved, *var. Middleton*					1	2	3
Moundville Engraved, *var. Prince Plantation*	2				3		5
Moundville Engraved, *var. Stewart*	3				1	1	5
Moundville Engraved, *var. Taylorville*					1	1	2
Moundville Engraved, *var. Tuscaloosa*			2	2	5	4	13
Moundville Engraved, *var. Wiggins*	**1**					3	4
Moundville Engraved, *var. Unspecified*	109	4	43	31	101	200	488
Alabama River Incised					**1**		1
Baytown Plain			1		14	6	21
Harrison Bayou Incised, *var. Harrison Bayou*					1		1
Barton Incised, *var. Barton*			1	1			2
Fortune Noded						1	1
Lake Jackson Plain	1					1	2
Other Types	22	2	6	10	46	102	188
Totals	3,367	215	1,992	1,566	4,467	11,061	22,668

Table 10. Sherd types, north flank midden units. Items yielding TPQ are in bold.

none of the common Moundville III diagnostics are present, we may conclude that Midden Level 1 was laid down in the Moundville II phase. We can be more specific. Also present is one diminutive but unambiguous sherd of Moundville Engraved, *var. Wiggins*, to which may be added two sherds from slab-based bottles, all, according to our model of ceramic chronology, *Late* Moundville II or later. Thus the judgment comes down in favor of a Late Moundville II dating for Midden Level 1.

DIAGNOSTIC MODE	Midden level 1	Midden levels 1 & 2, mixed	Midden levels 2 & 3, mixed	Midden levels 3 & 4, mixed	Midden levels 2-4, mixed	Midden level 4 and humus	Totals
Band of nodes	1				3	1	5
Beaded rim				**5**	8	19	32
Cutout rim						1	1
Folded rim	3		2	2	2	5	14
Folded-flattened rim	1		2	2	2	5	12
Indentations			1		3	3	7
Notched everted lip			1			1	2
Notched lip	3				1	2	6
Red on white painted	1		1	1		7	10
White on red painted	3				1		4
Red on buff painted					1		1
Polychome/negative painted	3		2		2	3	10
Hemagraved	1						1
Short necked bowl						**13**	13
Pedestal base	1				1	1	3
Slab base	**2**	**1**	**1**		5	1	10
Frog effigy features						**2**	2
Human head medallion						**1**	1
Totals	19	1	10	10	29	65	134

Table 11. Diagnostic decorative and vessel shape modes, north flank midden units.Items yielding TPQ are in bold.

Concerning the sample from Midden Levels 2 and 3 mixed, totalling 1,992 sherds, we again note the presence of Moundville II or later diagnostics in the form of Moundville Engraved, *vars. Hemphill* and *Tuscaloosa*, and the absence of any Moundville III phase diagnostics. A single sherd from a slab-based bottle is also present, which leads to a Late Moundville II phase assignment. Following this comes a sample that comes primarily from Midden Level 3 but with some mixture from Midden Level 4. Among 1,566 sherds are specimens of the very same diagnostics reported for the previous sample: Moundville Engraved, *vars. Hemphill* and *Tuscaloosa*, plus a sherd from a slab-based bottle. It is here, too, that the first beaded rim bowls appear in the stratigraphic picture. Once again all this would suggest Late Moundville II, were it not for the additional presence here of a lone Moundville III diagnostic, a rare sherd classified as Moundville Engraved, *var. Cypress*. If this sherd can be attributed to the Midden Level 4 mixture, as seems likely, then the remaining data from Midden Levels 2 and 3 point to deposition during the Late Moundville II phase, as was also the judgment for Midden Level 1.

With the large sample of 11,061 sherds from Midden Level 4 and the humus overlying it, certain prominent changes are evident. Here for the first time in the stratigraphic column is an abundance of good Moundville III phase diagnostics. Most prominently, they include Carthage Incised, *var. Carthage* (15 sherds so classified) and Carthage Incised, *var. Fosters* (8 sherds). Smaller quantities of additional Moundville III diagnostics appear in the form of Carthage Incised, *vars. Lupton* and *Poole*, and Moundville Engraved, *var. Cypress*. Among the accompanying diagnostic modes we find short-necked bowls, with no fewer than 13 specimens, frog effigy features, and one

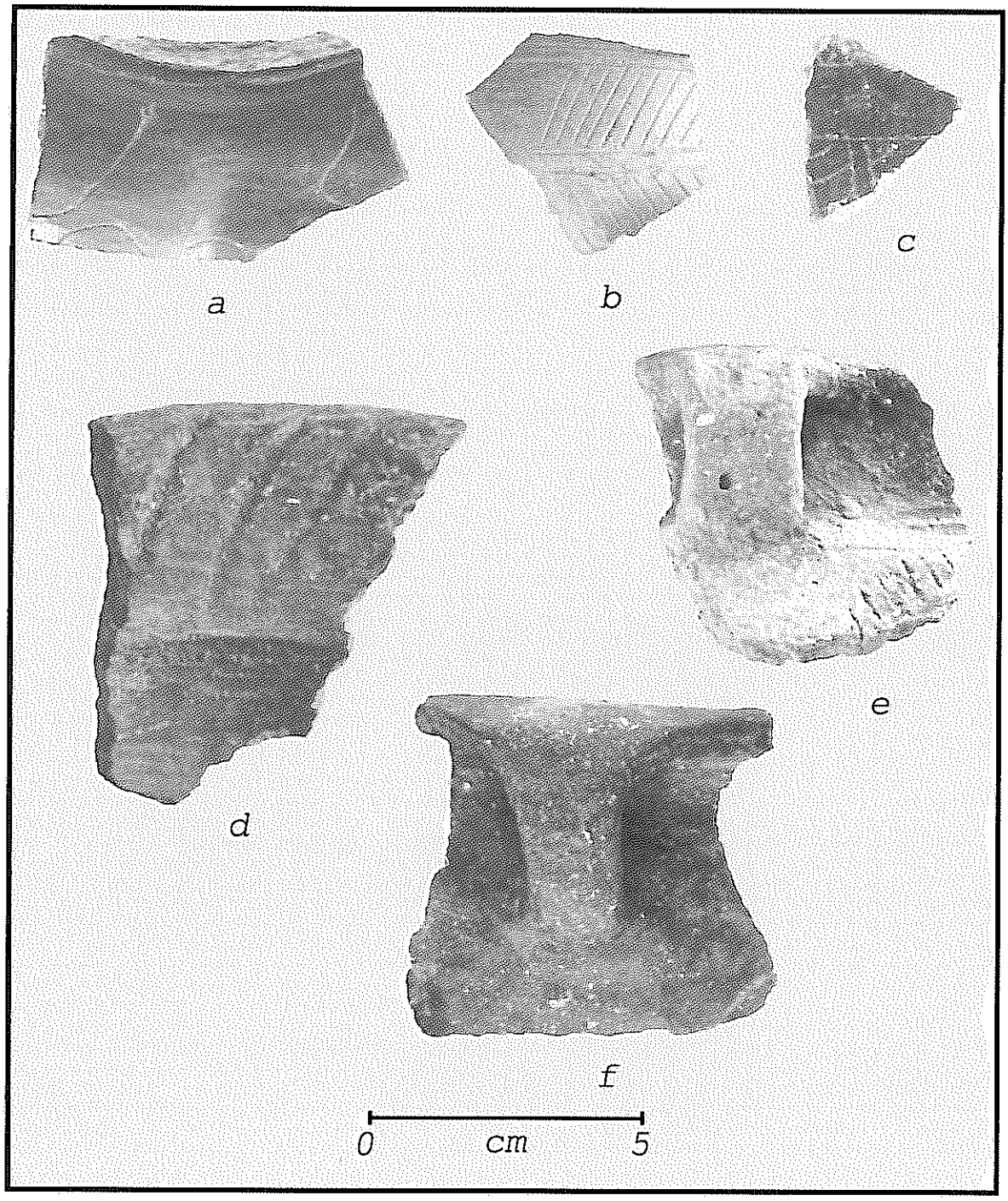

Figure 58. Sherds from Midden Level 1, north flank, Mound Q. (a) Moundville Engraved, *var. Hemphill*, bottle; (b) Moundville Engraved, *var. Prince Plantation*; (c) Moundville Engraved, *var. unspecified*, hemagraved; (d) Carthage Incised, *var. Moon Lake*, flaring-rim bowl; (e) Moundville Incised, *var. Moundville*, jar rim with handle; (f) Mississippi Plain, jar rim with handle.

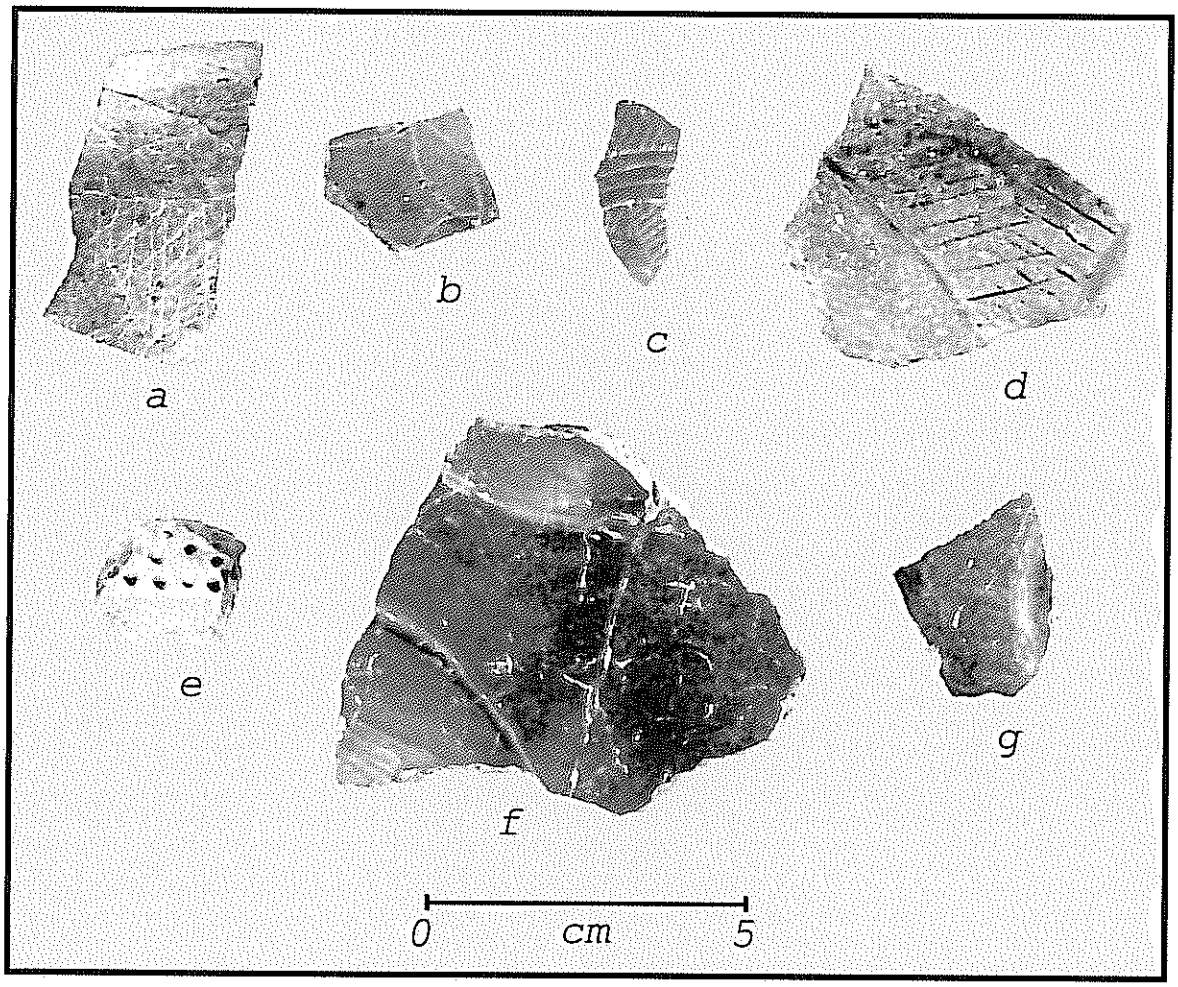

Figure 59. Sherds from Midden Level 1, north flank, Mound Q. (a and b) Moundville Engraved, *var. Hemphill*, both have scalp; (c) Moundville Engraved, *var. Wiggins*; (d) Moundville Incised, *var. Moundville*; (e) Moundville Incised, *var. Snows Bend*; (f) Carthage Incised, *var. Summerville*, slender ovoid bottle; (g) residual shell tempered broad trailed and burnished.

example of a human head adorno of the medallion type. All of this material leaves little doubt as to the assignment of Midden Level 4 to the Moundville III phase.

Having now determined that Midden Levels 1 through 3 can be ceramically dated to Late Moundville II and Midden Level 4 to Moundville III, we may return to return to the data for a look at the distributions of some additional types and modes. Assuming the validity of our model of ceramic change, there are some anachronisms. As we have seen time and again, varieties of Moundville Incised appear in the latest deposits. For example, there are 26 sherds classified as Moundville Incised, *var. Moundville* in Midden Level 4. It is well within the parameters of our working chronology for varieties of Moundville Incised to be in circulation as late as Late Moundville II times, and thus it is no surprise to find sherds of these varieties, sometimes large in size, in Midden Levels 1 through 3. But, by the same token, where found in a definite Moundville III phase deposit such as Midden Level 4 they appear to represent an admixture of earlier material. The same thing can be said for the folded and folded-flattened rims on jars that here occur in various levels including the stratigraphically latest deposits.

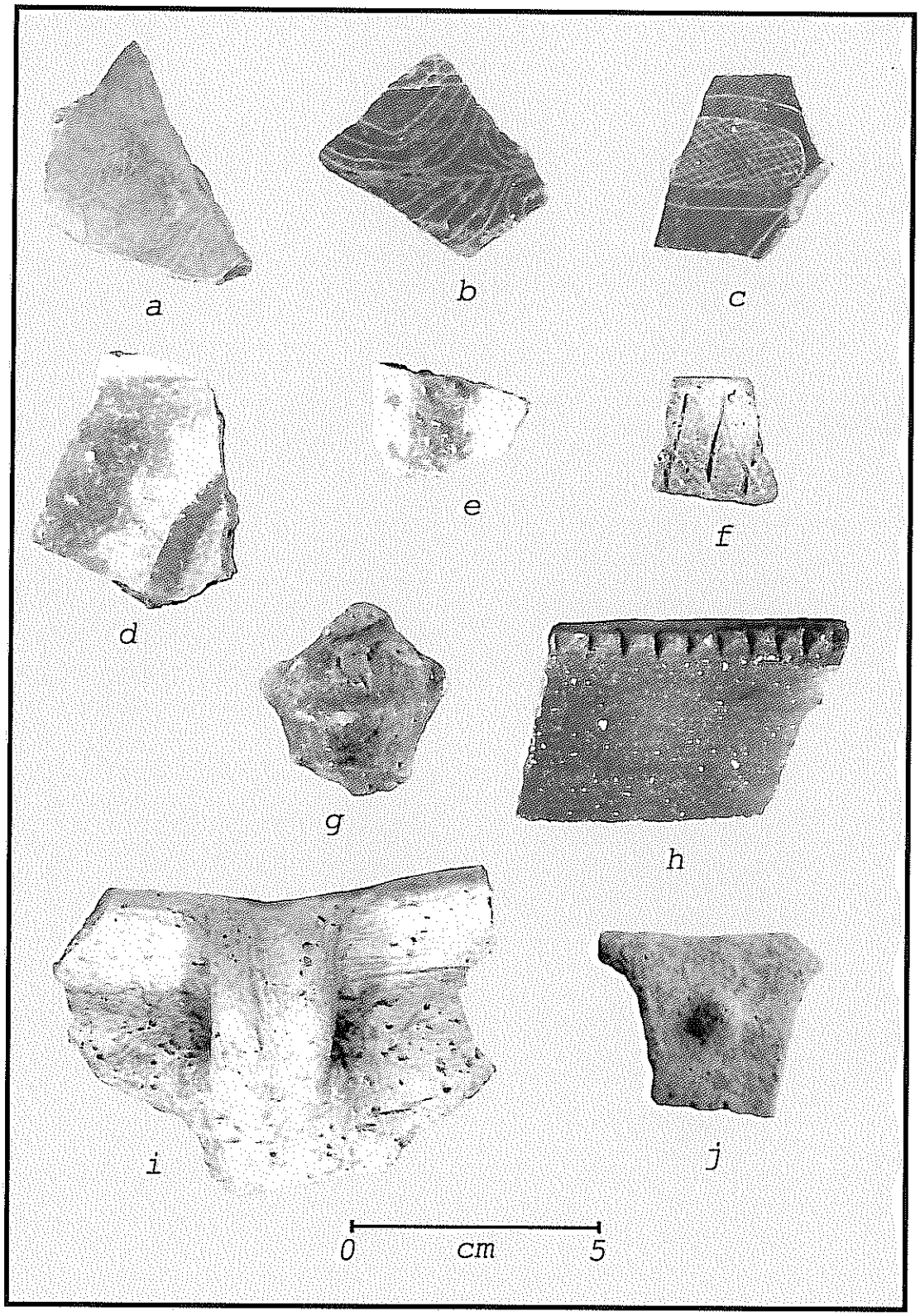

Figure 60. Sherds from Midden Levels 2 and 3, mixed, north flank, Mound Q. (a-c) Moundville Engraved, *var. Hemphill* – a has winged serpent, b has serpent or raptor wing; (d and e) Bell Plain, negative painted polychrome, red and black on white; (f) Barton Incised, *var. Barton*; (g) Bell Plain, human head effigy rim adorno; (h) Bell Plain, simple bowl with beaded rim; (I) Mississippi Plain, jar rim with handle; (j) Mississippi Plain, handle fragment.

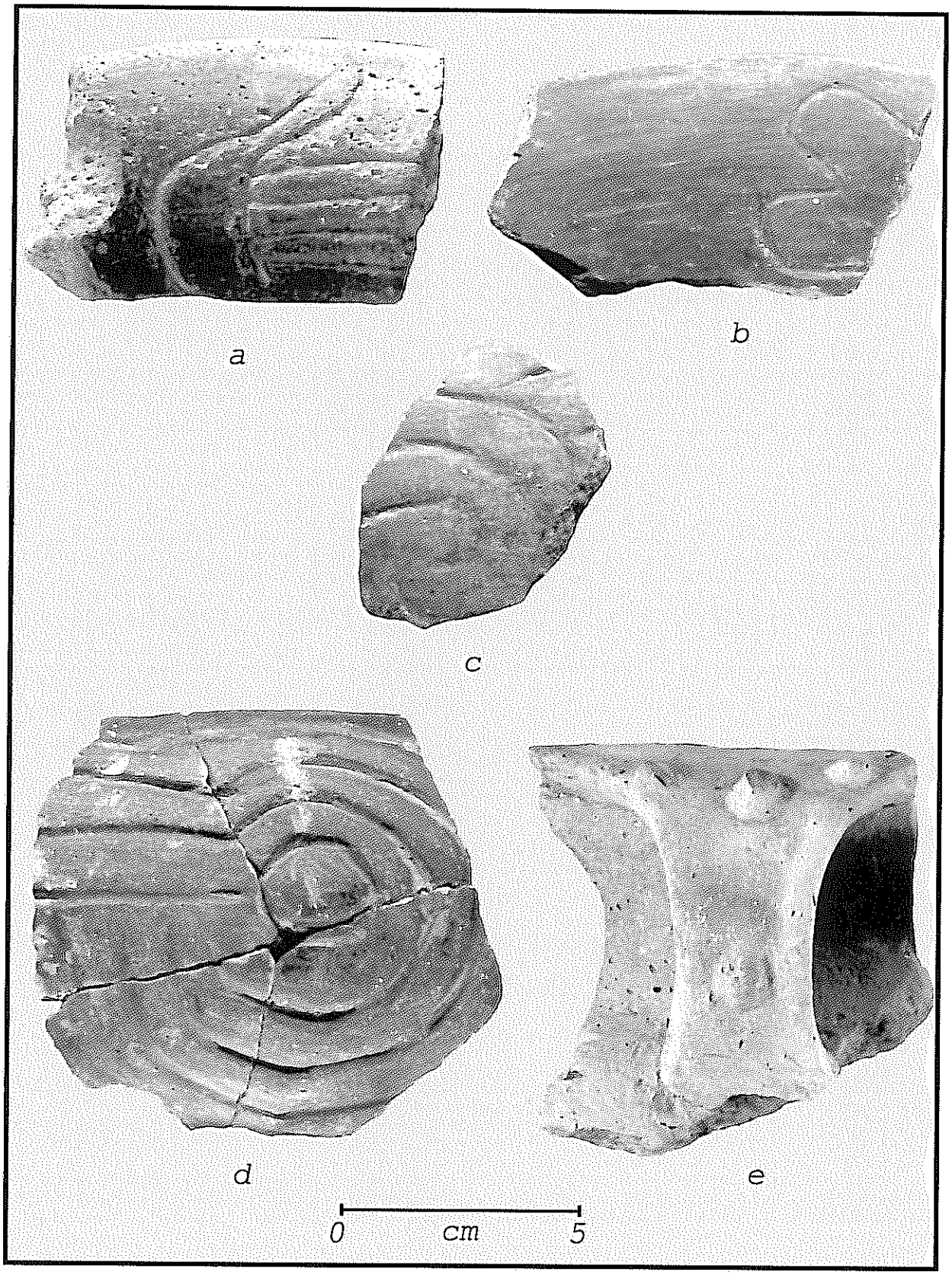

Figure 61. Sherds from Midden Level 4, north flank, Mound Q. (a and b) Carthage Incised, *var. Fosters*, flaring-rim bowls; (c) Carthage Incised, *var. Carthage*; (d) Carthage Incised, *var. Akron*; (e) Mississippi Plain, jar rim with handle.

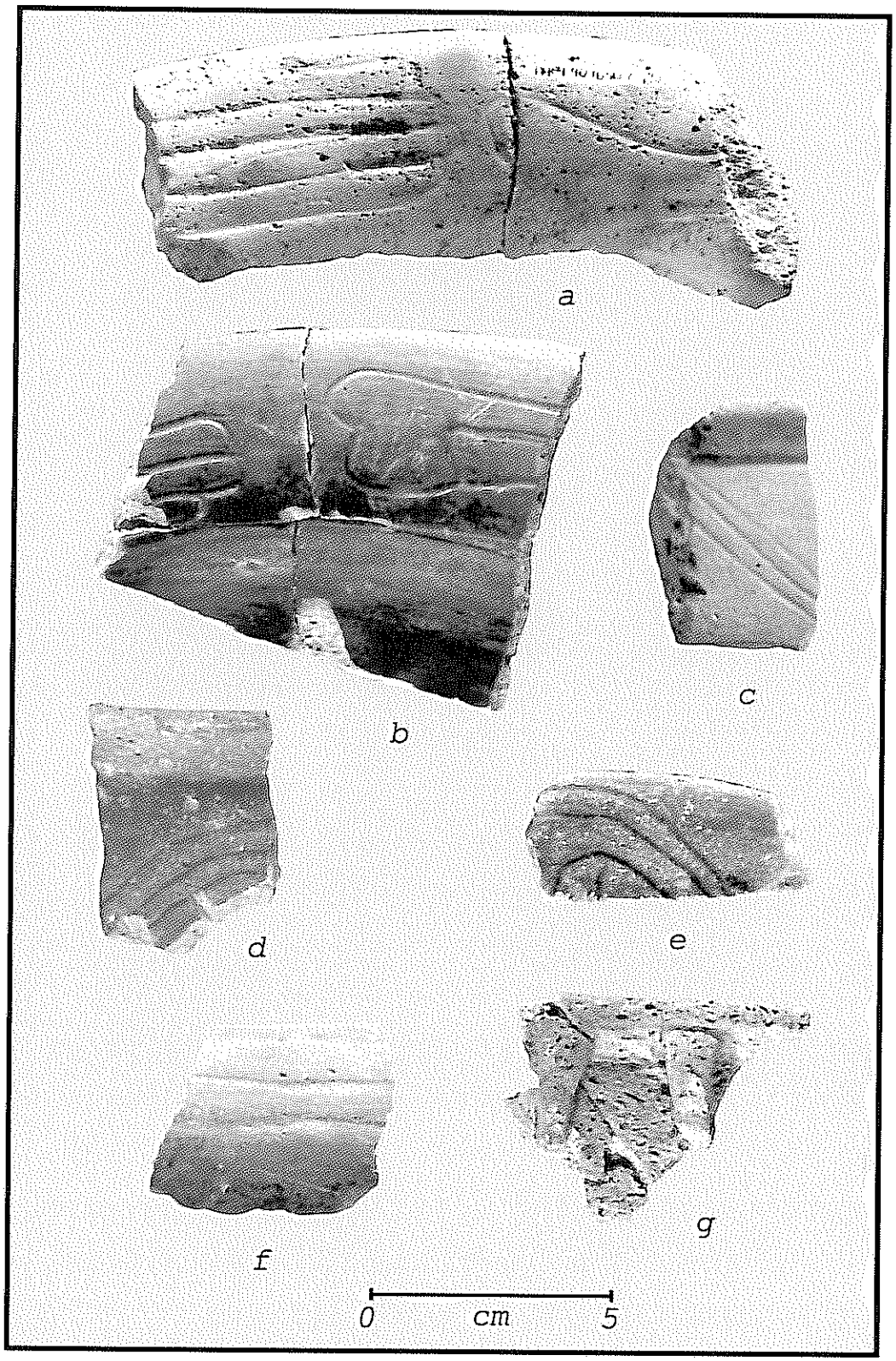

Figure 62. Sherds from Midden Level 4, north flank, Mound Q. (a and b) Carthage Incised, *var. Fosters*, flaring-rim bowls; (c) Carthage Incised, *var. Lupton*, short-necked bowl; (d and e) Carthage Incised, *var. Carthage* – d is short-necked bowl, e is flaring-rim bowl; (f) Carthage Incised, *var. Akron*; (g) Mississippi Plain, jar rim with multiple small handles, red filmed interior.

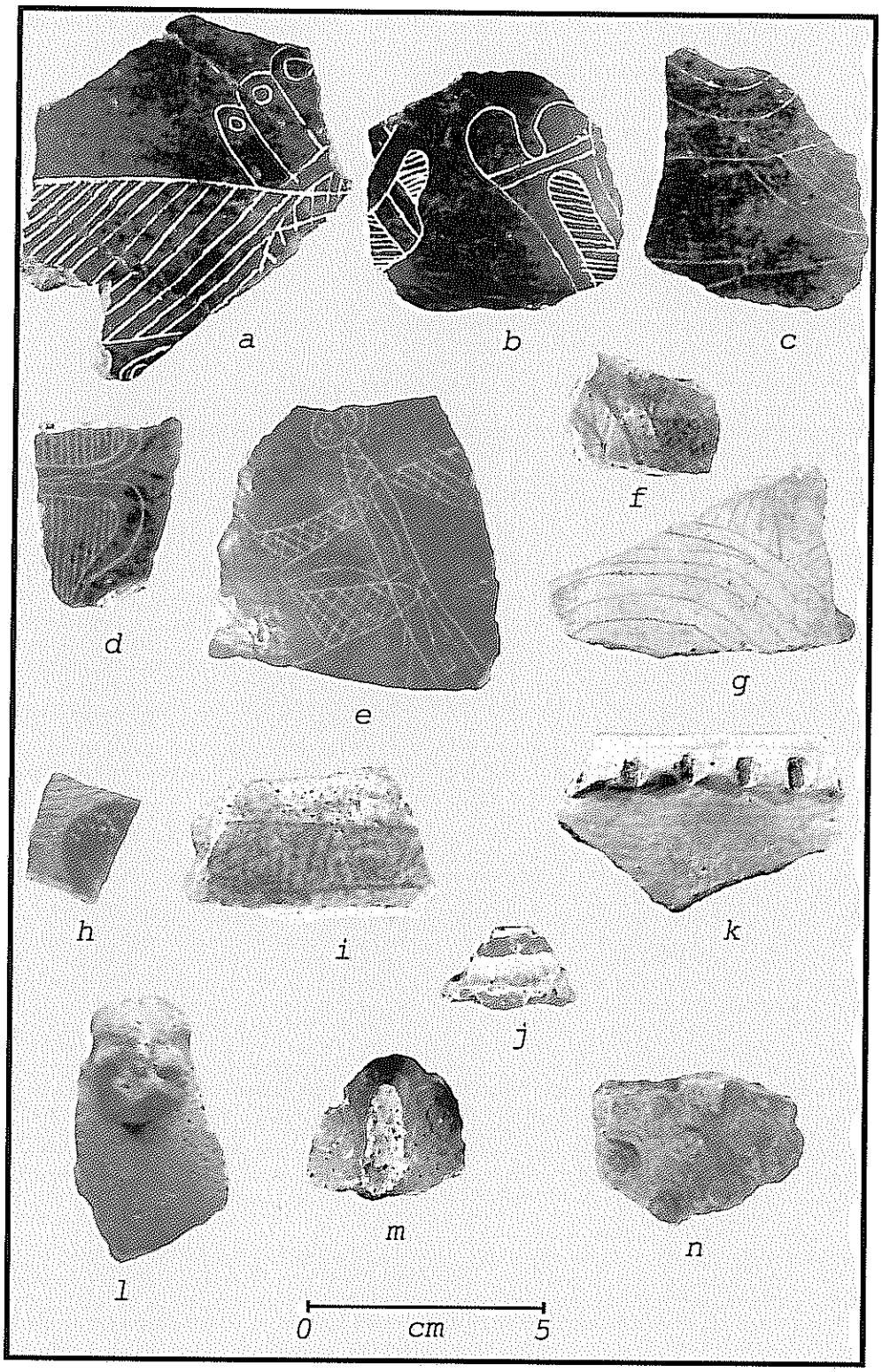

Figure 63. Sherds from Midden Level 4, north flank, Mound Q. (a-e) Moundville Engraved, var. Hemphill – a has center symbols and bands, b has hand and forearm bone, c and e have winged serpent; (f and g) Moundville Engraved, *var. Wiggins*; (h) Moundville Engraved, *var. Tuscaloosa*, with indentation; (I) Moundville Engraved, *var. Cypress*, simple bowl rim; (j) Bell Plain, negative painted polychrome, red and black on white; (k) Bell Plain, simple bowl with beaded rim; (l) Bell Plain, human head effigy rim adorno; (m) Bell Plain, owl effigy rim adorno, hollow-head; (n) Fortune Noded. (a and b have pigment added to engraved lines for photography.)

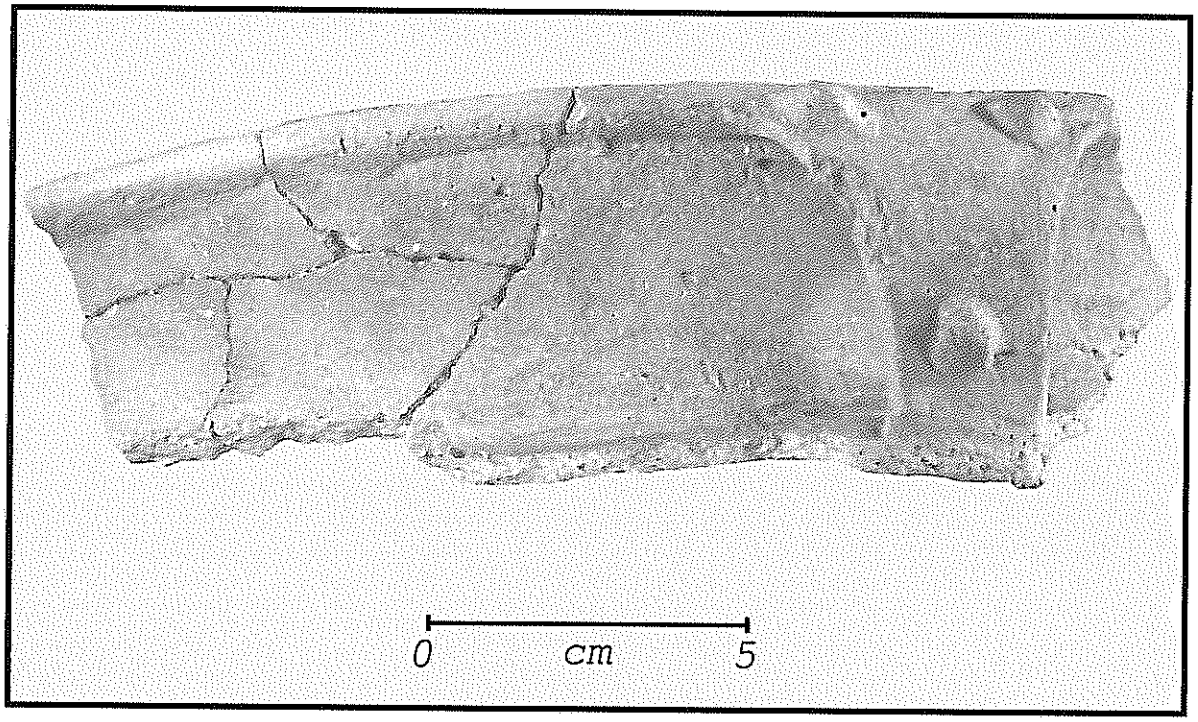

Figure 64. Mississippi Plain jar rim with handle, from Midden Level 4, North Flank, Mound Q.

It may be recalled that in the west flank trench data, Moundville Engraved, *var. Hemphill* appeared in Stage IV middens but was strongly represented only in the later Stage V overburden; similarly, the highest frequencies of *Hemphill* in the main summit block were in the uppermost levels. We can examine the north flank data for signs of a similar relative increase through time for this type bearing engraved representational art. And such a trend does indeed appear to hold, although somewhat imperfectly. The percentage values are as follows.

Midden Level 4	.0033
Midden Levels 3 & 4	.0032
Midden Levels 2 & 3	.0017
Midden Level 1	.0024

From these sources it is possible to conclude that, in Mound Q middens, engraved *Hemphill* art increases in relative frequency from Late Moundville II through Moundville III times.

In our previous discussions of west flank and summit pottery chronology, we have been mindful of the stratigraphic position of our newly minted type Moundville Engraved, *var. Middleton*, a local complement to the interior engraved D'Olive Engraved type on the Gulf Coast. So far, the type has appeared in Early Moundville II, Late Moundville II, and Moundville III contexts. Here, the type appears in Midden Level 4, which we assign to the Moundville III phase.

The beaded rim mode, in the north midden samples under discussion, fails to occur unambiguously until Midden Level 4, at which point, however, it turns up in fair abundance with 19 examples. Its apparent absence in Late Moundville II deposits here is a curious departure from

the expectations of our model, although it is exactly parallel to the data from the west flank trench, which yielded this mode only in the Stage V overburden dating to Moundville III. For further comparison, among the Mound Q summit features, the beaded rim mode did not appear in any feature fill prior to those asigned to Stages IV and V.

Of interest too, following up on our previous discussion of the chronological value of red-and-white painting, is the presence of both red on white and white on red sherds in Midden Level 1, the earliest north flank midden deposit. As we have assigned this midden to Late Moundville II on the strength of other criteria, we interpret this as additional evidence countering the employment of such sherds as Moundville III diagnostics.

A single sherd classified as Alabama River Incised is the only indication of a Moundville IV phase presence from the entire mound. The sherd features part of a fine-line incised scroll on the neck area of a jar, next to the scar from a broken-off, wide strap handle. Unfortunately, it was recovered from one of the misaligned cuts mixing Midden Levels 2 through 4, and therefore we cannot specify its stratigraphic position within the north midden deposits. It is our inclination, as might be expected, to suggest that it probably came from a superficial context and that it signals ephemeral Moundville IV phase activity in this vicinity after Mound Q was abandoned. A second possibility is that the sherd is merely misclassified, as incised scrolls on the rim area of Late Mississippian jars are a common enough feature in the Central Mississippi Valley, with which the later Moundville polity has important connections. While such pottery is beyond our area of immediate expertise, a scanning of illustrated examples from the literature suggests that they might be difficult to sort from local Moundville IV pottery at the sherd level.

And, while on the subject of Mississippi Valley connections, we can note the presence here, in small numbers, of sherds classified as Barton Incised, *var. Barton* and Fortune Noded. Together with the type Parkin Punctated, found in the uppermost deposits of the west flank trench and summit, we have a triad of Late Mississippian types at home to the west and northwest of Moundville. But so as not to neglect the east, there are as well two grit tempered sherds classified as Lake Jackson Plain, the Fort Walton Mississippian type.

Stratigraphic Correlation of North Midden Deposits with Upper Mound Stages

It is our misfortune not to possess, unfortunately, the direct stratigraphic evidence that might allow us to link Midden Levels 1 - 4, as defined in the north flank excavations, to the sequence of construction stages defined for the summit block and west flank trench. The north flank midden block was located near the toe of the mound 13 meters distant from the main summit block at its closest point. Even had a trench connecting these two blocks been opened, we would not be much better off in establishing this correlation, because of the historic truncation of the deposits in this locality. But the subject is an important one, so we must proceed with the evidence at hand, particularly that concerning the ceramic dating of these deposits.

At first blush it would seem attractive to connect the two stratigraphic sequences by merely counting backward, assuming that the final deposit on the north flank, Midden Level 4 , correlates with the final construction stage at the summit, Stage V. After all, four major mound

stages are defined for the summit and four major midden deposits are defined for the north flank, in which case the logical correlation would be as follows: Midden Level 4 = Stage V; Midden Level 3 = Stage IV; Midden Level 2 = Stage III; Midden Level 1 = Stage II. But that simple solution, alas, has to be judged as dubious. As was the case before in the downslope portions of the west flank, the north midden deposits are not separated by uniform layers of mound fill that might be matched to construction fills upslope. And, as we have stated previously, the north flank Midden Levels as we have defined them are in truth only barely distinguishable, based on profile data showing subtle demarcations of sand versus silt content and variation in organic content. It is entirely conceivable, therefore, that any given major construction stage could have contributed to more than one of our defined Midden Levels. Besides, the pottery chronology as worked out separately for the summit and north flank middens does not support the straightforward correlation given above.

Let us review what we concluded about the ceramic dating of these two stratigraphic sequences. Beginning with the main summit block, the Stage II summit has been assigned with confidence to the Early Moundville II phase. With similar confidence, we assigned the Stage IVA midden to Late Moundville II. The intervening Stage IIIA and Stage III deposits, based upon somewhat more equivocal data, were assigned to Late Moundville II. We placed the daub layer just underlying the humus in Late Moundville II or Early Moundville III. Factoring in the west flank trench data, we further concluded, with confidence, that the Stage IV midden belongs in Late Moundville II and that the midden-like Stage V "overburden" layer dates to Moundville III. In summary, then, the major construction stages of the upper mound sequence fall into place as follows.

Stage V	Moundville III
Stages III and IV	Late Moundville II
Stage II	Early Moundville II

Turning to the data from the north flank middens, we have concluded that Midden Levels 1 through 3 all probably date to Late Moundville II, and that Midden Level 4 dates to the Moundville III phase. Granting these assignments based on sherd diagnosics, Midden Level 4 is a Stage V deposit, and Midden Levels 1 through 3 were laid down during Stages III and IV in the construction history of Mound Q. We are left, again, without a north flank deposit correlating to the Stage II summit toward whose architecture so much effort has been devoted.

It is no surprise to find that the massive terminal Midden Level 4 on the nothern mound flank is correlated with the massive terminal Stage V "overburden" of the west flank. We would venture the opinion that they are, in fact, aspects of the same general overlay of Stage V refuse, wrapped around the northern face and adjacent flanks, all emanating from eradicated buildings once surmounting the final summit. Below that, Midden Level 3 on the north flank is without doubt to be attributed to Stage IV architecture above, about which, however, we know precious little indeed, save that it resulted in a layer of burned daub that survived on a portion of the mound summit. Midden Level 2 on the north flank is probably to be attributed to Stage IV summit activity as well, particularly in view of the prominence of daub fragments characterizing that midden deposit and the conspicuousness of burned daub on the remains of the Stage IV

summit. In that case Midden Level I of the north flank, by default, aligns with Stage III architecture on the summit, which we know featured buildings of wall trench construction.

Combining these stratigraphic correlations with the information from the east summit units yields the following general chart (Figure 65) aligning significant deposits from all four excavation areas on Mound Q and assigning them as to phase.

	Summit, Main Block	West Flank Trench	North Flank Units	East Summit Units
Moundville III phase	Stage V	Stage V "overburden"	Midden Level 4	(truncated)
Late Moundville II phase	Stage IV daub layer	Stage IV middens	Midden Levels 2 & 3	Fill *H*
	Stage IVA midden			
	Stage III and IIIA	Stage III midden	Midden level 1	Midden *G*; Fills *B*, *D*
Early Moundville II phase	Stage II summit features			Midden *A*

Figure 65. Chronological alignment of deposits from four excavation areas on Mound Q.

A Retraction

Inserted here will be a brief aside. By the end of the summer field season of 1992, we felt rather strongly that Midden Level 4 in the north flank units was a stark anomaly for Mound Q. At that time the only north flank midden excavation unit taken to subsoil was Unit 43R23, in which Midden Level 4 is overwhelmingly dominant, reaching a maximum thickness there of 70 cm. As the relatively shallow middens of the west flank trench had been previously assumed to be representive, the surprising thickness and density of seemingly domestic refuse of Midden Level 4, dating to the final summit occupation in Moundville III times, seemed to demand special explanation.

Contributing to this belief was the field impression, gained prior to any actual tabulation, that artifacts related to elite crafting and display were concentrated in the Stage III and IV deposits and were relatively scarce in the Stage V midden. The latter, in seeming contrast, looked

like ordinary domestic trash. Moreover, the few ^{14}C dates available at that time included certain assays from Stage II and IV deposits that, when calibrated, suggested a dating in the late thirteenth century, as contrasted with assays from the Stage V middens that suggested a much later dating in the early fifteenth century. It thus appeared that there was not only a contrast in scale and artifact content between the final midden and previous deposits, but a time gap as well.

These interpretations made their way into an unpublished paper, "Preliminary Report on Excavations at Mound Q, Moundville" (Knight 1992), read at the 49th annual meeting of the Southeastern Archaeological Conference in Little Rock, Arkansas. That paper, after listing kinds of exotica from Mound Q normally associated with elite activity, concludes as follows.

> Most of this kind of material [i.e., exotica], which appears to echo craft activities and decorative arts, is missing in the later Moundville III midden deposits that come from the final summit occupation. At present it appears that Mound Q, through about AD 1300, supported a series of special-purpose buildings, after which it was abandoned and converted much later to a residential use around AD 1400 [Knight 1992:13].

Thus I inferred a rather important reorientation of primary function, from ceremonial to domestic and residential, in the later history of the mound.

As the paper in question, despite not being published, nonetheless did achieve a degree of circulation, it is appropriate here to issue a retraction of these preliminary claims. Excavations subsequent to the summer of 1992, particularly in Unit 41R23, revealed that Midden Level 4 was not so unique after all, and was preceded stratigraphically by a series of at least three basically comparable midden deposits on the north flank. Analysis was to reveal that the artifactual contents of Midden Level 4, while differing in some respects to previous deposits, were not of a qualitatively different order. As to the perceived time difference and the supposed interval of abandonment, this too was to evaporate with the accumulation of a larger sample of ^{14}C dates. In short, here was an interpretive red herring worthy now of quiet burial.

Artifact Distributions

We come now to a consideration of artifact distributions within the contexts excavated in Mound Q. Here our interest turns primarily to artifact classifications that have the potential to inform on the nature of the human activities that took place on the mound. In other words, we will be attending primarily to functional categories of things, and also to kinds of raw materials that have a bearing on matters of acquisition, production, and distribution. This is not to say that chronological affairs are to be put aside entirely, for we also need to be alert to any changes in frequencies of items discarded during the mound's life history. After all, having already denied, based upon stratigraphic evidence, that the mound's use underwent any fundamental transformations over time, we must now take care to avoid any assumption that all was static. Also whereas, in any consideration of mound function, comparisons are certainly called for, we shall reserve all external comparisons for special presentation elsewhere. Differential distributions within Mound Q are, however, fair game. We may begin with pottery, not the chronotypes and

phase-diagnostic decorative modes already dealt with, but rather with those dimensions of variability that are relevant to function.

Pottery Service and Utility Ware Frequencies

It is a fair assumption that at Moundville, as elsewhere, pottery vessel morphology and size are strongly correlated with intended use (Taft 1996:48-51; Maxham 2000:341). Such distinctions are particularly informative on those activities we might collectively call *foodways*, such as food storage, preparation, distribution, and consumption (see Welch and Scarry 1995), although we ought not forget to acknowledge that pottery vessels were also used as containers for things that were not edible.

It is understood, moreover, that in the Moundville world the unburnished jar was the standard cooking vessel, and was also used occasionally for storage, whereas various bowl and bottle forms, which are overwhelmingly burnished, were used primarily for food service (Welch and Scarry 1995:410-412). Following upon this most central functional dichotomy of Moundville era pottery into service versus utility categories, it has become commonplace in Moundville archaeology to employ the relative frequencies of burnished to unburnished potsherds as an index of the relative importance of food presentation or service as against cooking (e.g., Scarry 1998:97-99; Michals 1998:176-177; Maxham 2000:342). However, this index is in our opinion a slippery one, one that is subject to caution on several counts. As reviewed elsewhere, the detection of burnishing is not comfortably straightforward, being hostage to two important sources of bias. The first is differential erosion of sherd surfaces in various pre- and post-depositional environments, as virtually all burnished sherds show some evidence of erosional attrition of the burnished surface, even in situations quite favorable to preservation. The second is the present lack of any standard sorting protocol among different researchers, particularly as to what specific characteristics ought to be considered evidence of burnishing, or in the case of eroded sherds, evidence of former burnishing. Having attempted to train numerous students in the niceties of this distinction, we are struck with the high potential here for inter-analyst biases arising from potentially different understandings of how to sort these.

Beyond this, the service-to-utility ratio has been used as more than simply a reflection of the relative prevalence of cooking versus serving functions in particular contexts. The ratio also has been routinely deployed as a straightforward proxy for status distinctions, based on the logic that burnished serving vessels were more commonly used by high ranking people provisioned by others. This logic seems not entirely well founded. The burnished pottery in question is not necessarily fancy fineware with significant display value. It instead consists to an important degree of ordinary and relatively unembellished containers that are routinely found in the most common of domestic contexts, and which were presumably accessible to anyone.

Having aired these cautions, we can proceed to compare service and utility ware frequencies for those midden and feature fill contexts that are well dated as to phase. We present the results graphically in Figure 66. Relative frequencies of service and utility ware are all quite close to the values of 25 percent service to 75 percent utility (serving/cooking index = 0.34) reported by Taft (1996:60) for Mound Q overall, based upon a much smaller sample. Broken

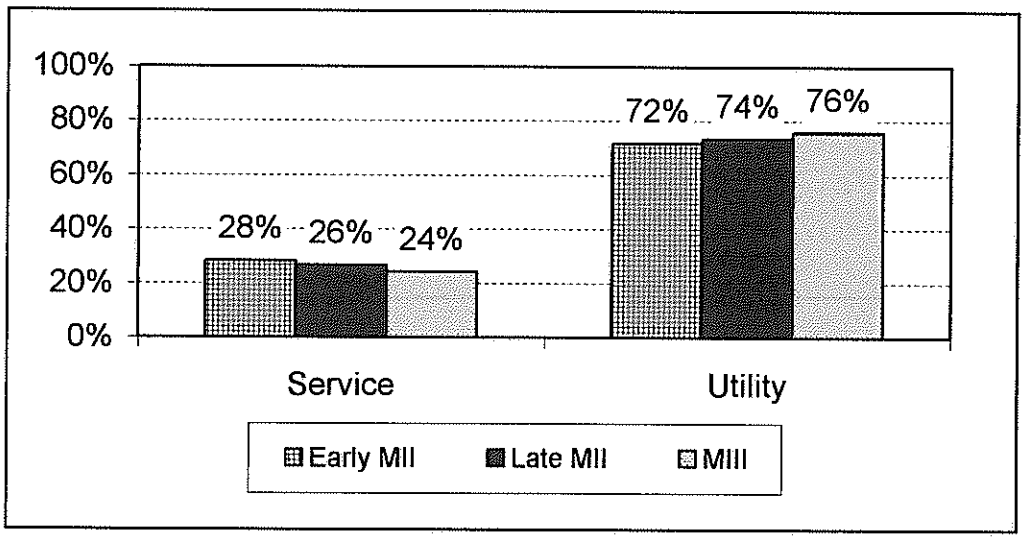

Figure 66. Frequencies of service and utility pottery from midden and feature contexts, by phase.

down into Early Moundville II, Late Moundville II, and Moundville III phase contexts, some differences appear. These differences are so slight that they may not be genuine, but taken at face value, they indicate that service ware became gradually less common through time relative to utility ware.

Pottery Vessel Shape and Size Distributions

There is a long history of agreement that the three primary, generic pottery vessel shapes used by Moundvillians were jars, bowls, and bottles (McKenzie 1964:51). Classification of the Mound Q pottery according to our protocols for diagnosing vessel shape reveals that these three generic vessel shapes are important in all major contexts. That is hardly a surprise, and it would seem to indicate that breakage and discard of vessels used in on-site cooking and food service were routine on Mound Q. Most of the sherds are from quite ordinary cooking and serving containers identical to those found in any contemporaneous domestic assemblage in the region.

Frequencies of Common Shapes. Table 12 gives the frequencies of identified vessel shape classes by phase from Mound Q. Here, the most numerous subcategory of bowls, the flaring-rim bowl, is tabulated separately, together with the far rarer eccentric bowl and plate forms. A residual "other bowl" category includes the hemispherical, cup-shaped, and tecomate forms, which are ordinarily difficult to distinguish from sherd material only (Taft 1996:39). The same data are shown graphically in Figure 67, in which all bowls and plates are collapsed into a single class. Here the Early Moundville II vessel shape assemblage appears to deviate strongly from later contexts in the mound, having jars much more strongly represented and bowls and bottles correspondingly underrepresented. We are inclined to disregard this apparent aberration as the result of an inappropriately small sample size (There were only 42 diagnostic fragments of all shapes for Early Moundville II, in contrast to 262 and 717 for Late Moundville II and Moundville III respectively). Such a deviation is also at odds with relative frequencies of burnished versus unburnished sherds from the same contexts, as already presented. Those results revealed amounts of unburnished

Dated Midden and Feature Contexts											
	Jar	*%*	*Flaring-Rim Bowl*	*Eccentric Bowl*	*Plate*	*Other Bowl*	*All Bowls & Plates*	*%*	*Bottle*	*%*	*Total*
Moundville III	449	0.63	88	1	3	121	213	0.30	55	0.08	717
Late Moundville II	135	0.52	28		1	51	80	0.31	47	0.18	262
Early Moundville II	32	0.76	1		1	2	4	0.10	6	0.14	42
Subtotal	616	0.60	117	1	5	174	297	0.29	108	0.11	1,021
All Other Contexts											
	Jar	*%*	*Flaring-Rim Bowl*	*Eccentric Bowl*	*Plate*	*Other Bowl*	*All Bowls & Plates*	*%*	*Bottle*	*%*	*Total*
Subtotal	714	0.58	142	5	4	199	350	0.29	162	0.13	1,226
Total	1,330	0.59	259	6	9	373	647	0.29	270	0.12	2,247

Table 12. Summary of vessel shape classes by phase.

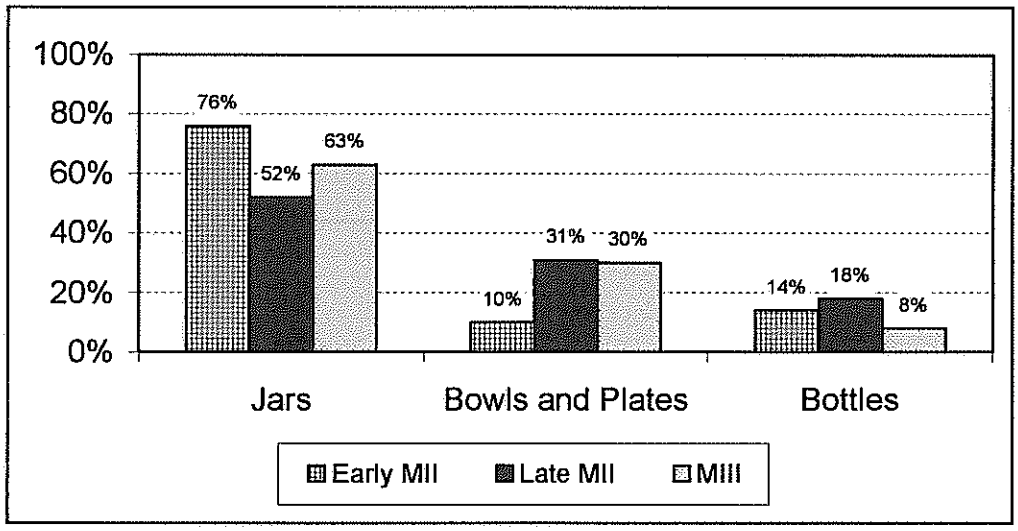

Figure 67. Frequencies of primary vessel shapes from midden and feature contexts, by phase.

pottery from Early Moundville II contexts, a category overwhelmingly correlated with jars, that are congruent with the values for later phases of mound use.

The remainder of the graph, founded upon more appropriate samples, is more to be trusted, and is therefore of more interest as it sheds additional light on the apparent changes in the service to utility ware ratio discussed in the previous section. From Late Moundville II to Moundville III contexts, the proportion of jars to other forms is seen to increase by 11 percent, a shift mirrored by the smaller increase in unburnished utility ware over time. What is revealed here, moreover, is that this relative increase in jars is almost entirely at the expense of bottles rather than bowls, as bottles drop off by 10 percent while bowl frequencies remain essentially stable. Sherds from bottles comprise only 8 percent of diagnostic vessel sherds in Moundville III contexts, quite a bit lower than the composite 12 percent figure for bottles in Mound Q overall. The significance of this diminishment of bottles is far from clear, but part of the answer may be that such a change is coordinate with the history of bottle forms in general within the Moundville

sequence. Based on the evidence at hand, it is believed that during the Moundville III phase, the bottle shape goes from being a common occcurence early in the phase to a rare one late in the phase. For example, whereas diagnostic sherds from bottles are relatively common in Early Moundville III phase deposits at Moundville (Taft 1996:Table 7), they are found only in trace amounts in the Late Moundville III midden at the White site (Holland 1995: Table 10). In the subsequent Moundville IV phase the bottle form is again extremely rare (Sheldon and Jenkins 1986:96). Thus, the small decrease seen at Mound Q may reflect the very beginning of a more general trend in which the bottle form falls into disuse late in the Moundville sequence. What is not accounted for in this scenario is any potential difference in bottle use at the paramount center versus that of surrounding sites in the region, a subject that cannot now be addressed for lack of comparable data.

At any rate, the relative increase in jars at Mound Q between Late Moundville II and Moundville III need not be interpreted, necessarily, as an actual increase in the ubiquity of jars, from which one might infer, in turn, an increase in the frequency of on-site cooking activities. While that might be correct to some small degree, the apparent trend might alternatively be an effect of the gradual abandonment of a once prominent vessel shape, the bottle, during the Moundville III phase.

Plates. Turning now to the less frequent vessel shapes present in the Mound Q assemblage, we find that there are nine rim sherds from shallow plates, a form so uncommon that neither Steponaitis (1983a:64-70) nor Taft (1996:41-44) include it in their respective rosters of basic Moundville vessel shapes. Five of these sherds come from well dated midden or feature contexts, revealing their presence in Early Moundville II, Late Moundville II, and Moundville III phase contexts. The specimens represent a highly uniform class of interior engraved vessels herein given the type name Moundville Engraved, *var. Middleton.* As stated elsewhere, vessels of this kind appear to be a local mimicking of the much more common interior decorated plate forms of Pensacola culture in the Gulf Coast region to the south of Moundville. Given their rarity at Moundville, in the present context they may represent a form dedicated to some special use or meaningful display.

Eccentric Bowls. Rim sherds from eccentric bowls were identified in six instances. These elaborate terraced forms are of more than the usual interest, not merely because they are rare, but because they are our best candidates among the pottery containers for bona fide display goods, manipulated by elites for special uses. The present specimens are clearly fragments of six separate vessels. Attending to context, one was from Midden Level 4 in the north flank midden, a clear Moundville III phase deposit. Three others specimens came from superficial, mixed summit deposits dating to either Stage IV or Stage V of the Mound Q sequence, again suggestive of a late chronological position here, although eccentric bowls are by no means uniformly late in the Moundville sequence generally. One sherd (Figure 48m) holds special interest in presenting a negative painted motif consisting of concentric circles or bulls-eyes in red and white against a black background, a design feature that closely allies it to a square eccentric bowl among the whole vessel collections (SD3; Steponaitis 1983a:Figure 63d), and also to certain sherds of a third vessel of similar design found by us on the Mound F flank.

Glauconite Containers. Another sort of evidence for special use pottery vessels was encountered in the form of sherds on which the interior surfaces show traces of powdered glauconite, a bright green pigment. These traces suggest that certain vessels were used to contain the pigment, an observation confirmed by the discovery of several small bowls among Moundville burials elsewhere at the site that contain powdered glauconite or hematite. In the Mound Q excavations there were three occurrences, all from the main summit block. One was an instance of two glauconite-coated sherds found together, possibly from two different fine shell tempered vessels, as one sherd has a black burnished exterior and the other does not. A second occurrence consisted of two fine shell tempered glauconite-coated sherds, definitely from the same vessel. In the cases cited so far the sherds are small and the vessel form is indeterminate. The third occurrence consisted of four fitting sherds of the same vessel, a small, well made black burnished bowl, likewise coated with powdered glauconite on the interior. This vessel fragment, shown in Figure 43c, is an unusual one. For one thing it is temperless, and for another it is a rare example of the small bowl form bearing representational engraving in the manner of Moundville Engraved, *var. Hemphill* - a type to which it cannot, nonetheless, be assigned because of its lack of shell temper. The design is a simplified version of wing feathers, similar to those found on *Hemphill* winged serpent and raptor engravings but lacking the ususal concentric circles within the semicircular elements bordering each feather.

Composite Vessels. Two sherds from composite vessels were identified. These are forms much better known from the whole vessel collections (Steponaitis 1983:70). The pertinent ones appear in profile to consist either of two bowls conjoined vertically, one on top of the other, or a similar configuration of a bowl conjoined vertically with a jar. The present identification from sherds was based on recognition of the diagnostic juncture between the stacked components. One specimen was found in Stage III fill from the main summit block; the other was from the summit humus level.

Vessel Sizes. Vessel size distributions within the Mound Q samples have been addressed in a study by Taft (1996), to which the reader is referred for details not summarized here. Taft used orifice diameter as a surrogate for size. Orifice diameters were measured from sherds using a modified dial indicator to precisely measure the arc of the rim, following a procedure originally described by Plog (1985). Within each of the main shape classes, Taft's analysis was aimed at detecting distinct size modes in the material. The matrix of shape classes and size modes together comprise what Hally (1984) calls the *full vessel assemblage.* Using the Moundville II and Moundville III phase material from Mounds Q, E, and G, Taft succeeded in isolating 16 shape-size categories pertinent to that segment of the Moundville sequence. These shape-size classes can be identified from sherd material and can be used to discuss issues of functional variability. Most of the standard shapes had three clearly identifiable size modes, which can be called, not surprisingly, small, medium, and large. With the exception of various bowl forms, there is normally a common medium size, a less common small - typically miniature - mode, and a still less common large or oversize mode.

The full roster (after Taft 1996: Table 8) is as follows:

Jar, small
Jar, medium
Jar, large
Bottle, small
Bottle, medium
Bottle, large
Flaring-Rim Bowl, small
Flaring-Rim Bowl, medium
Flaring-Rim Bowl, large
Tecomate, small
Tecomate, medium
Tecomate, large
Bowl, other, small
Bowl, other, mediuam
Bowl, other, large
Terraced-Rim (Eccentric) bowl

In this list, which is tailored to identifications made from rim sherds, the bottle category actually subsumes three distinct shapes, the common wide-neck bottle and the less common narrow-neck and cylindrical bottle. Likewise the "other bowl" category subsumes cup-shaped and hemispherical bowl forms. To this list we can add two additional forms, the plate and the composite bowl.

It is of much interest that the large size mode in most of these classes is entirely absent from the whole vessel sample of 1,117 pots derived from burials at Moundville. Thus our only evidence of these large vessel sizes comes from sherds. Perhaps, to indulge momentarily in speculation, this is because the larger size modes, intended for communal manipulation of food, were considered inappropriate furnishings for the burial of an individual. Or perhaps, more simply, they were just too large to fit comfortably into ordinarily narrow grave pits.

Taft's study concludes that the Mound Q vessel assemblage is highly diverse, both in number of shapes and number of size modes identified (1996:63-64). Of the entire matrix of 16 shape-size categories, only jars and flared rim bowls of the smallest size modes plus large tecomates were missing from the Mound Q sample. The large size modes of common shapes are well represented, particularly jars with orifice diameters between 33-41 cm and flaring-rim bowls with orifice diameters between 44-49 cm. At least one oversize bottle, described elsewhere (p. 48), has a maximum body diameter of 34 cm, and another is suggested by a bottle rim with an orifice diameter of 19.6 cm. Smaller vessels are well represented too, particularly small bowls with orifice diameters of 11-15 cm.

Discussion. In sum, contributing to an overall impression of functional diversity in the Mound Q pottery are the following: (a) a relatively full range of ordinary vessel shapes, (b) their presence in most known size modes, with perhaps an emphasis on the larger sizes, (c) the

appearance of relatively rare shape classes such as plates and composite bowls, and (d) the conspicuous presence of special use vessels, including bowls used as containers for green pigment (glauconite) and terraced eccentric bowls probably intended for ostentatious display. This sort of functional diversity is not what one would expect either of repetitive ritual activity of any specific kind, nor of ordinary domestic foodways involving small social groups of uniform size, e.g., the mound's permanent residents. Perhaps instead what Mound Q confronts us with is the residue of an aggregate of different pottery using activities, ranging from the routine sustenance of the inhabitants of the summit buildings to a variety of special occasions, some of a ritual nature, involving groups of participants that varied in size.

Effigy rim adornos. Adornos broken from the rim of pottery bowls, depicting animal and human subjects, constitute a familiar trait of Mississippian pottery in the southern states. Accordingly, they were met with occasionally in Mound Q. It is sometimes conjectured that attention to the variable subject matter of pottery adornos might reveal meaningful patterning, in a manner potentially connected with social distinctions (see, e.g., Price and Griffin 1979;105-106; Wesler 1996:52). In the interest of documenting any such patterning, the list included as Table 13 offers our best attempt to identifiy the subject zoomorphs or anthropomorphs, together with provenience information. In this list, the term "cookie-cutter" as applied to bird head adornos follows Steponaitis's usage (1983a:75), who describes the form as "a 'flat' variant, which is highly conventionalized, rarely has a distinct neck, and exhibits a two-dimensional quality." The present listing omits reference to frog and fish effigy features which were tabulated separately as chronological diagnostics earlier in this chapter. Frog and fish effigies differ from the remainder generally in consisting of appliqué forms applied to the body of vessels as contrasted to modeled forms that stand above the rims of bowls.

Cat. No.	*Subject*	*Context*
40.3185.1	long-necked bird with topknot	summit, Stage II floor
40.2015.1	"cookie cutter" duck	summit, Stage IV/V fill
40.3977.1	"cookie cutter" duck	surface
40.954.2	"cookie cutter" duck	summit, humus
	owl, solid head	"trial hole," C. B. Moore
40.4.1	owl, solid head	west flank, ref. trench
40.2564.1	owl, hollow head	north flank, Midden Level 4
40.3983.1	deer or rabbit	summit, Stage III fill
40.34.7	human	west flank, Stage V
40.1239.8	human	north flank, Midden Level 4
40.2734.1	human	north flank, Midden Levels 2&3

Table 13. Effigy rim adornos.

Thus excluding the frogs and fishes, 14 total rim adornos or fragments thereof were counted, of which 11 are at least arguably identifiable as to subject. Among these 11, birds are prominent, varieties including the "cookie-cutter" forms often claimed to be ducks, owls of both solid and hollow-headed types, and an example of a gracile, long necked bird with a topknot.

There are three humans. The only other mammal is a well made adorno (Figure 43e) in which some perceive a deer but others a rabbit. Among the unidentifiable fragments is the base of a second hollow-headed adorno, of the kind that is often made as a rattle by including a small pellet in the void.

Artifacts of Flaked Stone

Perhaps the most salient fact concerning flaked stone artifacts from Mound Q can be stated in the negative: Neither tools nor debitage are very common. It is remarkable that over six years of rather extensive excavations into various contexts, including fine screened samples, yielded grand totals of flaked stone debitage counted only in the low hundreds of specimens, rather than the thousands or tens of thousands. This paucity says immediately that stone knapping was never a prominent activity on the mound summit, for even a single episode of stone tool manufacture can at one sitting generate several dozens of flakes. Most if not all of the making and rejuvenating of the finished specimens found must have happened elsewhere. With that general observation in mind, we move to a discussion of the projectile points.

Projectile Points. Conforming to expectations generated from previous excavations at Moundville and related sites, two general kinds of projectile points were encountered here. There are, first of all, small triangular arrow points, and secondly there are a few larger and thicker stemmed projectile points largely conforming to pre-Mississippian styles in this region.

The small triangular points are the most prominent form by far. From all contexts combined, there were 17 specimens complete enough for confident identification. Table 14 gives some basic data on these specimens, including their context, material of manufacture, base morphology (whether straight or incurvate), and metric dimensions. From these data one can see that they are distributed over many contexts, in summit and flank deposits ranging from early to late in the stratigraphic sequence. Most were made from Tuscaloosa gravel chert available locally and many of these bear evidence of heat treatment of the chert. Two specimens made of identifiable nonlocal raw materials include one of Knox chert from the southern Appalachian area and one of novaculite from the Ouachita Mountains of central Arkansas. What is quite striking is that not a single specimen is made of blue-gray Fort Payne or Bangor chert from the Tennessee River Valley. The significance of this lies in the fact, presently to be discussed, that blue-gray Fort Payne is the co-dominant chert type in Mound Q generally, in some contexts outnumbering the local chert in counts of debitage. Clearly, even though high quality non-local chert was available in abundance and was favored for most other tasks, it was the local chert, available in pebble form, that was preferred for the manufacture of arrow points. In addition to these 17 specimens there were several distal tips that were probably detached from small triangular points.

Constituting a separate issue are the larger stemmed projectile points, three of which are in the Mound Q collections. Because these larger points are morphologically interchangeable with various local forms dating from approximately Late Archaic through Middle Woodland times, here they look, and probably are, out of place, at least chronologically speaking. It seems unlikely that these points came in unrecognized with mound fill, because no verified site components dating to the appropriate frame have been found anywhere at the Moundville site. It appears more likely

Cat. No.	Context	Raw Material	Base Form	Length mm	Width mm	Comments
40.62.2	west flank, ref. trench	heated Tuscaloosa	straight	24	16	
40.85.1	west flank, Stage V	Tuscaloosa gravel	incurvate	23	16	
40.411.4	north flank, Midden Level 4	unid. gray chert	straight	24	12	
40.426.2	west flank, Stage IV midden	heated Tuscaloosa	straight		12	distal tip missing
40.1245.1	west flank, mixed fill	unid. gray chert	incurvate		16	distal end missing
40.1391.1	west flank, mixed fill	heated Tuscaloosa	straight	24	13	
40.1700.1	surface	heated Tuscaloosa	incurvate		15	distal tip missing
40.2098.2	summit, Stage IV/V fill	heated Tuscaloosa				base missing
40.2108.2	summit, Stage IIIA fill	Tuscaloosa gravel	incurvate		13	distal end missing
40.2779.2	surface	Tuscaloosa gravel	straight		14	distal tip missing
40.2841.1	north flank, Midden Levels 2&3	heated Tuscaloosa	incurvate	27	14	
40.3968.1	west flank, mixed fill	heated Tuscaloosa	incurvate	30	16	
40.3969.1	summit, Stage III fill	heated Tuscaloosa	incurvate		16	distal tip missing
40.3979.1	surface	heated Tuscaloosa	incurvate	29	16	
40.3998.1	surface	novaculite	straight	42	15	
40.4248.1	summit, Stage II feature	Knox chert	straight	26	13	
40.5153.1	summit, Stage II feature	heated Tuscaloosa	straight		14	distal tip missing

Table 14. Small triangular projectile points.

that the specimens are in fact of earlier manufacture and that they represent, in these contexts, "found objects." Reinforcing this suspicion is thae fact that one of the three is manufactured from Tallahatta quartzite, a raw material of the southern Coastal Plain and one that is particularly abundant on Late Archaic sites of the Black Warrior and Tombigbee drainages. Picked up from nearby sites of earlier occupation, Archaic or Woodland era points might have been recognized has having value for cutting, piercing, and scraping tasks. In a stone-using regime in which such tasks were routinely done with expedient tools made from flakes, a topic to be explored elsewhere in detail, the durable edges of earlier formal tools might have been judged as having considerable utility. This is, of course, little more than speculation, as there is also rather common ethnographic documentation of historically known peoples guarding such anachronisms for all sorts of stated purposes having little to do with utilitarian concerns.

Finished Bifaces. The extraordinary rarity of both biface preforms and finished bifaces other than projectile points at Mound Q, although it is negative evidence, lends further support to the importance of expedient flake tools as the preferred alternative for routine cutting. Indeed two of the three specimens in the collection are legitimate exotics, probably imported from distant sources in a finished condition. One is a midsection of a Mill Creek chert biface, of a raw material type originating in southern Illinois. Of the form known as a Ramey knife in Cahokia archaeology, this biface is one of the very few positive American Bottom connections so far identified for Moundville as a whole. A second specimen is a midsection from a well made, serrated biface of white chert. Although it is somewhat clouded from exposure to fire, the material of manufacture is tentatively identified as Burlington chert, a material again widely used at Cahokia, whose sources lie in the Crescent Hills area of southeast Missouri. The third specimen is a small fragment of a finished biface of local material.

Preforms. A scant four specimens were clasified as preforms. More specifically, two are early stage preforms (Preform I) and two are later stage preforms (Preform II). The distinction here is

the existence of evidence for thinning on the later stage specimens, whereas the early stage preforms are merely edged, presumably by hard-hammer percussion flaking. Only one of the four specimens is made of local Tuscaloosa gravel chert. Two are of blue-gray Fort Payne chert deriving from the Tennessee River Valley, and the fourth is of an uncertainly identified Coastal Plain raw material that might be heat treated Ocala chert. The mismatch in raw materials between these preforms and the small triangular points is noteworthy, suggesting that the preforms are not part of the production trajectory for arrow points. This conclusion resonates with the claim made previously that standard triangular points found at Mound Q were largely if not wholly made elsewhere.

Expedient Tools. Seventeen artifacts are here grouped under the heading of expedient tools, the data concerning which are given in Table 15. None are formal tools, in the sense of having a recognizable conventional shape, but instead consist of flakes of highly variable morphology and size, all of which which bear macroscopic retouch along one or more working edges. Our presumption is that these were chiefly hand-held rather than hafted, and that they were used only for a short time before being discarded. The retouch that is evident is also variable in appearance and constitutes the strengthening, rejuvenation, steepening, straightening, or serrating of the original flake edge as desired for the task at hand. Edge damage from use is another possibility, but one we cannot confirm without further study under the microscope.

Cat. No.	Item	Context	Raw Material	Comments
40.393.2	side/end scraper	north flank, Midden Level 4	blue-gray Fort Payne	steep unifacial retouch, two margins of flake
40.401.1	retouched flake	north flank, Midden Level 4	blue-gray Fort Payne	
40.413.1	retouched flake	north flank, Midden Level 4	blue-gray Fort Payne	
40.414.7	retouched blade-like flake	north flank, Midden Level 4	blue-gray Fort Payne	steep retouch, two lateral margins
40.985.1	retouched flake	summit, humus	blue-gray Fort Payne	edge damage from use?
40.1721.	retouched flake	summit, Stage IVA midden	blue-gray Fort Payne	
40.1724.	retouched flake	summit, Stage III fill	blue-gray Fort Payne	
40.1729.	retouched flake	summit, Stage III fill	Tuscaloosa gravel	
40.2095.1	retouched flake	summit, humus	unid. brown quartzite	irregular retouch, one margin
40.2098.1	retouched flake	summit, Stage IV/V fill	blue-gray Fort Payne	
40.2813.1	retouched flake	east summit, Midden G	blue-gray Fort Payne	irregular retouch, one margin
40.2859.1	retouched flake	north flank, mixed deposits	heated Tuscaloosa	
40.3874.	retouched flake	west flank, humus	blue-gray Fort Payne	
40.4023.1	retouched blade-like flake	north flank, Midden Level 1	blue-gray Fort Payne	steep retouch, one lateral margin
40.4100.	retouched flake	summit, Stage IIIA fill	Tuscaloosa gravel	
40.4247.1	retouched flake	summit, Stage II feature	heated Tuscaloosa	
40.4320.1	retouched blade-like flake	north flank, Midden Level 1	blue-gray Fort Payne	steep retouch, one lateral margin and tip

Table 15. Expedient tools.

The listing in Table 15 gives a sense of this variability, as some specimens are cataloged simply as retouched flakes, others as retouched blade-like flakes, and one specifically as a side/end scraper based on the presence of steep unifacial retouch along two adjacent flake margins. All three of the specimens made from parallel-sided blade-like flakes have steep retouch along one or both blade margins, in one case also at the tip. As will become apparent in the discussion to follow of blade-like flakes and microdrills, it is no accident that all three are made of imported blue-gray Fort Payne chert. The present specimens would have served admirably as tools for fine-duty scraping or shaving. As for the remainder, made on flakes of less regular shape, the predominance of non-local blue-gray Fort Payne chert over local Tuscaloosa gravel cherts is again apparent.

As we have already remarked in the context of noting the rarity of flaked stone biface tools other than arrow points, it is difficult to escape the judgment that expedient tools such as these were generally employed in routine manufacturing and maintenance tasks on Mound Q in lieu of hafted, formal tools of flaked stone.

Bit Tools and Small Tool Technology. Six Mound Q specimens are classified as drills, microdrills, or perforators. Summary data concerning them appears in Table 16. Three of the six are microdrills. These are artifacts of blue-gray Fort Payne chert, made by steeply retouching the blade margins to create small rod-like forms with polygonal cross sections. Along with the small implements previously described under the heading of Expedient Tools as steeply retouched blue-gray Fort Payne chert blades, these microdrills are the evident end products of a highly conspicuous core and blade technology found here and in other mound contexts at Moundville. That technology is described more fully in Chapter III, so here we merely reiterate that it is founded exclusively upon imported cores of high quality chert, coming from sources 200 km to the north of Moundville. It is difficult to see how there can be any utilitarian explanation for this insistent preference for blue-gray Fort Payne chert, as larger pebbles of local chert are just as tractable after heat treatment and could have served equally well as sources of blade flakes for such small tools (Pope 1989; Ensor 1991). Nor, one might argue, does it seem particularly economical to import the raw material as cores instead of as flakes, taking bulk and weight into account.

Cat. No.	*Item*	*Context*	*Raw Material*	*Comments*
40.411.5	perforator/drill	north flank, Midden Level 4	unid. gray chert	distal end, bifacially flaked
40.414.6	microdrill	north flank, Midden Level 4	blue-gray Fort Payne	from blade flake
40.1689.1	perforator	summit, Stage IIIA fill	Tuscaloosa gravel	steep retouching on flake margins
40.1715.1	microdrill	intrusive historic feature	blue-gray Fort Payne	from blade flake
40.2062.1	microdrill	summit, Stage IIIA fill	blue-gray Fort Payne	from blade flake
40.3876.1	drill	west flank, Stage V overburden	heated Tuscaloosa	distal end, bifacially flaked

Table 16. Drill, microdrills, and perforators.

Although these are not true polyhedral cores and this is not a particularly sophisticated core and blade industry, it is nonetheless clear that the emphasis was on the removal of successive series of parallel-sided blade-like flakes. Those flakes of appropriate form were subsequently modified by steep retouch into bit tools or small side and end scrapers. Other flakes from these cores, of less regular form, were, as we have seen, regularly retouched and used as expedient tools. In short, there is evidence here of a small tool technology in which drill bits, scraping and shaving implements, and expedient cutting tools devoted to light duty work were made. What makes this technology unusual is the extraordinary emphasis placed on a specific raw material, blue-gray Fort Payne chert cores imported from Tennessee Valley sources that lie to the north. To what craft this small tool technology was devoted is not yet known, and will perhaps require microwear analysis to determine. For the moment, shell can almost certainly be ruled out as the material being worked, judging from its rarity in midden and feature contexts here and in other mound contexts at Moundville. Wood carving is a good guess, but should that prove to be the case from

microwear analysis, it will be virtually impossible to say with more specificity what was being crafted.

Although it might seem out of place in advance of discussing flaked stone debitage generally, at this point a brief summary of cores and blade-like flakes of blue-gray Fort Payne chert from Mound Q will help to give a sense of the magnitude of the small tool technology just described. From all contexts there were 13 cores of this material, and among the unmodified flakes of the same material, 38 were classified as blade-like based on parallel sides and prismatic cross sections. Some of the blade-like flakes probably were used as cutting tools for light work, leaving no obvious macroscopic trace.These 38 blade-like flake comprise about 14 percent of the total debitage of this raw material from the mound. A review of those found in well-dated midden and feature contexts reveals that they occur in most of the major contexts in the history of the mound; 4 specimens were found in Early Moundville II contexts, 4 from Late Moundville II contexts, and 8 from Moundville III contexts.

Hoe Chips. Chips from the bit edges of stone hoes turn up occasionally in the Moundville sphere. Until very recently it was belived that fragments of stone hoes were too infrequent at Moundville and related sites for hoes to have been the normal implement applied to tillage and weeding in agriculture. One could infer from the rarity of hoes that perishable digging sticks or the like were used instead. However, Maxham (1997:25) reports that a pit feature from the small, non-mound Gerald Wiggins site, 8.5 km north of Moundville, yielded no fewer than 23 hoe flakes, which was 48 percent of the flaked stone assemblage. Evidently hoes were relatively abundant at least at some sites. Still, at the moment the Gerald Wiggins site remains an anomaly. Mound Q excavations furnished two specimens of hoe chips, both showing diagnostic silica polish. They are of interest primarily in being made of Mill Creek chert from southern Illinois sources, which puts them on the extreme southern margin of the known range of such implements (Brown et. al 1990:267). One must wonder whether, this far from the source and in the midst of a probable digging stick technology, even such a utilitarian implement as a stone hoe might have been imbued with prestige value. For the moment we can take refuge in the more neutral path and categorize the specimens merely as exotics.

Debitage. Classified here as knapping debitage are all cores, shatter, and flakes. Table 17 provides a summary. Given the high probablity that some proportion of this material arrived as accidental inclusions in mound fill from elsewhere, the debitage from secure midden and feature contexts, assumed to be related to mound use, is tabulated separately. Table 17 also sorts the debitage by dominant raw material types. Tuscaloosa Gravel chert (TG) is the locally available material, whereas blue-gray Fort Payne chert (BGFP) is the dominant imported material. Minority raw materials, such as Bangor chert, Knox chert, Tallahatta quartzite, and quartz, are here lumped together in that most helpful category, "Other."

Herein can be documented most clearly the remarks made at the beginning of this section concerning the general scarcity of flaked stone artifacts in Mound Q. A mere 591 specimens were cataloged, a total whose comparative paltriness assumes significance when the number is understood to include all small flakes from fine screened samples and all material from soils screened through 1/4 in mesh over a six year interval. Very plainly, stone knapping other than that

required for production of the specialized small tool technology just described was an uncommon component of mound summit activity.

Attending to the subsample from midden and feature contexts as a truer index of mound activity than would be the overall totals, one can see that almost half (49%) of all debitage is of local raw material, but non-local blue-gray Fort Payne chert also looms large at 38 percent. Because the residual 13 percent is made up almost wholly of non-local raw materials as well, the total non-local contribution is quite high, approximately equivalent to the contribution of local chert.

Midden and Feature Contexts							
	TG	*%*	*BGFP*	*%*	*Other*	*%*	*Total*
Cores	1	0.11	6	0.67	2	0.22	9
Shatter	17	0.36	19	0.40	11	0.23	47
Flakes	124	0.53	87	0.37	25	0.11	236
Subtotal	142	0.49	112	0.38	38	0.13	292
All Other Contexts							
	TG	*%*	*BGFP*	*%*	*Other*	*%*	*Total*
Cores	7	0.50	7	0.50	0	0.00	14
Shatter	18	0.26	41	0.59	11	0.16	70
Flakes	96	0.45	104	0.48	15	0.07	215
Subtotal	121	0.40	152	0.51	26	0.09	299
Total	263	0.45	264	0.45	64	0.11	591

Table 17. Summary of debitage. TG = Tuscaloosa Gravel chert; BGFP = Blue-Gray Fort Payne chert.

This static picture, however, does not do justice to a potentially dynamic record of the use of exotic stone. Alert to any fluctuations over time, we present flaked stone from well dated midden and feature contexts by type of raw material and by phase in Table 18. These same data are represented graphically in Figure 68. To be seen here are significant changes over time in the use of local versus non-local flaked stone at Mound Q. In both Early and Late Moundville II contexts, non-local raw materials, especially blue-gray Fort Payne chert, were more extensively exploited than the local Tuscaloosa gravel chert. But during Moundville III these relative proporations were reversed; although non-local raw materials were still important, it was now the local material that was dominant. The peak use of non-local blue-gray Fort Payne, which, as we have seen, is the raw material of choice for the small tool complex at Mound Q, is during Late Moundville II in the middle of the occupation sequence. We will discover ultimately that Late Moundville II is also the peak period for other evidence of crafting and use of exotics at Mound Q.

	TG	*%*	*BGFP*	*%*	*Other*	*%*	*Total*
Moundville III	94	0.57	50	0.30	21	0.13	165
Late Moundville II	26	0.33	42	0.54	10	0.13	78
Early Moundville II	12	0.39	13	0.42	6	0.19	31
Total	132		105		37		274

Table 18. Flaked stone raw materials from midden and feature contexts, by phase (excluding tested pebbles). TG = Tuscaloosa Gravel chert; BGFP = Blue-Gray Fort Payne chert.

Tested Pebbles. Not included in our discussions of debitage are those artifacts cataloged as tested pebbles. These are relatively small, smooth pebbles of chert showing one or more flakes removed but no other evidence of use. Not surprisingly, they are overwhelmingly (83%) of local Tuscaloosa gravel chert, which is available in abundance in small pebble form. Of the examples from contexts datable as to phase, the majority (71%) are assigned to Moundville III. This

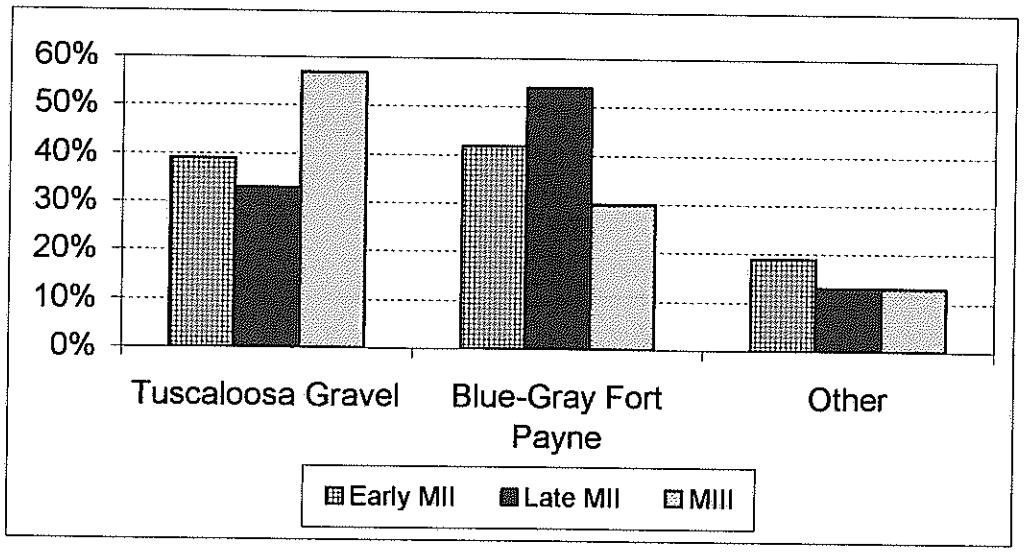

Figure 68. Flaked stone raw materials from midden and feature contexts, by phase.

observation is consistent with the increasing importance of local raw material for flaked stone late in the occupation sequence during the Moundville III phase, documented in the previous section.

Artifacts of Other Materials

As an alternative to this grossly residual category, it might have been more conventional at this point to carve off a general category of ground stone parallel to that just employed for flaked stone. We have chosen not to do so. While such a measure would perhaps make things tidier organizationally (followed by Artifacts of Bone, Artifacts of Shell, and so forth), we resisted such a path in deference to our professed interest in function. For example, small disks of both ground stone and pottery are common and may overlap in their use, so we choose to discuss them in the same place. Similarly it would ill suit our purposes to discuss smoking pipes of ground stone and of pottery in widely separated sections. Nor, finally, do we wish to unreasonably disperse a consideration of ornaments of costume, whether these are of stone, shell, pottery, or metal.

Celt Fragments, Polished Greenstone Chips, and Unworked Greenstone. Altogether, exactly 100 objects of greenstone, the green metamorphic rock from the Piedmont east of Moundville, were found in the Mound Q excavations, distributed throughout all important contexts. As elsewhere at the Moundville site, it is a relatively abundant and important non-local raw material. Most of these occurrences are small flakes of greenstone showing no evidence of pecked or ground surfaces; a few of the unmodified pieces were larger, the largest being an irregular bit of shatter 111 mm in maximum length and 39 mm in diameter, weighing 73.6 g. To give a better sense of the total quantity recovered, all of the unmodified pieces together weigh 478.9 g, a little less than half a kilogram. The median weight of the unmodified pieces, a better indication of the typical recovery than the mean weight because of the skewness introduced by a few massive specimens, is only 3.1 g. Of interest is the observation that at least one greenstone flake shows edge wear consistent with its use as a hand-held tool in the same manner as the sandstone saws from Mound Q yet to

be discussed. Elsewhere at Moundville Wilson (2001:125) has identified similar greenstone flake tools as a general category of expedient tools recycled from larger artifacts.

Almost half of the greenstone specimens (47%) had ground and polished surfaces, either as obvious fragments of finished celts or as smaller polished pieces of unidentifiable derivation. Most of the smaller polished pieces, although they cannot be so attributed with certainty, probably also were detached from the surface of finished celts, judging from the fact that celts are the overwhelmingly dominant class of greenstone artifacts at Moundville, and also from the fact that polished surfaces on these small flakes tend to be slightly curved in a manner consistent with the contours of a celt. The high ratio of polished to unmodified greenstone fragments is compelling evidence that Mound Q was not a locus of axe manufacture. Axe-making debitage would not be expected to routinely include polished pieces, as polishing is presumably the terminal stage in axe fabrication following reduction of the preform to its final shape. Instead, the Mound Q debris is consistent with celt *use*, which, one would suspect, typically results in spalling of the blade surfaces, particularly at the bit end. Following conventional opinion as to the common use of celts in Mississippian culture (e.g., for Moundville, Welch 1996:89; Wilson 2001), we might translate this evidence into a suggestion that medium to heavy woodworking was a consistent element of mound summit activity.

In support of such a suggestion is the fact that, although spalls from bit edges of celts were not cataloged separately, a number of these bit spalls were observed in the collections. In contrast, other larger pieces of celt bodies showed a breakage pattern not consistent with use; rather, before being discarded some celts seem to have been broken apart by strong lateral blows. The significance of this pattern of intentional breakage is not at all apparent, particularly if the objects of this behavior were still large enough to recycle into smaller tools (as they appear to have been). We can only state that in the milieu of mound activity, what might appear as "economical" from an external point of view was sometimes subject to overriding concerns. Whole celts were evidently not discarded at Mound Q.

Chisels or Adze Blades. Two specimens are small, ground and polished greenstone forms classified as chisels or adze blades. In using the term chisels we follow the recent work of Wilson (2001:123) on the Moundville greenstone tool industry. On the basis of ethnographic comparisons, Wilson believes that such tools were hafted on short wooden handles and were used with a mallet for detailed woodworking. Such a use at Moundville seems highly plausible. One of the specimens from Mound Q is entire, showing a roughly rectangular outline and a thin, flattened cross section. It is somewhat crudely made, being incompletely ground on both faces. The second specimen is the distal end of a thin implement, better made than the first. A noteworthy feature of the latter fragment is that one face is convex while the other is flattened, an asymmetry noted for objects called chisels by Wilson but possibly indicative of hafting in the manner of an adze. Both tools document fine wood carving as a complement to the heavier woodworking of celts in the activity profile of the Mound Q summit.

Palettes of Sandstone. Formal palettes, all manufactured from fine gray micaceous Pottsville sandstone, are an important category of display goods at Moundville, understood since Moore's (1905:146-147) day to have been used for the grinding or mixing of pigments. Fragments of these

ground stone forms are reasonably abundant at Mound Q, yielding 17 occurrences probably broken from 12 different palettes. Most fragments, perhaps all, are from finished palettes; there is no clear palette-making debris at Mound Q, nor obvious examples of palletes broken during manufacture.

Summary data concerning these specimens are given in Table 19. This is a relatively uniform set of specimens, mostly rather delicate and well finished, with a mean thickness of only 8.5 mm. Of four available rim sections, three are from very similar circular, rim decorated palletes having estimated diameters of 22-26 cm. These round palletes are notched at the lip and engraved with one or two lines setting off the rim area, the engraving being either on one or both faces. A fourth rim has a straight edge and may come from a rectangular palette. There is a firm connection with pigment use. One palette specimen has traces of red pigment on one face, another, black pigment on one face, and two more show white pigment within the engraved lines.

Cat. No.	*Context*	*Fragment*	*Thickness mm*	*Est. Diam. mm*	*Comments*
40.80.1	west flank, Stage V	body	8		
40.299.1	auger test, mound base	body	4 - 6		faces flat and tapering
40.414.9	north flank, Midden Level 4	body	8		
40.421.4	west flank, reference trench	body	8		
40.426.1	west flank, Stage IV midden	body	15		one face coarse, unpolished
40.664	summit, balk	body	8		
40.797.1	summit, surface	body	9		red pigment on one face
40.1101.4-6	summit, upper mound fill	6 rim and	9	26	circular rim, notched; engraved on both
40.1102.1		body			faces; traces of white pigment in
40.1103.1		fragments of			engraved lines
40.3990.1		same palette			
40.2802.1	west flank, Stage V	rim	6		straight rim; engraved line on lip edge; one face coarse, unpolished; broken off?
40.3652.1	west flank, Stage III fill	body			one face broken off
40.3929.1	summit, Stage IV/V fill	rim	8	24	circular rim, notched; engraved on one face
40.3955.1	west flank, reference trench	rim	9	22	circular rim, notched; engraved on both faces; traces of white pigment in engraved lines; traces of black substance on one face

Table 19. Sandstone palette fragments.

On the question of provenience and dating, we find the specimens distributed in Late Moundville II and Moundville III phase middens on the north and west flanks, plus summit contexts dating from Stage III (Late Moundville II phase) onward.

Sandstone Saws. As described more fully elsewhere, sandstone saws are thin, select pieces of hard, sandy tabular limonite that possess one or more working edges. They were evidently employed as hand-held tools and used in a sawing motion. Blade edges, which may be straight, slightly convex, or slightly concave, were originally prepared by bifacial flaking and could be rejuvenated by flaking, although most specimens were discarded in a heavily worn and blunted condition. It is this heavy blunting of a highly durable material that confirms their use in lapidary work, particularly in the work of grooving and notching.

Of potential importance is the co-occurrence of sandstone saws with the formal sandstone palletes discussed in the previous section. It is known from evidence found on Mound E at Moundville that at least some sandstone palettes, perhaps only the rectangular ones, were originally shaped using a groove-and-snap technique employing blunt-edged saws. Moreover, several of the Mound Q pallete specimens were notched at the lip using a blunt tool to which the saws under discussion would answer perfectly. Our claim is not that sandstone saws here or elsewhere were used exclusively for pallete manufacture. Certainly there are other tabular artifact forms of stone, such as ground stone pendants, whose shaping required the sawing out of blanks using a groove-and-snap method. It is rather that the saws' connection with lapidary work, which is beyond dispute, provides at least circumstantial evidence for a connection with the palletes, as the palletes are the only *common* ground stone form at Mound Q whose manufacture probably required them. A somewhat more general and perhaps more defensible claim would be that the saws are implicated in the on-site crafting of fine stonework.

Twenty-one examples of sandstone saws were recovered (Table 20). They possess one to three working edges, and exhibit various stages of wear and blunting. One example is unusual in that the entire margin is devoted to working edges; since the piece is triangular in shape, there are three working edges. Another specimen is noteworthy in showing more than one stage of wear. This example possesses one typically blunted working edge, and a second working edge opposite the first which is freshly flaked.

Cat. No.	*Context*	*Comments*
40.27.4	west flank, reference trench	two opposed working edges, one blunted
40.70.2	west flank, reference trench	
40.73.2	west flank, reference trench	
40.91.1	west flank, reference trench	
40.91.2	west flank, reference trench	
40.429.3	west flank, reference trench	
40.440.1	summit, humus	
40.1132.4	summit, misc. fill	two adjoining working edges
40.1660.1	summit, humus	one freshly flaked working edge
40.1735.1	north flank, Midden Levels 2-4	two opposed working edges
40.2105.1	summit, Stage IV/V fill	two opposed concave working edges
40.2112.2	summit, Stage IVA midden	
40.2400.1	summit, humus	
40.2404.1	summit, Stage IV/V fill	
40.2796.3	west flank, humus	one working edge, heavily blunted
40.2849.1	north flank, Midden Levels 2-3	
40.2856.3	north flank, Midden Levels 2-3	
40.2859.2	north flank, Midden Levels 2-4	two opposed working edges
40.3647.1	summit, Stage IIIA fill	one working edge blunted; opposite edge freshly flaked
40.3925.1	summit, humus	F.S. 29
40.5152.1	summit, Stage II feature	three working edges forming triangle

Table 20. Sandstone saws.

Although sandstone saws are distributed stratigraphically from the earliest excavated context through to the latest, they occur in greater numbers in the later deposits. Six examples are attributed to relatively superficial summit levels, coming either from the humus or from the mixed Stage IV/V contexts just underlying it. From the humus of the west flank trench came a seventh specimen. Three additional specimens appeared in middens dated securely to the Late Moundville II phase: one from the Stage IVa midden of the summit sequence and two more from Midden Levels 2-3 of the north flank trench. This accounts for all but two of the specimens found in reasonably good stratigraphic context; one of the remaining pieces is from summit Stage IIIA fill, the other from a summit Stage II feature. Thus at least 10 of these 12 specimens can be credited to mound activities during Late Moundville II or later. Nonetheless, it would be imprudent to place a great deal of stock in this apparent chronological trend. In the first place because considerably less digging was done in the earlier contexts, and this sampling bias has not been taken into account; in the second place because the overall quantity of saws in datable contexts is small.

Small Disks of Stone and Pottery. As elsewhere at Moundville, small disks of stone and pottery were met with in various places. We are not aware of any adequate functional account of either the stone or the pottery forms. The common assumption, and it is merely that, is that they are gaming pieces of some kind. We discuss disks of stone and pottery under the same heading because of a sense, gained from certain formal similarities, that there is at least some functional overlap between these categories separated by raw material. This is not to make any claim for functional uniformity of small disks, however. On the contrary, we strongly suspect that collectively these objects were fashioned for more than one intended use. Certain formal subgroups are suggested. For example, as is argued in Chapter III, we can make a distinction between those for which special care was taken to grind to a perfectly circular outline, making them suitable as "rollers," versus those whose edges are unevenly ground and which are therefore suitable only as counters or tokens. A distinctive subset of the perfectly circular grouping are those that also exhibit a beveled edge, which we take to be possible evidence of a dedicated use differing from the others.

Small disks of ground stone, numbering nine specimens, are summarized in Table 21. Most are made of fine grained brown or gray sandstone, no doubt locally obtained. These do not have polished surfaces. Representing somewhat more distant sources are one example of gray slate and another of a very dark, highly polished stone that may be a variety of greenstone. In diameter the stone disk sample ranges from 23 - 54 mm (mean = 37.7, std = 11.4), and in thickness from 7 - 17 mm (mean = 11.6, std = 3.5). With one exception, they are carefully fashioned with a uniform circular outline. Five (56%) carry the distinctive edge beveling that is often seen in Moundville small stone disks. One beveled specimen has a small drilled pit near the center of one face; none are otherwise decorated or perforated. Of interest is the observation that two stone disks show traces of a black substance, possibly but not necessarily paint, adhering to one or both surfaces and the edges.

Field notes from the summer of 1992 record an unusual concentration of small stone disks in and around the Stage IV daub layer of the summit sequence, the disturbed remains of a partially burned building. Based on this association, the student workers were quick to dub this

Cat. No.	Context	Material	Diam. mm	Thickness mm	Comments
40.1949.1	summit, Stage IV/V fill	gray sandstone	27	10	beveled
40.3632.1	summit, Burial 1, Stage IV/V	gray slate	44	7	F.S. 80; traces of black residue adhering to both faces and edges
40.3922.1	summit, Stage IV/V fill	coarse brown sandstone	41	11-14	F.S. 26; crudely finished faces; irregular thickness
40.3923.1	summit, humus	gray sandstone	43	16	F.S. 27; beveled; drilled pit on one face; traces of black residue adhering to one face and edge
40.3931.2	summit; Stage IV daub layer	gray sandstone	51	17	F.S. 35; beveled
40.3935.1	north flank, Midden Level 3-4	brown sandstone	26	10	F.S. 39, beveled
40.3953.1	north flank, Midden Level 3-4	gray sandstone	54	8	F.S. 59; stain from contact with small circular object on one face
40.3959.1	summit, Stage IV/V fill	greenstone?	30	14	F.S. 65; beveled
40.3963.1	summit, surface	brown sandstone	23	10	F.S. 69; beveled

Table 21. Small stone disks.

building the "casino." Checking the proveniences, we find that one specimen was recovered from the daub layer itself, three more from mixed, undifferentiated Stage IV/V fill in the general vicinity of the daub layer, two from the immediately overlying humus, and one from nearby Burial 1, adjacent to the daub layer and likewise assigned to Stage IV or V. This accounts for all but two specimens, both of which are from Midden Levels 3-4 of the north flank sequence, a position stratigraphically consistent with the summit finds. It is, altogether, a remarkably uniform stratigraphic distribution. All stone disks fall late within the mound's ocupational history. More than that, , it is plausible that the field impressions are correct and that stone disks are associated exclusively with a single architectural feature, the unique Stage IV burned building. In the terms of our phase chonology, this would assign them to terminal Moundville II to early Moundville III.

No larger stone disks of the sort used as rollers in the chunkey game were found in Mound Q.

Small disks of pottery are both more common and more variable than stone disks. Forty-four were recovered. The vast majority (n=41) are reworked potsherds fashioned into disks resembling checkers; rarely (n=3) they were modeled from untempered clay into the desired shape and fired. Among the disks reworked from sherds, those having measurable diameters range from 19 - 48 mm, roughly corresponding to the size range of the stone forms. The average size of sherd disks is a little smaller than the corresponding items of stone (mean diameter = 30.4 mm, std = 6.5).

Few apparent special considerations went into the selection of potsherds for making sherd disks. Most (85%) are made from ordinary coarse plain shell tempered sherds, the remainder (15%) from burnished sherds, very roughly reflecting the discard proportions of these wares from

midden and feature contexts, with perhaps a small bias in favor of coarse, unburnished sherds. It may be that such sherds from cooking vessels enjoyed a slight preference because they tended to be flatter, coming in general from larger vessels than sherds from burnished service ware. Of the burnished sherd disks only two came from vessels that were further embellished, one being red filmed and the other from the body of an engraved bottle of the type Moundville Engraved, *var. Hemphill.*

Within the sample of sherd disks, a distinction can be made between those that have only roughly finished edges versus those with carefully smoothed edges. In the first category are disks that were chipped into circular form and then only lightly and haphazardly ground around the edges, leaving marked irregularities and assymetries. These are unsuitable as rollers and must have served instead as tokens or counters. In the second category are disks for which special care was taken to grind the edges into a smooth, perfectly circular form. For these it possible to suppose that they were used as rollers rather than merely as tokens. Within the smoothed-edge group we can also distinguish a subcategory displaying carefully beveled edges, a trait shared with certain stone disks of similar size, and one strongly suggestive of an overlap in function between some stone and pottery forms. Applying this breakdown, the relative proportions among the sherd disks are as follows: rough-edged = 78 percent; smoothed = 22 percent; both smoothed and beveled = 8 percent). One disk of coarse ware was perforated, exhibiting a biconically drilled hole that is conspicuously off center. It is the only example of a perforated disk from the entire project, thus so rare as to suggest an ideosyncratic variation.

Of a different sort altogether are small disks of pottery that were modeled of untempered clay and fired. Two are so highly fragmentary that little can said about them. The only entire specimen (Figure 69) is a remarkable artifact in more than one respect. First, it was deliberately made with an octagonal rather than a circular outline. Second, both sides are crudely decorated. One face is embellished with rows of fingernail impressions. The other face is treated with randomly incised lines running in several directions. The purpose, if any, of this distinction between obverse and reverse sides is, of course, unknowable.

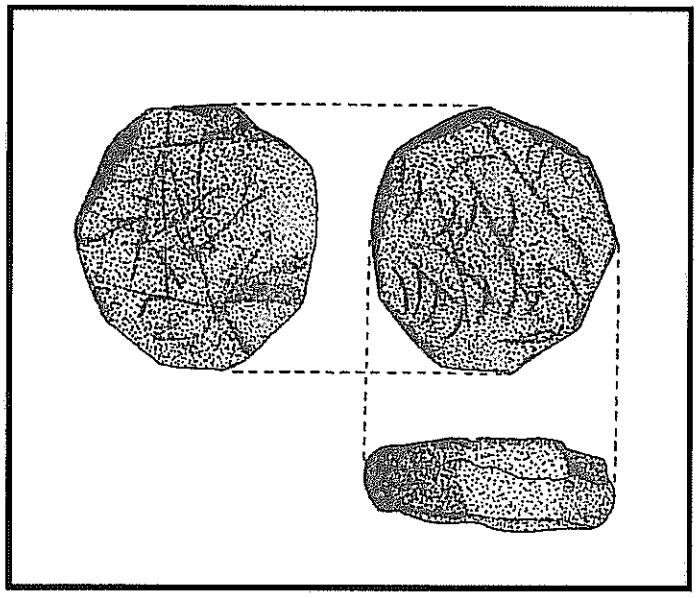

Figure 69. Modeled and faceted pottery disk.

Common Tools of Rough Stone. Brought together under this heading are a variety of tools that minimally consist of modified blocks, slabs, or cobbles of rough stone. They include such things as hammerstones, mortars, mullers, abraders, and anvil stones, all very much a part of a generalized Misissippian domestic repertoire bearing on tool manufacture and rejuvenation, plant processing, and other mundane tasks. Thus by using the term "common" we here intend the sense of *ordinary*, not

that of *frequent*. It is perhaps ironic that for Mound Q, such tools are conspicuous only in being relatively *uncommon*. Moreover there is evidence that the morphology of these rough stone tools may not always be a reliable indicator of mound activity. Several show evidence of fire damage, reddening, or sooting from exposure to heat, suggesting a final use as mere hearth rock prior to discard on Mound Q. This fact leaves open the possibility that their original use as tools may have been elsewhere.

Four hammerstones were met with, three of quartzite and one of chert, all originally water-worn cobbles. Patterns of edge battering and the degree of use before discard are varied. One specimen of quartzite is distinctly reddend from exposure to fire, which we take to indicate secondary use as a hearth rock.

One pitted anvil stone and one combination muller/pitted anvil stone were recovered. The first shows cup-shaped holes on either side of a small, flat cobble of sandstone. The second is a small cobble of sandstone showing one heavily ground face and an opposite face that is rudely pitted in the center.

A second muller is an oversized, loaf-shaped specimen of sandstone with a heavily ground use surface. It shows evidence of secondary use in the form of heavy battering on both ends, as a seemingly unconventional hammerstone of relatively soft rock. It also shows sooting from use in a fire, again presumably as a hearth stone.

Two mortar fragments were recovered. Both were originally flat blocks of Pottsville sandstone, into which were ground broad, shallow depressions. Both tools were broken up before discard and one shows reddening from exposure to fire.

There are six grooved abraders of coarse sandstone, of two kinds. The more common form, accounting for four of the six specimens, posesses random narrow, V-shaped grooves on one or more use surfaces. The second form shows wider grooves, U-shaped in cross section, with the grooves running parallel to each other where multiple, and also parallel to the long axis of the piece.

One specimen is classified as a whetstone. This is a small tabular piece of fine-grained gray micaceous sandstone, upon which a broad center section of a working surface has been worn smooth and very slightly depressed, as though used as a hone in tool sharpening.

Bone Implements. A variety of bone implements (Table 22), examined by H. Edwin Jackson and Susan L. Scott, are in the Mound Q collections. The following draws from their commentary. There are nine awls, of three types. Three specimens are heavy duty forms made from proximal deer ulnae. Three others are lighter duty awls made from proximal turkey tarsometatarsals, and three more are made from splinters of large mammal long bone. Each of these awl forms is common in Mississippian assemblages elsewhere. The turkey tarsometatarsal awls may have a special significance; at the Moundville-related Kogers Island site in the Tennessee Valley, these artifacts are conspicuous among the grave furnishigs of elite burials (Webb and DeJarnette 1942:217-218). There are two fragmentary bone pins, one made from a large mammal long bone and the other from a deer lateral metapodial. Spatulate tools of unknown use are present, two

Cat. No.	Item	Context
40.1318.1	awl, deer proximal ulna	north flank, Midden Level 4
40.2214.1	awl, deer proximal ulna	north flank, Midden Levels 3-4
40.4504.1	awl, deer proximal ulna	north flank, Midden Level 1
40.2222.2	awl, turkey proximal tarsometatarsus	north flank, Midden Levels 3-4
40.3211.1	awl, turkey proximal tarsometatarsus	north flank, Midden Levels 2-3, mixed
40.4503.1	awl, turkey proximal tarsometatarsus	north flank, Midden Level 1
40.2219.1	awl, splinter, large mammal long bone	north flank, Midden Levels 3-4
40.3254.1	awl, splinter, large mammal long bone	north flank, Midden Levels 2-3, mixed
40.4071.1	awl, splinter, large mammal long bone	summit, Feature 77, Stage II
40.3420.1	bone pin, from deer lateral metapodial	north flank, Midden Levels 2-4, mixed
40.4122.1	bone pin, from large mammal long bone	north flank, Midden Level 1
40.2209.1	spatulate tool, deer proximal ulna	north flank, Midden Levels 2-4, mixed
40.4507.1	spatulate tool, deer proximal ulna	north flank, Midden Level 1
40.3069.1	spatulate tool, large mammal rib	north flank, Midden Levels 2-3, mixed
40.2212.1	sharpened and polished pectoral spine, blue catfish	north flank, Midden Levels 3-4
40.4053.1	sharpened and polished dorsal spine, drum	north flank, Midden Level 1
40.4053.2	sharpened and polished dorsal spine, perciformes	north flank, Midden Level 1
40.4506	worked deer radius, abraded distal end	north flank, Midden Level 1
40.3061	worked deer femur (?) fragment	north flank, Midden Levels 2-4, mixed
40.3204	worked large mammal long bone fragment	north flank, Midden Levels 2-4, mixed

Table 22. Bone implements.

made from proximal deer ulnae and one other from a large mammal rib. Certain fish spines appear to be sharpened and polished, including a blue catfish pectoral spine, a drum dorsal spine, and a perciformes dorsal spine. Three others on close examination appeared suspiciously sharp, but modification could not be positively determined. Jackson and Scott suggest the use of sharpened fish spines as tattooing instruments. A deer radius showed evidence of abrasion, and two other large mammal bone fragments were worked, possibly representing debitage from bone tool manufacture. In general, both the production of bone implements and the use of bone tools in manufacturing tasks are indicated as mound summit activities, with perhaps a special ritual significance to be attributed to the artificially sharpened and polished fish spines which, we must agree, would have made excellent styluses for tattooing.

Fossil Shark's Tooth. A portion of a large fossil shark's tooth with a serrated edge was recovered. Shark's teeth are common fossils within the Cretaceous Eutaw formation on the Alabama Coastal Plain, the nearest section of which lies only about 35 km south of Moundville. In an analysis of copper-clad wooden artifacts from Etowah, Leader (1988:138, Appendix E, Fig. 20) noted unmistakeable signs that finely serrated shark's teeth were common tools used in wood carving. A similar use can be inferred here.

Pottery Trowels and Clay Coils. A small number of items usually attributed to the production of pottery are in the Mound Q collections. Present are are two pottery trowels and three fired coils of clay. One complete and well preserved pottery trowel of shell tempered clay (Figure 70) was found in the upper pit fill of Feature 12, a probable emptied burial pit assigned to Stage IV or V of the summit sequence. What is of additional interest concerning this specimen is that it had seen secondary use (sensu Schiffer 1987:30-32) as a hammer against something resilient. As this

act created a rough pit in the center of its working surface, it rendered the item unfit for further service as a pottery trowel, providing, incidentally, a plausible reason for its discard in unbroken condition. Just as with those tools of rough stone that saw secondary use as mere hearth rocks, in such cases of recycling we stand at more than the usual degree of remove from the designed use. In this case it would be a stretch to enter this trowel into evidence for pottery vessel manufacture on Mound Q. A second pottery trowel fragment, consisting of the handle section, was also found.

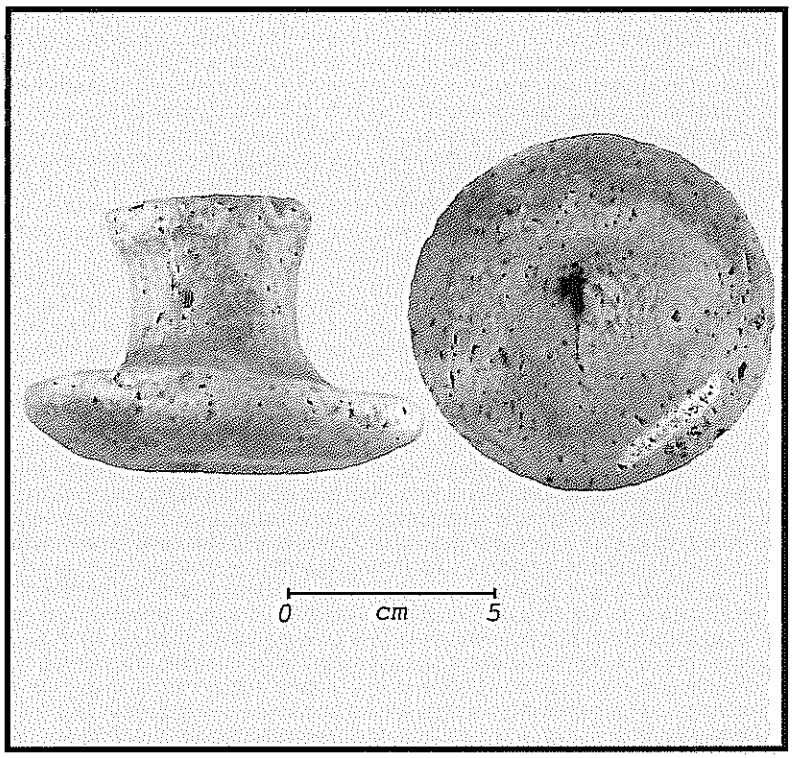

Figure 70. Pottery trowel showing secondary use, from upper pit fill, Feature 20, main block, summit.

Coils of fired clay, which might also be taken as indicative of pottery production, were found in three instances. These are small cylindrical pieces, 9 mm to 13 mm in diameter, pinched or pulled from coils of rolled clay, that in some manner found their way into a fire. A problem with the direct inference of pottery manufacture from this evidence, and it turns out to be a serious one, is the fact that all three specimens are of untempered rather than shell tempered clay. The only items routinely made of untempered clay from Mound Q are crude figurines, yet to be discussed, some of which feature appendages fashioned from bits of rolled clay. We should perhaps not make too much of this possible connection. At any rate, however strong the temptation to make claims about pottery vessel production as a part of the developing activity profile for Mound Q, the evidence from pottery trowels and clay coils must be judged as weak.

Ornaments. An assortment of objects of pottery, ground stone, marine shell, copper, and bone are assembled here under the heading of ornaments. Most without doubt functioned as items of personal adornment or costumery. Listed in Table 23 with their provenience information, they include such items as ear plugs, beads of shell and pottery, polished bone hair pins, pendants of various kinds, a sheet copper disk ornament, and a possible fragment of copper-clad wooden ear disk. To this list we might add reference to the copper stain on the right tibia of Burial 1, previously mentioned, which probably indicates a disintegrated copper ornament placed with that burial.

Common ear plugs of pottery were found in two instances, one from the humus level of the west flank trench and the other from Midden Level 1 of the north flank. Both are small and

Cat. No	Item	Context
40.3422.1	ear plug, pottery	west flank, humus
40.4233.1	ear plug, pottery	north flank, Midden Level 1
40.5449.1	bead, marine shell	summit, Stage IV-V fill
40.268.1	bead, pottery	west flank, reference trench
40.4069.1	hair pin fragment, polished bone	north flank, Midden Level 1
40.3202.1	hair pin fragment, polished bone	north flank, Midden Levels 2-4, mixed
40.376.4	pottery ornament, incised	west flank, mixed upper mound fill
40.385.8	pottery ornament, incised	west flank, reference trench
40.2781.1	pendant, engraved hematite, oblong	summit, surface
40.3954.1	pendant, sandstone	summit, Feature 10 fill
40.2296.1	pendant, drilled turkey carpometacarpus	summit, Stage III fill
NMAI 17/3097	ornament, sheet copper, fenestrated circular, six-pointed star	summit, C. B. Moore "trial hole"
40.2742.1	ornament fragment, copper-clad wood	summit, Feature 12, Stage IV-V
40.84.5	polished greenstone object, tabular	west flank, Stage V
40.1284.1	polished gray slate object, tabular	summit, Feature 28, Stage II
40.2083.1	engraved object, micaceous sandstone	summit, Stage IV-V fill
40.2212.1	drilled turkey coracoid bone	north flank, Midden Levels 3-4
40.2222.1	drilled large bird humerus	north flank, Midden Levels 3-4
40.3222.1	drilled and ground deer tibia epiphysis	north flank, Midden Levels 2-4, mixed
40.4054.1	unidentified drilled bone object	north flank, Midden Level 1

Table 23. Ornaments and miscellaneous decorative items.

plain in appearance. One specimen has a 15 mm wide button-shaped exterior flare and is 14 mm long. The other has only a slight 12 mm wide exterior flare, and is 16 mm long.

As claims of elite craft working on Mound Q are at stake, it is most curious that only one marine shell bead was found in all of the digging at Mound Q. Uncounted hundreds of such beads have been reported from Moundville burials. The specimen is a typical barrel-shaped, longitudinally drilled bead made from the columella from a marine univalve, 16 mm long and 16 mm in diameter. No corresponding scraps of worked marine shell debris that might be indicative of bead manufacture were found anywhere in the mound. On this basis we can assert rather definitively that shell working was not among the activities routinely associated with Mound Q. This is a conclusion is of some importance, as it would rule out shell as a target raw material for the ubiquitous sandstone saws and the small bit tool technology described earlier. In view of the fact that Pauketat (1993:89, 99) links both microdrills and sandstone saws with shell working at the Kunnemann Mound at Cahokia, we must conclude that similar tool forms at Moundville's Mound Q were deployed to different ends.

Shaft fragments of polished bone pins were found in two places in the north flank middens. We have included them here instead of in the section devoted to utilitarian implements of bone, because their form answers closely to that of hair pins found elsewhere at Moundville in burial contexts. They are carefully made, parallel sided, and rectangular in cross section.

Aside from a rude clay bead, two other fragmentary ornaments of pottery were found, both from west flank trench contexts. Although these fragments are too small to reveal the overall form, the two specimens plainly are from similar artifacts of untempered clay. One is pictured in Figure 71. The pieces are tabular, the outer contour is rounded, and in both cases there is a central perforation around which are concentric incised lines. Judging from the central perforations and tabular form, these two ornaments appear to belong to the same genre as a centrally perforated and incised pottery disk recovered and illustrated by Clarence B. Moore (1905:Fig. 137) from a field east of Mound O at Moundville. Moore's specimen features two marginal holes for suspension and could reasonably be called a gorget.

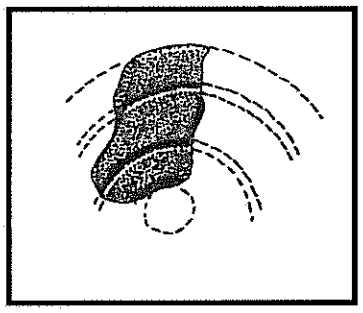

Figure 71. Fragment of clay ornament.

Two broken pendants of stone are in the collections. The first is the tip of an oblong tabular pendant of red stone, probably hematite, polished and engraved with a hand-eye design (Figure 72). Oblong pendants bearing this design, of which six are known for the site, constitute a signature iconographic form for Moundville. The fragment measures 25 mm long, 15 mm wide, and is 2.7 mm thick. This delicate specimen represents a high point of Moundvillian lapidary work. The design shows a thumb and three downward pointing fingers with finger joints and nails depicted. Below these fingers, at the tapered end of the pendant, is a carefully executed "eye" motif with a small drilled concavity for a pupil. It was recovered, sad to say, from that most ignoble of archaeological contexts, the top of the backdirt pile, during excavations of the main summit block.

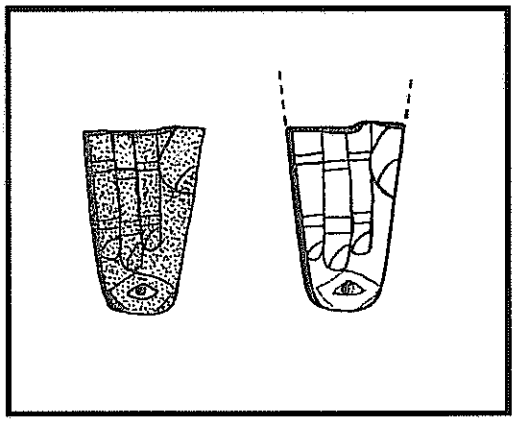

Figure 72. Pendant fragment of red stone. The engraved design is enhanced on the right.

A second pendant fragment, found in the pit fill of Burial 1 of the main summit block, is of gray micaceous sandstone of the Pottsville formation. It is a tabular specimen with rounded edges and a tapering outline, snapped at a biconically drilled perforation that is slightly off center (Figure 73). Dimensions are 37 mm long, 30 mm wide, and 7 mm thick. The resemblance of this fragment to certain forms of two-holed bar gorgets, common to Early to Middle Woodland sites in the Southeast, should not go unremarked. Thus it is conceivably a recycled, found object from an earlier era, but it might just as plausibly be a Mississippian product, particularly given that this raw material was widely used at Moundville for other artifact forms.

A perforated bird bone perforated came from disturbed Stage III fill of the summit main excavation block. It is a turkey carpometacarpus, drilled completely through at the proximal end with a tiny hole. The bone element and position of the drilled hole strongly suggest that this specimen is an element of a turkey wing feather fan, an item of regalia well known among the historic Southeastern tribes.

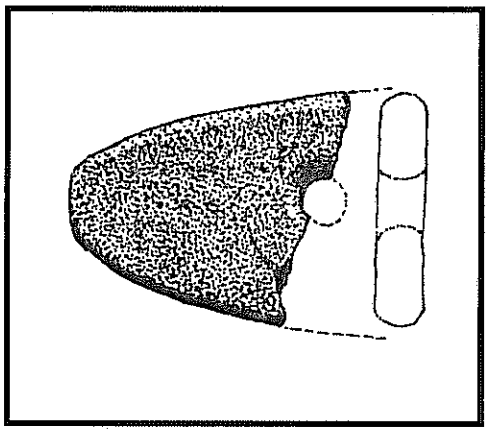

Figure 73. Pendant fragment of sandstone.

The only complete ornament of sheet copper from Mound Q is a small fenestrated disk encountered by Clarence B. Moore (1905:Fig. 139) in the course of his 1905 field work, in one of the nine "trial holes" he excavated into the summit that year. Figure 74 reproduces Moore's published photograph. That specimen, now in the collections of the National Museum of the American Indian, is 22 mm in diameter and has six fenestrations forming a six-pointed star within a ring. It is perforated at the margin for suspension. The artifact is a small version of a category of circular copper gorgets of the same basic star-in-circle design, of which four are so far reported for Moundville, largely from burials. By Moore's account, the Mound Q specimen was not found with human remains.

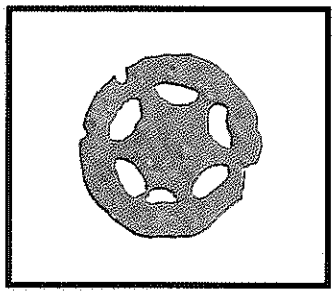

Figure 74. Copper ornament found by Clarence B. Moore.

A small fragment of a copper-clad wooden artifact was found in Feature 12, a elongated pit we have interpreted as a possible emptied grave, one that also included an engraved pottery bottle bearing a winged serpent design. The wood adhering to the thin sheet copper copper had been preserved by the copper salts. The piece was too small to tell anything about its original form. By far the most common objects of copper-clad wood at Moundville are ear disks, and the circumstances of its discovery at one end of a possible emptied grave pit allows the conjecture that the specimen was originally an ear disk asociated with the deceased, perhaps broken as the human remains were later disinterred.

Sheet Copper. Occurrences of sheet copper in Mound Q are all, without doubt, associated with the category of "ornaments," and by that logic pertain to the previous section. Two instances of finished copper artifacts in Mound Q have already been been discussed, as has been the copper stain on the tibia of Burial 1, which is presumed to indicate a disintegrated copper artifact placed with that burial. Besides these, there are a number of additional occurrences, and the material is of sufficient importance to elite behaviors at Moundville to warrant separate discussion. Native copper is an exotic raw material at Moundville, whose nearest usable sources lie in the mountainous sections of northern Georgia some 380 km to the northeast. No chemical sourcing of Moundville copper has been yet achieved.

Table 24 provides a listing of all instances of copper in Mound Q, whether as finished goods or not. There are nine occurrences in all. Of special interest is the fact that sheet copper

Cat. No.	Object	Context	Wt g	Comments
40.1228	sheet copper	west flank, misc. fill	0.1	
40.2833.1	sheet copper	north flank, Midden Levels 2-4	0.5	folded
40.3186	sheet copper	west flank, Stage III fill	0.2	
40.3424	sheet copper	summit, surface	0.2	
40.3425.1	sheet copper	summit, Stage IIIA fill	1.1	squared, cut edge
40.3908	sheet copper	summit, Stage II floor	0.4	
40.2472	copper clad wood	summit, Stage IV/V feature	0.4	F.S. 100; frag.of earspool?
	copper stain	summit, Stage IV/V, Burial 1		stain on tibia
NMAI 17/3097	copper ornament	summit, C.B. Moore trial hole		from Moore (1905:219)

Table 24. Occurrences of copper.

debris was encountered in several flank and summit contexts. These six small bits of sheet copper have a combined weight of 2.4 g and a mean weight of 0.4 g. The largest of these is a piece with squared, cut edges, 36 by 21 mm in diameter. One other piece is modified by folding; all others have irregular edges.

Sheet copper debris outside of burial contexts has been seldom described for Mississippian sites in general, and for Moundville itself I am aware of only one prior documentation in print, concerning four small pieces found in the Northwest Riverbank village area excavations (Scarry 1995:83). Such discoveries, particularly in the concentrations indicated for Mound Q, pose an interpretive question that can be articulated as follows. Does the copper debris represent (a) in situ residue from the manufacture of copper artifacts from imported sheets, (b) repair or recycling of copper artifacts originally manufactured elsewhere, or (c) disintegration from use of copper artifacts routinely employed in mound summit activities? We can practically rule out the notion that copper was imported in raw or nugget form and fashioned into sheets of the metal on site, on the grounds that no such pieces of raw or nugget copper have yet been discovered at Moundville. In evaluating the remaining possibilities, the internal evidence is, unfortunately, equivocal. On the one hand, none of the Mound Q fragments show definite signs that they were broken from finished artifacts, but on the other, any or all of them might have been so derived.

With regard to the finished sheet copper goods found elsewhere at Moundville, primarily in burials, the evidence of style suggests that many were made elsewhere and obtained by exchange. Other forms of Moundville copper, however, closely mimic objects in different media that are known to be locally manufactured. The latter pieces, fashioned with what we take to be signature Moundvillian iconographic references with no significant external distribution in the Mississippian world, were presumably made at Moundville (McGhee-Snow 1999). If, as seems indicated, copper working from imported sheet raw material was known to Moundville artisans, Mound Q is a likely setting for such activity given the complementary evidence of other skilled crafting found there. It is also, however, highly likely that finished sheet copper ornaments, whether made locally or not, were periodically recycled into new forms, or simply fell into pieces from repeated use. All of which is to say that the evidence does not point conveniently toward any one of the potential interpretations of this material.

Miscellaneous Decorative Items. The residual category of "miscellaneous decorative items" is hereby reserved for a few remaining objects that probably had some sort of decorative or display purpose and yet do not fit comfortably into better-known categories of ornaments or other display goods. Together with their proveniences, they are listed with the ornaments in Table 22. First is a small fragment of a tabular object of ground and polished gray slate, 24 mm by 15 mm and 4 mm thick. It features two ground perpendicular edges that meet to form a square corner, plus a third edge that evidently has been sawn and snapped, but was not subsequently ground. Second is a fragment of a thin tabular object of ground and polished greenstone, 21 mm by 18 mm and 5 mm thick. It has straight, tapering sides and a rounded end opposite the broken side. It might be a pendant fragment; small tabular pendants of greenstone are not unknown at Moundville, as is shown by a specimen from the AMNH collections that is in the form of a hafted celt. Third is an engraved piece of fine gray micaceous sandstone, 39 mm by 37 mm and 7 mm thick. It is a tabular but somewhat irregular piece, lightly ground on one face and showing the arcs of faintly engraved, concentric rings next to a broken edge.

There are several additional occurrences of drilled bone, presumably portions or fragments of ornamental items. A large turkey coracoid bone has a small hole drilled in the posterior face, and shows what appears to be remnants of adhesive around the hole. A large bird humerus was drilled completely through the shaft in at least two places spaced about 24 mm apart. The unfused epiphysis of a deer tibia was ground and centrally drilled with a small hole, as though for use as a bead. Finally, a ground, flattened fragment of mammal bone exhibits a drilled perforation.

Mica. Muscovite mica, an easily worked mineral whose natural form has a silvery mirror finish, was an important exotic raw material at Mound Q. There were 109 occurrences, distributed through every important summit and mound flank context. Actual counts in the record are considerably larger, a fact largely attributable to the propensity of mica to fall apart into platy sheets in the course of weathering and handling; counting the pieces in a given lot as one "occurrence," as we advocate here, is a conservative way to get a better sense of the amount of material originally present. Mica in Mound Q generally occurs as small, thin pieces having either an irregular outline or having one or more straight-sided margins--sometimes mistaken for artificially cut edges--that are inherent to the material's crystalline form. The average weight per occurrence is 0.78 g. Among the specimens in the collections the largest is a piece measuring 46 × 44 × 5 mm that weighs 11.8 g. The nearest mica "books" of the requisite size and quality for exploitation could have been acquired in outcrops in the Ashland-Lineville pegmatite district of the eastern Alabama Piedmont, about 150 km to the east of Moundville.

Despite the obvious importance of mica to Mound Q activities as revealed by its abundance and ubiquity, we are at a loss to specify its exact use or range of uses. We are not alone in this inability, as Scarry (1995:83) was similarly in the dark in accounting for concentrations of mica in Late Moundville I phase contexts in the Northwest Riverbank excavations at Moundville. The problem is twofold: first, the debris itself shows no obvious signs of being worked, despite our having a rather large sample to examine. Second, finished artifacts of mica are extraordinarily uncommon anywhere at Moundville. Cut mica disks are reported from exactly one burial among the many hundreds on record. One other known instance is a small mica cutout ornament from a

midden deposit north of Mound R. This extreme rarity offers no real clue as to the purpose of the mica debris on Mound Q. Indeed it only suggests, by way of negative evidence, that the manufacture of cutout mica ornaments probably did *not* produce the debitage in question. We are left with the supposition that the use of this exotic material was used ornamentally in some manner that did not result in formal mica artifacts, perhaps in connection with the decoration of perishable goods.

The Pigment Complex. It would be difficult to overstate the importance of pigment use in connection with Mound Q. The ubiquity of the pigment complex serves usefully, in fact, to differentiate Mound Q from other contemporary elite contexts at Moundville (Markin 1997). In general, pigment use is profoundly connected with elite behavior at Moundville. A prominent illustration of this connection is found in Christopher Peebles's Ward's method cluster analysis of 719 Moundville burials by grave goods. In that analysis red, white, or green pigment was found to accompany in 13 of 50 burials grouped in his Cluster I, co-occuring with copper-clad ear disks, stone paint palettes, copper-bladed axes, pearl beads, circular copper gorgets, and copper "symbol badges." Cluster I in that analysis isolates the most lavishly accompanied burials at Moundville, those bearing items of "dress, adornment and office" often made of exotic raw materials. In other words, pigments are prominently associated with the highest ranking burial segment at the site (Peebles 1974:130, 141; Peebles and Kus 1977:438).

By using the term "pigment complex," reference is made not merely to the pigments themselves — in the colors of red, yellow, white, green, black, and metallic silver — but also to a variety of associated items, many of which already have been discussed. Here we would include the formal paint palettes of gray, micaceous sandstone, some bearing traces of white, black, and red pigment on the working surface. Also, there is evidence at Mound Q, as elsewhere at Moundville, of shell tempered pottery vessels used as containers for pigments. Animal bone elements bearing staining or caking of ocher were perhaps used to mix pigments. And finally there are painted artifacts, chiefly pottery vessels.

Pigments at Mound Q occur in different states of processing. Most common are raw lumps of usable pigment showing no traces of modification. As would be expected, there are also pigment-yielding rocks showing ground faces or facets indicative of pigment removal. Finally, minute deposits of powdered pigment or pigment-bearing clay were occasionally met with.

The mineral oxides of iron, red and yellow ocher, were encountered in adundance. Red ocher, the more common pigment, was obtained from at least three distinguishable kinds of parent rock. One is a dense mineral hematite, some specimens of which are quartzose and others relatively free of sand inclusions. This hematite we consider nonlocal. It was obtained almost certainly from the well known Red Mountain iron ore formation of Silurian age which outcrops within about 50 km to the northeast of Moundville, in the vicinity of the town of Woodstock, Alabama. A second, more abundant source of ocher occurs as a tabular limonite or limonitic sandstone. Locally, limonite is a weathered iron precipitate, associated both with Cretaceous sands and with Quaternary sediments that lie very close to the surface across a broad area including the Fall Line Hills in the near vicinity of Moundville (Dean 1995:5-7). It is also occasionally found as redeposited rock within the Plio-Pleistocene terrace clays upon which the Moundville site directly

lies. This material possesses a layered structure, and tends to be somewhat quartzose, amounting to an iron cemented sandstone. Where the parent material is gravelly, an iron cemented conglomerate is formed. Limonite, which is mostly of a brown cast, nonetheless also exhibits a variety of colors ranging from intense yellow to deep red, and both of these extremes were exploited for pigment at Moundville. A third source of red ocher exploited at Moundville consists of narrow bands of precipitated iron oxide contained within Pottsville sandstone, a rock formation that outcrops at the Fall Line within the city limits of Tuscaloosa, Alabama 20 km to the north of the Moundville site.

In assessing the strength of the pigment complex at Mound Q and elsewhere at Moundville, a sorting issue requires attention. Tabular limonite or limonitic sandstone is easily the most abundant rock available in the superficial geological deposits of the Fall Line Hills region in the vicinity of Moundville, and it is not surprising that it was used at Moundville in large quantity for various mundane tasks requiring rocks. Often the ocherous component in this tabular rock is either too ephemeral or too densely intercemented with coarse quartz grains to have been a serviceable source of pigment. The same is true, to some degree, of the more quartzose forms of Red Mountain hematite. Consequently, in the sorting of unmodified rock in the laboratory, a judgment was made as to whether pieces of ferruginous rock were of "pigment grade" or not, under the supposition that the more uncommon pigment grade pieces were introduced to the site specifically for pigment extraction. Such an admittedly crude distinction was not entirely subjective, in view of the fact that an assortment of abraded pieces definitely used as a pigment source was available as a comparative baseline. The abraded specimens serve as a useful guide as to which varieties of ferruginous rock were, or were not, considered suitable for pigment extraction. Employing this distinction, 161 pieces of unmodified pigment grade hematite or limonite were recovered from all contexts in Mound Q, weighing 1,448.3 grams. The average weight in this sample is about nine grams per piece.

Ocher-caked or stained animal bone was found in three instances. A distal end of a deer ulna and a fragment of turkey humerus were stained with red ocher, and a small piece of unidentified large mammal bone had ocher thickly caked on the surface. Some such bones may have been used to stir or mix pigments.

Common limonite was occasionally used as a source of yellow pigment at Moundville, as is shown by a few abraded and faceted specimens. As already mentioned, the color of local limonite is primarily a reddish brown grading to yellow; it is the strong yellow variety that was most sought after for pigment. Unfortunately, in the course of the project we failed to devise a protocol for sorting yellow pigment grade limonite from the common limonitic rock. Although of necessity it would have been an arbitrary demarcation within a range of colors, the failure is regrettable in hindsight, as we are left without any means of judging the relative importance of yellow colors in the pigment complex.

Green pigment occurs conspicuously, if not abundantly, in the form of glauconite. Glauconite, a potassium-iron silicate, is found naturally in the form of small green pellets intermixed with sand in a form commonly known as greensand. In the Eastern United States the mineral is most commonly associated with marls of Eocene and Upper Cretaceous age. The most

prominent deposits are found on the Atlantic Coastal Plain in New Jersey and Delaware (Ashley 1917), but deposits are present on the Gulf Coastal Plain as well. Quantities there are sufficiently rich that greensand was once mined commercially in Choctaw County in southern Alabama (Dean 1999:20). Because glauconitic sands are a prominent component of the Eutaw formation through which the Black Warrior River cuts just to the south of Moundville, and are also found within the more northerly Coker formation whose type locality is a small town to the northwest of Moundville, the material at Moundville must be considered locally available. Apparently the clayey, bright green glauconite pellets were extracted from their sand matrix, perhaps by sifting, and were then consolidated into a uniform pigment. Traces of glauconite pigment showed up strikingly against the soil colors encountered in the mound deposits.

Nine recorded occurrences of glauconite and glauconitic clay, together with provenience information, are listed in Table 25. Three of these occurrences were in the form of caked glauconite adhering to the inner surfaces of potsherds. The evidence is unambiguous, then, that the green pigment was mixed or stored in pottery vessels on the mound. There is even a suggestion that there may have been special containers for the pigment. One of the glauconite caked sherds is from a small temperless hemispherical bowl engraved with a simplified wing design of the type associated with the winged serpent and raptor themes in Moundville art. The vessel from which this sherd is derived is unusual in two respects. First of all, representational art at Moundville is virtually unknown on pottery that is not shell tempered. Second, the small hemispherical bowl is a peculiar format for engraved representational art, which is typically rendered on bottles, and less commonly on cup-shaped bowls.

Table 25 also lists a single occurrence of graphite, a non-local mineral which, although it is unmodified, we take to be present as a source of black carbonaceous pigment. More exactly, the material in question is a black graphite-rich mica schist, of a type found in lenses within certain

Cat. No.	*Item*	*Context*	*Wt g*	*Comments*
40.389.1	galena	north flank, Midden Level 4	0.4	
40.411.1	galena	north flank, Midden Level 4	2.8	
40.2103.1	galena	summit, humus	3.9	
40.3970.1	galena	summit, Stage III fill	18.8	F.S. 76
40.3971.	galena	summit, Stage IIIA fill	4.5	F.S. 78
40.4249.1	galena	summit, Stage II feature	2.4	ground facets
40.4652.1	galena	summit, Stage II feature	4.5	
40.1125.1	glauconite	summit, Stage IV/V fill		
40.1265.1	glauconite	summit, Stage III/IVA feature		
40.2471	glauconitic clay	summit, Stage III fill		
40.3189.1	glauconite	summit, Stage III fill		
40.5415.3	glauconite	summit, unassigned feature		
40.5417.1	glauconite	summit, unassigned feature		
40.3421.1	glauconite	summit, Stage IIIA		coating on sherd interiors
40.3564.1	glauconite	summit, Stage III fill		F.S. 53; coating on sherd interiors
40.4648.1	glauconite	summit, Stage II feature		coating on sherd interiors
40.2073.2	graphite	summit, Stage III fill		

Table 25. Occurrences of galena, glauconite, and graphite.

metamorphic rocks in the Piedmont region of Alabama. The nearest accessible outcrops to Moundville lie in southest Chilton County, in the same vicinity as the closest convenient outcrops of Hillabee greenstone (Gall and Steponaitis 2001), approximately 65 km to the east. Although we do not list coal as a pigment source, it is perhaps noteworthy that small lumps of unmodified coal were also encountered in four places in Mound Q, weighing 33.8 g in aggregate. These along with graphite could also have been utilized as a source of black pigment.

Following the suggestion of others (e.g., Walthall 1981), we count crystalline galena as a raw material whose primary use was pigment extraction. Generally, galena is one of the most important exotic minerals found at Moundville. As at other major Mississippian centers in the Southeast, the heavy, silvery, lead sulfide crystals have been found accompanying burials and in habitation debris. As a burial accompaniment at Moundville, galena tends to co-occur with rare and finely crafted goods that serve as markers of elite status. To refer again to Peebles's cluster analysis of Moundville burials, galena appears as a significant component of Cluster II in that analysis, together with burials in which shell beads are a dominant accompaniment. Oblong sheet copper gorgets and copper fragments are also associated with this burial cluster (Peebles 1974:120, 131-132). Along with Cluster I, Peebles interprets this subset of burials as reflecting social identities of high rank, in which the grave goods are items of dress and office symbolizing that rank.

Although galena occurs geologically in northeast Alabama, the quantities there are unimportant and the size of the crystals small. This relatively nearby occurrence is not the source of the galena recovered at Moundville. In a valuable sourcing study of archaeological galena by analysis of its trace elements, John Walthall tested galena samples from Moundville and compared these to the chemical signatures of galena from major Eastern United States source areas. Of seven Moundville samples tested, three were chemically sourced to the Potosi formation of the eastern Ozark uplands of southeast Missouri. The remaining four were sourced to Upper Mississippi Valley galena deposits found in the adjoining areas of northwest Illinois, southwest Wisconsin, and northeast Iowa (Walthall 1981:55). These results are comparable to the sources determined in the same study for galena samples from Mississippian sites in the Tennessee Valley.

The precise manner in which galena was used at Moundville and other Mississippian sites is not known. Walthall's research shows that masses of ground galena have been found at several Mississippian sites, including Cahokia. He concurs with the earlier opinion of Perino that the crushed material "was glued onto objects or used as paint to produce sparkling designs" (Walthall 1981:16). But there is no direct evidence that suports this conjecture.

It was not merely the galena but also the geologically associated cerrusite, a crystalline lead carbonate, that was valued and used as a pigment. Cerrusite is a weathering product of galena commonly known as white-lead, which, when ground fine and mixed with oil, has a greater covering power than other white pigments and therefore was once used throughout the Western world. It is, however, an extremely poisonous substance. In an early consideration of the use of formal sandstone palettes from Moundville, Clarence B. Moore solicited the help of a chemist, Dr. H. F. Kellar, to test the composition of cream colored paint from the surface of one of the specimens. Kellar found that the paint consisted of an impure lead carbonate (Moore 1905:146-

147), that is to say, cerrusite. When questioned whether the lead carbonate on the palettes might originally have been ground galena that subsequently had weathered into the carbonate, Kellar answered in the negative. Galena is an extraordinarily stable mineral. Thus it is inescapable that the Moundvillians were using white-lead as a pigment source almost exactly as it was used historically elsewhere in the world.

From the Mound Q excavations there were seven occurrences of crystalline galena. Their contexts, which are primarily from the summit but also include the north flank middens, are given in Table 24. The total quantity recovered, by weight, is 37.3 grams. Individual pieces range in weight from 0.4 g to 18.8 g; the mean is 5.3 grams. The smallest of these pieces suggests the reduction of galena crystals by crushing, but grinding of galena crystals also occurred, as is shown by a single small piece exhibiting ground facets. Like C.B. Moore, we encountered traces of cream colored pigment on two fragments of sandstone palettes (see Table 19). No chemical analysis of this pigment has been made, but based on Moore's result it may be considered probable that it contains a galena-derived cerrusite component.

To reiterate a bit from the beginning of the section, the entire pigment complex — paints of at least six colors, pigment raw materials, mixing palettes, paint containers, stained bones, and painted artifacts — is prominent and abundant at Mound Q. This pigment complex is certainly a primary clue to understanding the character of elite activity on this mound. One rather obvious object of all this decorative energy is the crafting of artifacts on the mound, although painted artifacts other than pottery vessels have not survived. Nor should the decoration of the human body be neglected as a probable object of attention. The ethnohistoric record for the Eastern Woodlands is, of course, replete with indications that body painting and tattooing, along with costumery, were prominent means of marking social and ritual statuses. Surely this is one of the chief significances of the association of pigments with elite contexts at Moundville.

Smoking Pipes. Documentation of tobacco smoking on the Mound Q summit consists of botanical evidence, in the form of a rare charred tobacco seed, and pipes of stone and pottery. The only complete pipe from Mound Q, of stone, is illustrated in Figure 75. The form is nothing more than a natural limonite concretion that happens to be tubular, as are some from this vicinity due to a poorly understood precipitation process, and at the same time elbow shaped, making it a perfect found object for modification into a pipe. This modification was minimal, consisting of hollowing out the soft iron oxides of the interior and grinding flat the surface that was to become the bowl rim. Presumably it, like most others from Mississippian sites, was used as a reed pipe, that is to say with a perishable reed pipe stem. Three fragments of pottery pipes were found, all bowl rims too small to inform upon the overall shape. One is either untempered or tempered with fine sand; the other two are shell

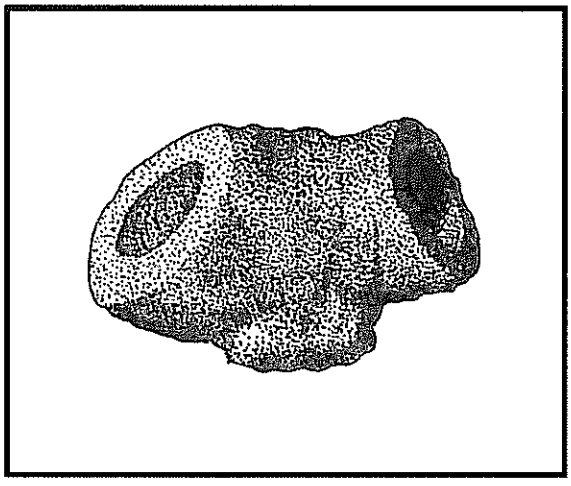

Figure 75. Limonite smoking pipe.

tempered. One of the latter has an interior caked with pipe dottle, the soot that accumulates from use.

Figurines of Pottery. Distinguished from effigy adornos attached to functional pottery containers are free-standing figurines. Nine such occurrences are cataloged for Mound Q. Table 26 gives a brief description of each with the pertinent contexts. One of the principal distinctions between adornos from pottery vessels and pottery figurines is the relative crudeness of the figurines. In most cases the figurines appear to be carelessly fashioned from untempered clay without much if any attention to symmetry, details, or surface finish.

Cat. No.	*Context*	*Description*
40.270.1	west flank, Stage V	Crude human head, torso, and 3 appendage fragments, untempered. Torso perforated for limb attachments.
40.1037.1	summit, mixed upper mound	Large crude human head with diamond-shaped eyes, untempered.
40.4137.1	north flank, Midden Level 1	Small crude human head, missing nose, untempered.
40.4024.2	north flank, Midden Level 1	Head of "Casper"-type figurine with four punctations in head area, untempered.
40.5447.1	north flank, Midden Levels 2-3	"Casper"-type figurine with two punctations for eyes. Numerous yaupon leaf impressions through interior. Untempered.
40.4102.1	north flank, Midden Level 1	Zoomorph appendage fragment (?), untempered.
40.3423.1	north flank, Midden Levels 2-4, mixed	Possible appendage fragment, untempered.
40.101	west flank, reference trench	Two possible appendage fragments.
40.1414.1	north flank, Midden Level 4	Foot from zoomorph, untempered, burnished.

Table 26. Figurines and figurine fragmants.

Although there are few commonalities of form in this small and fragmentary collection, it can be said that the figurines fall into two broad categories. First are human figurines featuring a distinct head, neck, and torso, sometimes with provision for rudimentary appendages. Moore (1905: 192) illustrates a complete specimen of this kind from Mound F at Moundville. Second are those odd forms we have come to call "Caspers," for their ghostly quality. They feature a broad, stump-like base trending upward into a cylindrical body ending in a neckless, lump-shaped head. Based on examination of more complete "Casper" specimens recovered elsewhere at Moundville, particularly a cache of them cataloged by the Alabama Museum of Natural History during the Depression era, these tend to have crudely impressed eyes and perhaps the suggestion of a nose resulting from a simple pinch of the fingers, but no other embellishment. In fact they are so crude and nondescript that a casual glance has usually failed to discern that they are figurines at all, as opposed merely to shaped lumps of fired clay. It is our supposition that these "Caspers," which

resemble chess pieces, are *human* figurines, but, like the specimens, that conjecture is without a leg to stand on.

A few fragments are cataloged as appendages of human or zoomorphic figurines, that identification being without a great deal of confidence.

Of the group that possesses distinct heads and necks, two examples of heads of untempered clay, one large and one small, are illustrated in Figure 76. A third specimen, not illustrated, reveals as a curiosity that the accompanying torso has slender perforations, made as the piece was modeled, at the points where one might expect appendages, seemingly for the insertion of stick arms and legs.

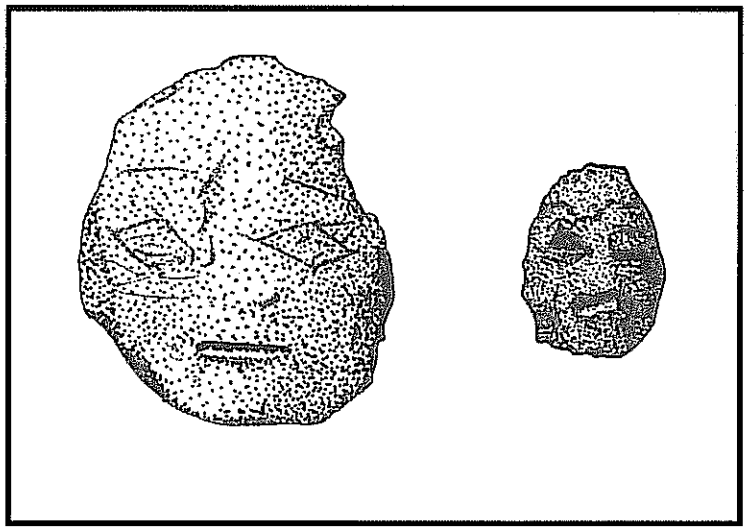

Figure 76. Two heads from crude human figurines.

Of the two "Casper"-type figurines found, the more compete specimen came from the north flank midden deposits, in Midden Levels 2-3, correlated with Stage IV of the summit sequence. It was intact when discovered, but upon drying out it quickly fell apart into many small fragments. Reassembled to the extent possible, the specimen is shown in Figure 77. Most of the "head" portion could not be reconstructed from the surviving fragments, but fortunately there is a field drawing that reveals that it had two angular punctations for eyes. For once it is allowable to say that the breakage of a specimen was auspicious, for in its disintegration was revealed an extraordinary feature of its interior. Part of the reason for the specimen's fragility was the existence of numerous thin internal voids, each of which was the perfect impression of a small leaf. These leaf impressions were easily identifiable as yaupon, *Ilex vomitoria*, the plant used by historic southeastern Native Americans for their ritual tea commonly known as the Black Drink (Hudson 1979). Although the use of yaupon in Mississippian times has long been suspected based on the prevalence at mound centers of marine shell cups, the traditional vessel for serving the Black Drink in historic times (Milanich 1979), this is the first direct documentation of the use of yaupon at Moundville, here more specifically during the Late Moundville II phase. Because the parched leaves of this plant have been strongly connected with purification ritual in later centuries, the inclusion of a wad of yaupon leaves worked into the center of a clay figurine of the "Casper" type hints rather strongly at a ritual context for the manufacture and perhaps use of such figurines. We only wish that the context allowed us to say more about this unique occurrence.

A fragment of a second probable figurine of the "Casper" type is represented by a thumb-sized head portion, which might have been mistaken for a random wad of untempered

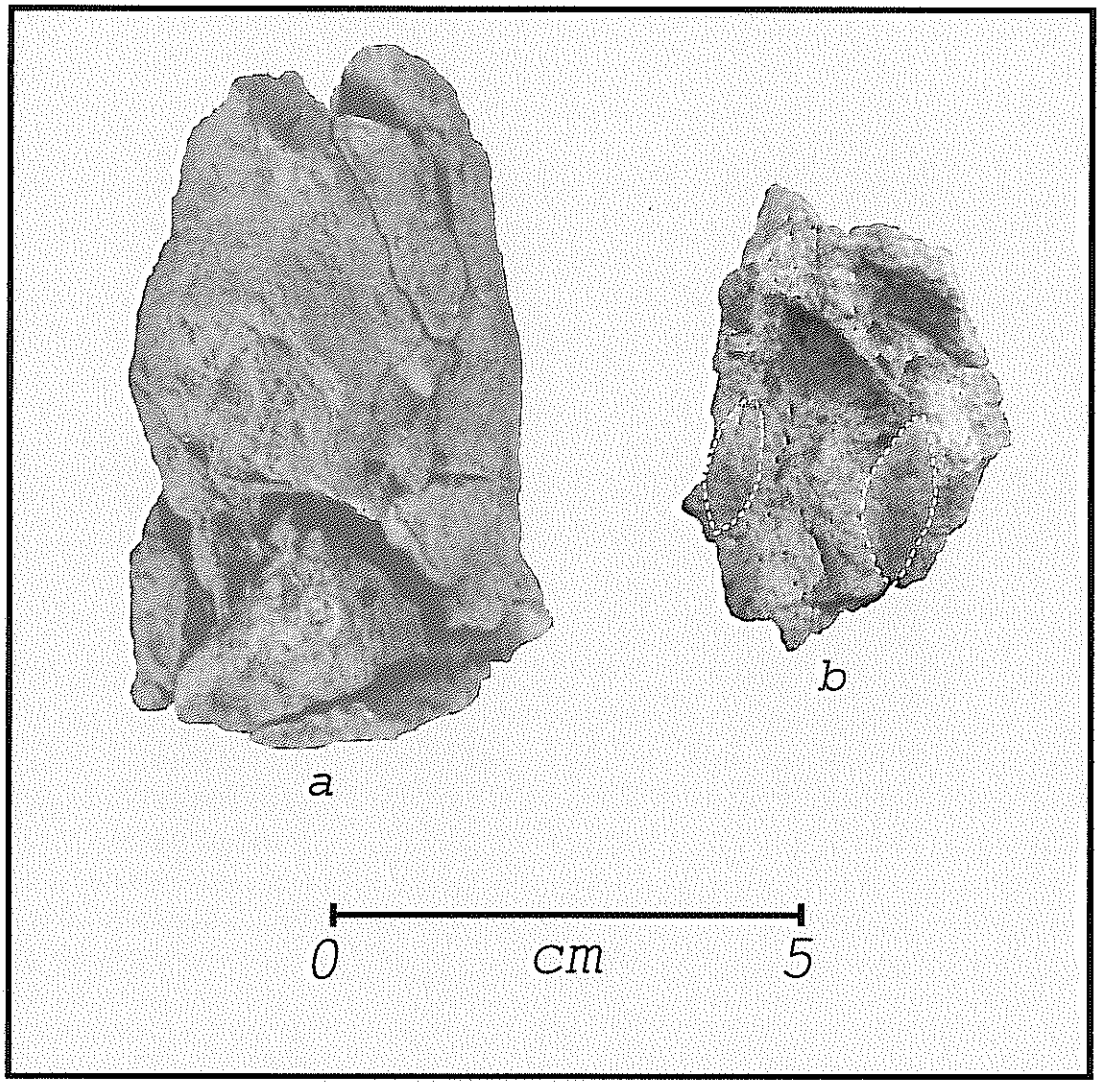

Figure 77. "Casper"-type figurine (a) reassembled from fragments. Head area is badly damaged. (b) Interior fragment showing yaupon leaf impressions, highlighted.

fired clay were it not for four shallow punctations equally spaced, somewhat perversely, along the coronal plane, assuming that the orientation is right. This specimen, like the previously one, had been discarded in debris on the northern flank, in Midden Level 1.

Corn Impressed Clay Wads. Random amorphous bits of fired clay, untempered and not identifiable as wall daub, were frequently encountered in the excavations. Among them, two fired squeezes of clay stand out in being obviously impressed with corn. The two specimens differ in that one has an impression of an ear of corn with the kernels present, while the other is impressed with a shelled cob. A conceivable analog for these wads of impressed clay are the Kersey Clay Objects of the Early Mississippian Big Lake phase of eastern Arkansas (Morse and Morse 1990:56). The latter are are described as untempered seals used with bottles probably employed for seed storage.

Human Skeletal Remains

As described in passages devoted to the summit sequence from the main block excavation, only one articulated burial was found in the Mound Q work. The poorly preserved and partly disturbed skeletal remains associated with Burial 1 were those of a child of undetermined sex, 8 to 9 years of age as indicated by criteria of tooth eruption. Data on this skeleton provided by Dr. Keith Jacobi note tooth caries and enamel hypoplasia as the only evident pathologies. We have also described a second probable burial pit, Feature 12, in which any human bone originally present had either been dissolved by an unusual local pattern of water percolation, or, more likely, had been aboriginally removed some time after interment, leaving certain grave accompaniments.

Despite the fact that only one articulated inhumation was encountered, numerous widely scattered, highly fragmented pieces of human skeletal bone were met with in various places during the excavations, especially in feature fill and flank middens. These add up to a figure of 29 occurrences involving 39 individual bone pieces, not counting the remains of Burial 1. This phenomenon of scattered, fragmented human bone in Mound Q is one that demands attention in connection with mound activity patterns we are attempting to illuminate.

Human bone occurrences are inventoried in Table 27, arranged by the portion of the skeleton they represent. Age or sex information is available only for a few loose teeth and cranial fragments. All of the teeth suggest adults or adolescents; only one temporal bone is clearly from a subadult. Two bits of frontal bone exhibit a prominent supraorbital ridge indicating a possible male. None of the fragments are burned, calcined, or otherwise modified in any obvious way. Examination of the contexts of the finds, and their dating by phase as given in the right-most column, show that the phenomenon is a general one within Mound Q. Occurrences on the summit and in flank middens span the entire occupation sequence. Several fragments were recovered from features associated with the Stage II floor and its architecture, including two pieces from Feature 177, one of the two unusual "dugouts" described earlier as probably associated with structure wall removal or replacement.

The best clue to the significance of these remains comes in the observation that the bone elements have a highly unusual distribution by portion of the skeleton, such that some parts of the skeleton are overrepresented while others are underrepresented. In the first place cranial elements are distinctly overabundant, with fully 44 percent of the specimens coming from that small part of the human skeleton. Next, amounting to an extraordinarily bit of negative evidence, the entire axial part of the skeleton — clavicles, scapulae, vertebrae, sacra, ribs, and pelvii — is missing from the sample. Finally, of the postcranial skeleton, 71 percent of the identifiable fragments (10 of 14) are from the lower extremities, an overrepresentation of legs over arms.

Before inquiring into cultural patterns that might be responsible for these differences in representation, we must first of all insure that the pattern is the legitimate product of past behaviors. Care must be taken, as always, to rule out natural formation procesess and the possible influence of recovery procedures prior to any claim that the pattern is culturally meaningful. The question of differential preservation of bone elements is an obvious point of departure here, as it is well known that much of the axial skeleton, ribs and vertebrae for instance, degrade readily

No. Pieces	Element	Age and Sex	Context	Phase
	Cranial			
1	cranial fragment, right temporal		north flank, Midden Levels 1-2	Late Moundville II
1	cranial fragment, right temporal	subadult	summit, Stage II, Feature 177	Early Moundville II
2	cranial fragments, frontal	poss. male	summit, mixed upper mound	
1	cranial fragment, occipital?		summit, Stage III fill	
1	cranial fragment		north flank, Midden Levels 2-4	
1	cranial fragment, possibly human		north flank, Midden Level 4	Moundville III
4	unidentified cranial fragments		west flank, Stage IV midden	Late Moundville II
1	incisor, maxillary, right central		north flank, Midden Levels 2-4	
1	incisor, maxillary right first	adult	north flank, Midden Level 1	Late Moundville II
1	molar, maxillary, right 3rd	16-21 years	summit, Stage II, Feature 77	Early Moundville II
1	molar, mandibular, left 2nd	adult	north flank, Midden Levels 2-3	Late Moundville II
1	molar, mandibular, left 3rd	adult	summit, Stage III fill	
1	molar, mandibular, left 3rd	14-16 years	north flank, Midden Level 4	Moundville III
	Postcranial			
1	radius or ulna shaft fragment		north flank, Midden Level 4	Moundville III
1	ulna, shaft fragment		north flank, Midden Level 1	Late Moundville II
1	phalanx, right 4th or 5th		summit, Stage III fill	
1	phalanx, middle, 4th left		north flank, Midden Levels 2-4	
2	unidentified shaft fragments		summit, Stage III fill	
3	unidentified shaft fragments		north flank, Midden Levels 2-4	
2	unidentified shaft fragments		north flank, Midden Level 4	Moundville III
1	unidentified shaft fragment		north flank, Midden Level 4	Moundville III
1	femur, proximal, fragment		north flank, Midden Levels 2-3	Late Moundville II
1	femur, left, fragment		north flank, Midden Levels 2-4	
1	femur, right, shaft fragment		summit, Stage III fill	
2	femur, shaft fragments		west flank, Stage V	Moundville III
2	patella fragments; 1 right		summit, Stage II, Feature 119	Early Moundville II
1	patella, right, fragment		summit, Stage II, Feature 177	Early Moundville II
1	metatarsal, 1st, left, proximal		north flank, Midden Levels 2-4	
1	talus, left, fragment		north flank, Midden Levels 2-3	Late Moundville II

Table 27. Inventory of human skeletal remains, other than Burial 1.

under mildly acidic conditions and do not hold up well under conditions of mechanical stress. We must acknowledge that certain deposits in the mound did have rather poor preservation of bone, among them compacted zones of mound fill clays, bioturbated near-surface summit contexts, and a localized area of unusual water percolation near the western summit crest. But in other deposits, including most middens and feature fills, bone preservation was unusually good. For these, we need only compare the abundance and condition of faunal remains in the same contexts, noting the delicacy of certain small fish, reptile, and bird bones that were abundantly preserved, to be able to dismiss soil acidity or mechanical disturbance as contributing factors. It is noteworthy, too, that the axial skeletons of deer, including vertebrae and ribs, are conspicuously present in the deposits in question where the axial skeletons of humans are completely absent. Nor does recovery bias, which might select for some elements over others, appear to be a contributing factor. Most of the deposits yielding human remains were sifted through 1/4 inch mesh screen, and much of the human bone in the inventory consists of small pieces that were not recognized in the field as being human. Moreover, the skeletal inventory taken on its own terms shows an intermixture of relatively fragile, mostly cancellous bone tissue such as cranial fragments or

patellae on the one hand, together with much more sturdy material such as teeth and bits of long bone shafts on the other. In short, we have sufficient reason to claim that the differential distribution in question is the legitimate residue of a cultural practice responsible for the scattering of small bits of human bone in refuse contexts at Mound Q.

What kind of practice was this? Two contrasting scenarios come to the fore, both attested ethnohistorically for special purpose buildings categorized as "temples" in the Southeast. One is that the remains are the residue of charnel processing, the keeping and veneration of bones of ancestors. In historic times such bones were ususally disarticulated and were kept above ground in bundles or baskets. A second scenario is that the pattern resulted from the keeping and mound-top handling of war trophies consisting of body parts of slain enemies. The two practices ideally should leave different traces, although we should not fail to comment that at a symbolic level, there might be important associations between these two overtly contrary kinds of bone-keeping. That is to say that handling bones per se, regardless of their origin, might have symbolically called attention to ancestral connections of people, places, or practices.

Before pursuing the question further, it will be instructive to insert a comparative note. A highly similar pattern of human bone dispersal is described for a Late Mississippian mound context at Chucalissa, a prominent site in the Central Mississippi Valley assigned to the Walls phase. The mound in question is designated "Unit 4," which is a low earthen platform bordering the site's central plaza on the western side. Fronting the eastern flank of this mound on the plaza side was a terminal deposit referred to as the "ash layer," described as "a thick and irregular cap of soil mixed with ash and charcoal" (Childress and Wharey 1996:67). Scattered through this flank deposit was an impressive assortment of disarticulated human bone. At least 450 bones were recovered, many of which were piece plotted by the excavators. As with the scattered human bone from Mound Q, the remains from the Chucalissa Unit 4 Mound ash layer exhibited an unusual distribution of body parts. Of the 241 ash layer bones inventoried by Childress and Wharey (1996:Table 9.1), the vast majority (86%) were cranial fragments. The axial skeleton was only negligibly represented (3%), whereas bones of the extremities, particularly of the hands and feet, constituted the remaining 11 percent. Upper and lower extremities were about equally common. By counting occipital bones it was determined that at minimum, 34 individuals are represented in the Chucalissa deposit. The distributional pattern is not identical to that from Mound Q, but strong simlarities lie in the overrepresentation of crania, the evident significance of extremities, and the striking absence of bones of the axial portion of the skeleton.

More light is shed on the larger Chucalissa sample by the reported condition of the bones. Much of the bone was weathered, exfoliated, or rodent gnawed, indicating prolonged exposure prior to interment, while other specimens appeared remarkably fresh. Some of the cranial bone was modified: a frontal bone had multiple parallel cuts indicative of scalping, and a parietal had a circular cutout 8 cm in diameter.

Also at Chucalissa several articulated, sometimes multiple burials also originated in the Unit 4 Mound ash layer. They are noteworthy here because they tended to possess extra human bone as grave accompaniments. One burial had an extra right radius and ulna, an extra left clavicle, and an extra humerus that had been modified by rounding and polishing of a broken end. With a

second burial was another example of a use-polished extra humerus, plus a polished right ulna exhibiting cut marks and an extra left radius and ulna. A third individual within a multiple burial pit yielded an extra left radius and ulna. From the lower mound fill below the ash layer on the same east slope of the mound came several additional human burials, all adult males. One of these interments also yielded extra body parts in the form of a cache of three skulls referred to as "trophies" by Charles Nash, the original excavator. One skull was painted with red ochre and the area around the foramen magnum was cut away to enlarge the opening at the base. Two skulls in the skull cache showed parallel cut marks on frontal and parietal bones suggestive of scalping (Childress and Wharey 1996:67-71, 74).

In their interpretation of the Unit 4 Mound ash layer, Childress and Wharey (1996:75) attribute the scattered human bone as the remains of mortuary behavior, specifically the terminal stages of funerary ritual. For them, segregation of body parts and overrepresentation of skulls and extremities among the remains in the mound dump are suggestive of charnel house practices reserved for a segment of the Chucalissa population late in the site's history. They acknowledge the existence of the potential "trophy" material in the articulated burials, but appear to deemphasize it in connection with the ash layer material. In contrast to Childress and Wharey's interpretation, Dye (1995:6) points to the evidence of dismembered body parts from burials in the Unit 4 Mound as examples of trophy-taking by Chucalissa elites as tokens of their success in warfare. Although in his paper Dye does not address the disarticulated ash deposit remains, in personal communication he states his opinion that these are probably to be interpreted as trophy material as well.

Thus the unresolved issue at Chucalissa is precisely the same as that for Mound Q. Does the disarticulated, scattered bone outside of obvious grave pits represent mortuary processing of the honored dead, or does it instead document the handling and display of the heads and limbs of enemies slain in battle?

Let us first consider the hypothesis that the bones in question derived in some manner from secondary disposition of corpses, associated with the exercise of ancestor veneration by close kin. To begin with, if secondary bundles were prepared from bones collected from exhumed primary interments, one might expect evidence of emptied grave pits. Such grave pits have indeed been found at Chucalissa (Childress and Wharey 1996: 75), and we have already pointed to Feature 12 on the Mound Q summit as a possible example of the same order. Peebles (1974:185), in his analysis of the Moundville burials, mentions "a few empty pits [in mounds] which contain artifacts indicative of high rank [suggesting] that some individuals were disinterred and subjected to further processing." A bit farther afield, but still within the broader Moundville sphere, we can point to five partially exhumed grave pits tha are documented for Site 1Gr2 and two more for the Lubbub Creek site in the nearby Tombigbee River Valley (Hill 1981:264-268, 271; Powell 1983:456).

A somewhat unsettling point with regard to this hypothesis is that secondary bundle burials are relatively unusual at Moundville. According to Peebles's analysis, extended flesh inhumations make up approximately 90 percent of the burials of all periods at the site, clearly marking this as standard Moundvillian mortuary practice. Bundle burials are said to account for 9.4 percent of the inhumations. Many of these bone bundles are not isolated interments, but

rather constitute inclusions within the grave pits of extended burials (Peebles 1974:85, 94-95). It is not yet known how bundle burials are distributed chronologically at Moundville, and therefore with what frequency the practice is found in Moundville II-III phase cemetery contexts contemporary with Mound Q. Somewhat farther afield, a single contemporary example of a bundle burial of long bones was found at Site 1Gr2 (Hill 1979:262), coordinate with evidence there for partially exhumed grave pits and a small ossuary. Bundle burials become far more common during the subsequent protohistoric Moundville IV phase in the Black Warrior Valley.

Which bones might receive emphasis in a protracted mortuary program of involving secondary burial is no doubt culturally variable and to that degree difficult to predict. The most closely relevant case is, without doubt, the handling of human bone at the Lubbub Creek site on the Tombigbee during the protohistoric Summerville IV phase, where partially exhumed grave pits, bundle burials, burials in pottery urns, and two kinds of ossuaries all stand as evidence of multiple stages of charnel processing. Regarding the completeness of remains accorded to burial in urns, Powell writes that

> The evidence ... suggests that certain skeletal elements (e.g., the cranium and mandible, the larger long bones) carried stronger connotations of symbolically significant identification with the deceased individual, and were therefore selectively included in collections of processed remains destined for final deposition (1983:457).

Concerning an ossuary containing at least 43 individuals at Lubbub Creek, Powell notes that the skeletal remains selected for inclusion consist of a patterned distribution of largely "less redundant" bones:

> Pairs of femora, tibiae, fibulae, humeri, radii, and ulnae (in the approximate decending order of frequency), with ribs, clavicles, scapulae, pelves, vertebrae, hands and feet occasionally included. Cranial elements were evidently accorded separate disposal at Lubbub, as evidenced by their very low representation within the ossuary and very high representation (in a further proccessed form) in [a spatially separate] calvaria cache (1983:460).

Again it is the axial skeleton that tends to be de-emphasized in the transformation from skeleton to bone bundle. In the case of Mound Q, we have, of course, no indication of where any such processing might have taken place, nor any clear picture of the circumstances under which disarticulated bone might have periodically entered the archaeological record in middens and feature fills.

Turning to our second, contrasting hypothesis, one might suppose that the bones in question are primarily residue from the manipulation or display of human trophies acquired in the practice of warfare. In such a case, scattered fragments in middens and feature fills might be attibuted to the handling and gradual disintegration of severed bodily elements favored as trophies. Fortunately, southeastern ethnohistorical sources together with Mississippian archaeological evidence supply us with an unambiguous list of body parts favored for collection and symbolic display: scalps, heads, articulated legs, arms and hands (Dye 1995). From the

ethnohistorical record, for example, the Huguenot artist Le Moyne furnishes exceptionally graphic pictures and commentary regarding sixteenth-century Timucuans in the aftermath of battle, defiling the slain enemy while carving off whole arms, legs, and scalps destined to be returned, attached to poles, and celebrated as trophies (Lorant 1946:65, 67). From the archaeological record, severed human body parts are prominently depicted on Mississippian display goods, including many at Moundville. Dye prefers to link these symbolic representations to the actual involvement of elites in acquiring and displaying dismembered body parts of enemies:

> The symbolic display of bodily dismemberment, particularly decapitation, scalping, and the removal of hands, arms, feet, and legs, may have been manipulated and exhibited by elites in specific ways, perhaps to legitimize and santify their religious and political power, thus aiding in promoting their military agenda. The association of dismembered individuals, either as dismembered bodies or the dismembered portions, with the burial program of chiefly individuals interred in mounds, may have underscored elite involvement in warfare (Dye 1995:4-5).

One of the more prominent examples of trophy-taking within the Moundville orbit is found in the burial of two high status individuals, Burials 20B and 20C, at the Lubbub Creek site on the Tombigbee River. These were discovered within what is described by Jenkins as a spatially exclusive elite Mississippian cemetery. Two individuals, both of large stature, were buried one atop the other in supine position. One apparently had died of an arrow wound. Grave furnishings included an embossed sheet copper falcon plate, 12 sheet copper "symbol badges" of arrowhead shape, and a pottery vessel. With these individuals were placed an extra set of right and left human arms, a set of right and left human legs, and a set of right and left feet, articulated when deposited and all placed over the lower legs of the two intact individuals. The excavator interprets these dismembered limbs as war trophies (Jenkins 1982:131-132).

Within the corpus of documented burials at Moundville, of interest in this connection are those which Peebles and Kus (1977:439) characterize as "non-persons," by which they mean that the social identity of the remains as members of the community is not marked as in ordinary mortuary practice.

> The category of "non-person" is perhaps the most interesting of the three major classes of human remains. They are not burials per se, but are either whole skeletons or isolated skeletal parts—usually skulls—that are used as ritual artifacts. For example, adult skulls are found as "initiatory offerings" in the post molds of buildings, in the first and final stages of mound building, at the bottom of large (about 0.6 m) single set posts, in small pits near "public" buildings, and as grave goods—not as associated bundle burials—with a few adult males.

At least some of these ritually employed skeletal remains might have been acquired through trophy taking. It would be of much interest to examine these remains for evidence of scalping or other unusual traumatic injury.

Now, if the two hypotheses, secondary burial versus trophy taking and display, are both plausible on ethnohistorical grounds, what sort of osteological evidence might serve to distingush the two if the evidence were to consist of disarticulated bone scatters? Somewhat disconcertingly, *both* practices might result in overrepresentations of certain bones thought to symbolize the whole person, pars pro toto. In such a manner crania and long bones might be emphasized in either instance, whereas in contrast the "redundant" elements of the appendicular skeleton, to extend Powell's observation, might be deemphasized. Nonetheless there is at least one difference that might well serve as a criterion on which to fix judgement. Bones of the hands and feet are small and redundant elements that only occasionally were included in secondary bone bundles in the protracted mortuary regimes at the Lubbub site and in Moundville IV contexts in west Alabama. These same elements, in contrast, were of high importance to Mississippian trophy taking, to judge from both iconographic evidence and the evidence of inclusion of bones interpreted as trophies in high status burials. Other clues toward differentiating trophy taking from secondary burial might be the prevalence of evidence of scalping or other mutilation, or the inclusion of human bones fashioned into artifacts as evidence of the former. This is not to say that scalping, per se, is to be considered a distinguishing criterion, as there are obvious cases on record of scalped individuals reverently interred according to canons of standard mortuary ritual in Mississippian contexts (for a Moundville example, see Snow 1941). But perhaps the crushed cranial remains of scalped individuals strewn in middens sends a different message.

Applying these observations to the large sample of disarticulated bone from Chucalissa Unit 4 Mound, we find ourselves in agreement with Dye that the remains are more suggestive of trophy taking than of mortuary ritual. Bones hands and feet are prominent in that inventory. Moreover, evidence of scalping is found in the cranial bone, as is evidence of the use of human bones as artifacts.

Returning finally to the Mound Q sample, any similar claim will have to be much more circumspect, as the sample size is comparatively small. Nonetheless, we find that the balance tips slightly in favor of the trophy taking hypothesis, supporting our initial impression that the situation at Chucalissa is a parallel phenomenon. While they are by no means highly prominent in the Mound Q sample, phalanges from the hands are present, as are metatarsal and talus bones of the feet, from both summit and flank midden contexts. Insofar as these bones *may* be more distinctive of trophy taking than of secondary burial, we lean toward the former, although we are still far from adequately accounting for the specific practices that led to the deposition of such bones in middens and feature fills.

If this line of reasoning is correct, human skulls and extremities were routinely used in Mound Q summit behaviors, outside the bounds of normal mortuary practice and surely in the context of ritual, in ways that resulted in the periodic loss and discard of bits of bone. If frequency is any guide, such activities were a more conspicuous component of summit use at Mound Q than were the relatively rare inhumations of those few deceased who were accorded burial in this particular mound, together with grave goods. This is where we will have to leave the matter. While it would be of the highest importance to definitively document trophy manipulation of human body parts as among the mound summit behaviors at Mound Q, the evidence is a bit too paltry to make the claim any more assertively than we have done.

Radiometric Dates

Fourteen radiocarbon dates were obtained from Mound Q samples. They are presented in Table 27, arranged by excavation area and stratigraphic context. All were processed by Beta Analytic, Inc. of Miami, Florida on samples of wood charcoal, submitted in four batches between 1991 and 1995. The sequencing of batches is worth mentioning for one reason only, which is that our preliminary report of 1992 (Knight 1992) had only the first batch of eight dates to consider. Our chronological conclusions at that time, now modified, were colored by the vagaries of that limited sample.

In the table, we report calibrations at one sigma using the University of Washington's Quaternary Isotope Lab's program CALIB, version 4.3 (Stuiver and Reimer 1993; Stuiver et al. 1998). It is important to recognize that the first eight dates run in 1991 were not corrected for isotopic fractionation. We have made no effort here to normalize these dates post hoc. For all dates run after 1991 we show ^{13}C adjustments as reported by Beta Analytic, and for these the corrected dates were used in the calibration. The difference matters: correction for isotopic fractionation on late prehistoric Black Warrior Valley dates tends to subtract about 40 years from the raw dates, making them younger by that amount.

As with any substantial body of radiometric evidence, proper interpretation depends on a variety of additional issues. The purely archaeological issues are several. For one, do these charcoal samples actually date the associated deposits? Elsewhere we discussed the issue of anachronisms in artifact assemblages introduced by redeposition of soils in the building of mounds on a site of long-term occupation. An "old charcoal" problem is a likely corollary. We must be wary, too, of the dating of suspiciously small samples. In very few cases in the Mound Q deposits did we encounter large lumps of wood charcoal ideal for radiocarbon dating. Consequently, samples for ^{14}C dating routinely had to be put together from several smaller charred flecks found in the same deposit in the same small area at the same time. In three cases, however, in order to get the minimal amount of charcoal for a conventional ^{14}C date, two different samples collected in the field from the same deposit but under different circumstances had to be combined. These are identified as "composite" samples under the heading of Sample Comments. Naturally, the risk of mixing charred wood fragments of different ages, already a factor, is exacerbated by this fact. In one case a ^{14}C sample collected in the field had to be augmented with charcoal from a flotation sample from the same deposit, thus risking potential contamination from handling. A related issue is that the amount of final carbon in three of our samples following laboratory pretreatment was too small for conventional dating. For these, counting time was extended by the dating laboratory at our request. These dates subjected to extended counting are also identified under Sample Comments.

Beyond these questions, there are others surrounding the inevitable spread of dates in any sizeable set, and thus the inevitable outliers that will arise due to sampling and which are best ignored. Then there is the matter of potential contamination with modern carbon via intrusions, as a result of which we need to be particularly wary of samples coming from the much-intruded summit area. All that said, looking finally at the calibrated dates themselves, we are pleased to find

Lab Number	Provenience	Context	^{14}C Age BP	^{13}C-adjusted Age BP	Uncalibrated Date	Calibrated Date (one sigma)	Sample Comments
B-44466	43R23, cut 3	north flank, Midden Level 4	510 ± 60		AD 1440 ± 60	AD 1334 (1421) 1441	
B-44472	43R23, cut 3	north flank, Midden Level 4	530 ± 60		AD 1420 ± 60	AD 1329 (1412) 1437	extended counting
B-44467	43R23, cut 3	north flank, Midden Level 4	770 ± 70		AD 1180 ± 70	AD 1215 (1271) 1291	
B-79972	41R23, cut 13	north flank, Midden Level 1	580 ± 60	550 ± 60	AD 1400 ± 60	AD 1332 (1406) 1431	
B-79973	41R23, cut 12	north flank, Midden Level 1	610 ± 50	570 ± 50	AD 1380 ± 50	AD 1312 (1334, 1336, 1400) 1417	
B-44471	26R14, control trench, P-4	west flank, Stage IV	650 ± 60		AD 1300 ± 60	AD 1286 (1301, 1372, 1378) 1396	
B-44469	26R14, control trench, P-4	west flank, Stage IV	720 ± 70		AD 1230 ± 70	AD 1259 (1284) 1379	
B-44470	26R14, control trench, P-4	west flank, Stage IV	850 ± 70		AD 1100 ± 70	AD 1060 (1212) 1263	extended counting
B-44468	26R16, control trench, P-6	west flank, Stage III	760 ± 80		AD 1190 ± 80	AD 1215 (1276) 1296	composite sample, combined with float material; extended
B-44473	24R20, cut 3	summit, Stage IIIa	790 ± 60		AD 1160 ± 60	AD 1211 (1259) 1283	composite sample
B-79971	Feature 77	summit, Stage II	490 ± 60	450 ± 60	AD 1500 ± 60	AD 1420 (1441) 1477	
B-86993	Feature 23	summit, Stage II	540 ± 90	480 ± 80	AD 1470 ± 80	AD 1403 (1434) 1469	
B-82816	Feature 34	summit, Stage II	660 ± 70	640 ± 70	AD 1310 ± 70	AD 1286 (1302, 1369, 1382) 1401	
B-86994	Feature 128	Stage II features	840 ± 130	850 ± 130	AD 1100 ± 130	AD 1024 (1212) 1284	composite sample

Table 27. Radiometeric dates for Mound Q. Calibrations use Calib 4.3 (Stuiver and Reimer 1993; Stuiver et al. 1998), and are reported as AD minimum (intercepts) maximum at one sigma.

that all 14 of them fall within the known span of Moundville's occupation, therefore showing some promise of shedding light on the construction chronology of Mound Q.

It seems best to deal with the dates in three sets. First we have a set of five dates from the north flank middens, two from Midden Level 1 and three from Midden Level 4. Next is a set of four dates from the west flank middens, Stages III and IV, to which we can add a fifth from the Stage IIIa episode on the adjacent summit. Finally we have four dates from Stage II summit features in the main block.

Let us first examine the dates from the north flank middens. In general these were some of the better ^{14}C samples we obtained in the excavations, both in mass and in freedom from obvious intrusions. Disregarding one very conspicuous outlier (B-44467), the remaining four are in good mutual agreement and are stratigraphically consistent as well. Noting that the dates for Midden Level 4 are among those lacking ^{13}C correction, and thus that the true calendar dates are likely to be about four decades more recent than the calibrated dates, it appears that this deposit was probably laid down some time in the first half of the fifteenth century. Ceramically, Midden Level 4 dates unambiguously to the Moundville III phase. The dates for Midden Level 1, surprisingly, are not much earlier, both falling some time in the mid-fourteenth to perhaps the turn of the fifteenth century. Ceramically, we have assigned Midden Level 1 to Late Moundville II. These two sets of dates obviously bracket Midden Levels 2 and 3, both of which we have also assigned to Late Moundville II and which, according to these bracketing dates, probably were laid down in the final decades of the fourteenth century. Together the set of dates from the north flank middens anchor the late end of the construction sequence and also suggest that these middens were laid down in succession from Late Moundville II through Early Moundville III times, in full agreement with our conception of the ceramic chronology.

The next set of dates to be considered are the four from the west flank middens plus one from the Stage IIIa summit episode. These were among the first samples we submitted, in 1991, while still trying to get a handle on the basic mound chronology from the viewpoint of the west flank trench plus our initial exploratory squares placed on the western part of the summit. These are also among the dates that lack ^{13}C corrections, meaning that the corresponding true calendar dates are probably offset by about 40 years to the younger side. Although they came largely from midden contexts, these early samples were far from ideal. The shallow middens of the west flank generally showed evidence of erosion and mechanical re-working. Generally, wood charcoal in these contexts was disintegrated into small flecks in the soil matrix, so that samples had to be put together from perceived concentrations of these charcoal flecks. Three of the samples had size issues, either having to be augmented by combining two different field samples and/or having to undergo extended counting for shortage of final charcoal. Even so, the five dates under review form a reasonably coherent set. Ignoring one outlier on the early end of things (B-44470), the Stage III dates are earlier than the Stage IV dates, the former having intercepts and ranges suggesting deposition in the middle to late thirteenth century, and the latter suggesting deposition in the late thirteenth or fourteenth century. Considered at a two sigma range, even B-44470 is not out of line with this assessment.

The trouble is, according to our chronological alignment based solely on stratigraphy and diagnostic pottery associations (Figure 65), these dates from Stages III and IV should apply to Late Moundville II contexts. They should therefore be in line with the dates secured from Midden Level 1 of the north flank. Instead, these dates are uniformly earlier than those from Midden Level 1, even allowing for the lack of isotope fractionation, and would fall much more comfortably in the *Early* Moundville II time frame in our overall chronology as it is currently understood. We are therefore obliged to review the ceramic evidence for assigning these contexts to Late Moundville II.

The evidence for assigning the Stage III midden and the stratigraphically correlated Stage IIIa summit episode to Late Moundville II is, as we said in the first place, paltry. By itself the Stage III midden on the west flank, yielding only 92 sherds, had diagnostics indicating only Late Moundville I or later. The Stage IIIa and Stage III fills from the summit together, however, yielded two sherds from beaded rim bowls and five basal sherds from slab base bottles. Despite the fact that these summit fills were known to be disturbed by intrusions from above, we nonetheless decided that these diagnostics tipped the scales in favor of a Late Moundville II assignment for Stage III. Diagnostics from the Stage IV flank middens, among a more satisfactory sample of 544 sherds, included two sherds from slab base bottles, according to which we again assigned the middens to Late Moundville II. This sample entirely lacked sherds from beaded rim bowls, which in this trench do not appear later until Stage V.

These facts return us, necessarily, to a possibility earlier given voice, that our ceramic chronology may be flawed on one significant point. In our current model, largely following Steponaitis (1983a), the appearance of three common diagnostics serves to separate late Moundville II from Early Moundville II. These are the type Moundville Engraved, *var. Wiggins*, the decorative mode of beaded rims on bowls, and the shape mode of slab bases on bottles. For purposes of the model we treat these introductions as essentially simultaneous, occurring some time in the middle of the fourteenth century A.D. But we have already shown that in our two most secure stratigraphic columns for Mound Q, the west flank control trench and the north flank middens, slab base bottles appear in levels stratigraphically earlier than the initial appearance of beaded rim bowls, in apparent conflict with the model.

If slab bases were indeed introduced significantly earlier than beaded rims, we would have to re-model the chronology, and based on the way the chronology is constructed, relying on trait introductions and terminus post quem, we could do so in one of two ways. One way would be to simply add slab bases to the roster of Early Moundville II diagnostics, thus preserving the simple Early versus Late Moundville II dichotomy. The second would be to presume that slab bases were introduced after the Early Moundville II diagnostics, but before beaded rims and *var. Wiggins*. This in effect would create a Middle Moundville II pottery period. Using the independent evidence of Steponaitis's (1983a:91) seriation of whole vessels in grave lots, the latter course finds just slightly more support than the former.

Such an adjustment to the ceramic chronology, that is, removing slab base bottles as a Late Moundville II phase diagnostic, would have the following effects in the present case. First, the Stage IV middens on the west flank, which yielded two slab bases along with other Moundville II

diagnostics but no beaded rims, could be reassigned to Early or Middle Moundville II, depending on the course of action selected as just outlined. Second, the only remaining Late Moundville II diagnostics from Stage III deposits would be reduced to two beaded rims, one each from Stage IIIa fill and Stage III fill. Since both of these summit contexts are known to be afflicted by intrusions, these two sherds carry little weight, and we could thus reassign Stage III to Early to Middle Moundville II, on the grounds that these deposits are bracketed by secure Early Moundville II deposits below and Early to Middle Moundville II deposits above. The chronology of the northern flank middens would remain unchanged, with Midden Levels 1-3 still assigned to Late Moundville II, since Midden Level 1 yielded an unambiguous example of Moundville Engraved, *var. Wiggins*.

The point of rehearsing these minutiae is that a very small adjustment to the ceramic chronology could have a profound effect on the alignment of deposits previously arrived at (Figure 65), while at the same time such a realignment might make somewhat better sense of the radiometric evidence indicating the chronological priority of the west flank Stage III and IV middens over virtually the entire north flank midden sequence. However, although these suggestions have merit, when it comes to a final judgment we are disinclined, on stratigraphic grounds, to commit to such a change. Stage III of the summit sequence may very well date to Early rather than Late Moundville II. But the Stage IV middens on the west flank are stratigraphically later than the Stage IVA midden of the summit, and the latter is a context for which we have expressed confidence in a Late Moundville II dating on ceramic grounds. Moreover, the Stage IV middens of the west flank directly underlie unambiguous Moundville III deposits. If we were to shift the Stage IV middens to an earlier point in the chronology it would leave an inexplicable time gap between successive deposits on the west flank. We would have no deposits assignable to Late Moundville II.

We come now to the final set of ^{14}C dates, those from features of the Stage II summit. Ceramically, this is an unassailable Early Moundville II context, a small comfort given the uncertainties of ceramic dating associated with the overlying deposits just discussed. The Stage II samples came from Feature 23, a wall trench associated with Structure 1; from Feature 34, a wall trench associated with Structure 4; from Feature 77, a wall trench associated with Structure 2; and from Feature 128, a partially preserved hearth, possibly associated with Structure 3, and thus among the earlier events in the intrusion sequence on this surface. Very disappointingly, the dates themselves are the least satisfactory of the Mound Q series. They are all over the place, with intercepts ranging from A.D. 1212 to A.D. 1441. They are mutually incompatible even at spans of two sigma, and the idea of averaging them, although that would yield a reasonable age for the context, is simply not justifiable given that this summit was in use over a relatively long span of time and the samples come from different episodes in that sequence. Two of the dates, B-79971 and B-86993, have intercepts in the early fifteenth century and are far out of line both with the ceramics and with the rest of the radiometric evidence for the upper mound sequence; they would, however, be perfectly acceptable for Stage V of the mound chronology. The most obvious explanation is that we failed to detect some of the many intrusions from the upper mound that introduced charcoal to the level of the Stage II summit. The date for Feature 34 (B-82816), in contrast, is perfectly acceptable for an Early Moundville II event. The date for the hearth, Feature 128, is the earliest of the four dates, befitting its place in the intrusion sequence, and is nothing to

worry about for Early Moundville II, especially at a two sigma range, although it would fit somewhat better in Late Moundville I. This date, with a calibrated intercept of A.D. 1212, brings up a possibility that has not yet been discussed, which is as follows. Given the long history of use of the Stage II summit, as revealed by a minimum of three episodes of overlapping structures, it is possible that Stage II summit use began just before our arbitrary Late Moundville I/Early Moundville II ceramic boundary, and continued on into the next pottery period. Such a conclusion would mean, of course that not only Stage I but also Stage II of mound construction, thus most of the bulk of mound construction, occurred during the Moundville I phase. Unfortunately so weighty a conclusion can scarcely be pinned to a single radiocarbon date, particularly one based on a composite sample and one that has such a large standard deviation.

Summary, Conclusions, and Comparisons

With Mound Q we are presented with a relatively small mound of the plaza-periphery group, rising 3.8 m above the surrounding ground. Excavations began in the west flank in 1989 in order to determine the basic construction chronology. From there, work was expanded to three other areas, ending in 1994. First, a large block excavation was opened on the highest part of the summit, intended to expose summit architecture. Next was an excavation placed into the base of the north flank, intercepting a series of dense flank middens. Third was a small excavation on the east margin of the summit. With an artifact analysis and an examination of the radiocarbon dates, it is possible to correlate the stratified deposits from each of these areas and to assign the deposits to phases—Early Moundville II, Late Moundville II, and Early Moundville III—in the manner shown in Figure 65.

Flank middens and feature fills from Mound Q are derived from mound-top activities associated with the summit architecture. Our clearest look at this architecture, from Stage II of the summit stratigraphic sequence, shows modest, multiple, permanent structures. These structures differ from ordinary Moundvillian domestic architecture in two important ways. First, the floor plans show an unusual pattern of conjoined spaces with shared walls. Second, one small conjoined room, Structure 1, possesses a pair of rather large cylindrical storage pits, a kind of feature absent among common houses. The associated middens, particularly those on the north flank, are densely packed with debris carrying the strong flavor of domestic routine. Abundant pottery sherds from cooking and service vessels in a wide range of shape classes and size modes are present, combined with animal bone and plant remains from a diverse assortment of comestibles. These summit buildings were very much lived in, over the long term, by hungry occupants with seemingly epicurean tastes. With what has been said so far we can already cast to the side one of our initial hypotheses: that small mounds yielding human skeletal remains would prove to be examples of temples or ancestor shrines frequented by priests engaged in fastidious ritual pursuits, comparable to historic temples of southeastern Native Americans.

Of the plant food remains studied by Margaret Scarry (Appendix D), there is no apparent exclusivity in the range of foods used nor were foods avoided. Nevertheless, the botanical assemblage is plainly a distinctive one. First, corn is ubiquitous in the Mound Q samples; there is evidence that preparation and consumption of corn was of central importance in mound related activities. Nut foods, in contrast, are far less common here than in other places. The ratio of corn

cupules to nut shell at Mound Q is higher than in any other social context yet studied from the Moundville polity. Other native crops, including squash, chenopod, knotweed, and maygrass, are present but in modest quantities. Among the botanical remains are two items of ceremonial importance, tobacco and yaupon. Tobacco is so rare in the Moundville orbit as to suggest that it did not enjoy secular use. A single tobacco seed was recovered; of related significance is the recovery of smoking pipes, one of stone and three fragmentary specimens of pottery. Yaupon leaves, used historically in the ritual tea known as black drink, were found at Mound Q impressed within the clay body of a crude human figurine.

In previous studies (Scarry and Steponaitis 1995; Welch and Scarry 1995), differences in the ratios of corn kernels to corn cupules at Moundville and outlying sites were used to document staple crop provisioning of Moundville's elites. The ratio of corn kernels to cupules forms an index yielding significantly higher values in the middens north of Moundville's Mound R, considered elite, than at outlying farmstead sites. This difference has suggested that corn grown and processed in the hinterlands was delivered as tribute to Moundville in shelled form, to reduce transport costs.

In contrast to the earlier findings, the same index as applied to middens from Mound Q does not show a significant distinction in the kernel to cupule ratio from hinterland sites. Therefore, unlike the situation north of Mound R, at Mound Q corn was routinely shelled on site or nearby, essentially at the place of consumption. The difference is probably attributable to a shift in the political economy. The middens north of Mound R date to the Late Moundville I phase, during which Moundville was at its peak residential density (Steponaitis 1998). Because of the services chiefs would have had to provide to a large resident clientele, regular tribute mobilization from the distant hinterlands by the most efficient means would have been necessary. By the Moundville II and III phases, however, the center's resident population had been mostly removed and the site left in the hands of elites. The staple food needs of this small remaining core could have been met from nearby fields, perhaps chiefly fields worked by communal labor owed as tribute. Transport costs would not have been at issue. A perhaps related observation is the comparative paucity of bones of commensal animals, mice and rats, in the faunal samples from Mounds Q and G (Appendix E). Such a lack of rodent remains suggests that large quantities of food were not stored nearby.

Faunal remains from Mound Q (Appendix E) are equally distinctive, and compare favorably with other Mississippian elite faunal assemblages studied by Edwin Jackson and Susan Scott (1995). Deer, which dominate the samples, were butchered elsewhere as prime cuts of meat delivered to the mound in a manner consistent with tribute payment. As Michals (1992) previously found in chronologically earlier elite contexts at Moundville, venison shoulders rather than the meatier hindquarters were preferred. There is little primary butchering debris, and the level of bone processing was relatively low. The bird component of the meat diet is diverse. Passenger pigeon is conspicuous in view of the fact that this species has been identified at other Mississippian sites as a delicacy preferred by elites. As for turkey, the preponderant bird, a comparative abundance of adult males suggests either a preference for large gobblers as tribute or, perhaps more intriguingly, a culling strategy consistent with the practice of raising wild poults.

Among the fauna are certain carnivores, including cougar, bobcat, and bear, some of which may have had symbolic as well as culinary importance to elites.

In its overall pattern one may interpret the available clues regarding foodways at Mound Q as tribute-based acquisition, preparation, and consumption of food by relatively small groups directly associated with the mound. Episodic feasting events are, in contrast, not indicated according to criteria developed by Jackson and Scott.

Certain artifacts from Mound Q tell of the importance of what Mary Helms (1993) calls "skilled crafting." This prominent component of mound summit activity further sets its social contexts apart from the activity profile of the historic southeastern "temple," for which skilled crafting is not documented. Exhibited, first of all, is a lapidary component involving the use of sharpened, tabular limonite saws. Limonite saws were prepared and rejuvenated by bifacial flaking and were apparently used in a hand-held manner for sawing out blanks for tabular stone artifacts, such as pendants, and for notching, as along the margin of sandstone paint palettes. Twenty examples of limonite saws were recovered, each exhibiting one to three working edges. Copper-working is also documented. Six occurrences of sheet copper scrap were documented from middens on the summit and flanks, complementary to three occurrences counted as finished sheet copper artifacts. Leather-working is perhaps attested by three distinct kinds of bone awls, together with grooved sandstone abraders on which they were probably sharpened. Evidence of wood-working consists of discarded fragments of polished greenstone celts and small chisels (see Wilson 2001). In all, an even 100 specimens of greenstone were recovered in the Mound Q excavations, all, we believe, detached from finished celts or chisels in the course of use.

Turning to the flaked stone, as in other Mississippian assemblages manufacture involving fine-duty scraping, shaving, and cutting was done with hand-held expedient tools rather than hafted, formal tools. Apart from these expedient tools, made largely from local chert, there is also a highly conspicuous small bit tool technology, whose most apparent products were drills, microdrills, and perforators. These bit tools were manufactured on blade-like flakes struck from cores in a rather informal core-and-blade procedure. The most remarkable aspect of this technology is its exclusive reliance on imported cores of blue-gray Fort Payne chert obtained 200 kilometers to the north of Moundville. Thirteen blade cores of this material were recovered from Mound Q. As to what purpose the small bit tools were applied, we can rule out the drilling of shell beads, as there was no marine shell debitage and only one whole marine shell bead was found.

It would be difficult to overstate the importance of the pigment complex in connection with Mound Q. In general, pigment use is profoundly connected with elite behavior at Moundville (Peebles 1974:130, 141). In using the term "pigment complex" I refer not merely to the pigments themselves (red, yellow, white, green, black, and silver) and to the rocks from which they were derived, but also to a variety of associated items including formal and informal paint palettes, pottery bowls used for containing pigments, stained animal bones used in mixing paints, and painted artifacts, chiefly pottery vessels.

Pigments at Mound Q occur in different states of processing, from raw, unworked lumps of pigment-quality rock, to pigment-yielding rock showing ground faces or facets, to deposits of powdered pigment or pigment-bearing clay. The mineral oxides of iron, red and yellow ocher, were encountered in abundance and were obtained from three different kinds of parent rock. Green pigment (9 occurrences) appears in the form of glauconite, a potassium-iron silicate found on the Coastal Plain. Graphite and coal, used for black pigment, were recovered in small amounts. Following the suggestion of others (e.g., Walthall 1981), I am counting crystalline galena as an exotic raw material whose primary use was pigment extraction, although the exact use of crushed and ground galena is far from clear. There were seven occurrences of galena from Mound Q. A white-lead paint of cerrusite, derived from galena, was also used.

Fragments of 12 formal paint palettes made of distinctive gray micaceous Pottsville sandstone were found in Mound Q. These signature Moundville artifacts are thin, circular or rectangular rim-decorated items having estimated diameters between 22-26 cm. As with comparable palettes found elsewhere at Moundville, among these specimens are several showing traces of either red or black pigment on one face, or white pigment within the engraved lines.

In three instances fragments of pottery vessels were identified that had been used as containers for glauconite. These vessel fragments had the green pigment caked on their interior surface. One was a fragment of a small, temperless bowl bearing an engraved design of a wing comparable to those found on winged serpents and raptors at Moundville.

The pigment complex is a primary clue to understanding the character of elite activity on Mound Q. A probable object of all this decorative energy is the crafting of artifacts on the mound, although painted artifacts other than pottery have not survived. Nor should the decoration of the human body be neglected as a probable object of attention. Body painting and tattooing were probably a prominent means of marking social and ritual statuses. In this connection, we note that three fish spines in the bone assemblage have been artificially sharpened and polished, while three others appear suspiciously sharp. For these, Jackson and Scott (Appendix E) suggest a use as tattooing instruments.

In the category of "ornaments" from Mound Q we have included a variety of objects, although no single form occurs in abundance. Among these are a fenestrated sheet copper pendant, a copper-clad ear disk fragment, pottery ear plugs (n=2), beads of marine shell (n=1) and clay (n=1), polished bone hair pins (n=2), pottery pendant fragments (n=2), pendants of tabular stone (n=2), and the drilled proximal end of a turkey carpometacarpus that was probably part of a turkey-wing fan. One of the stone pendants exemplifies another signature Moundville product, an oblong red stone form bearing an engraved hand-eye motif.

Rim sherds from six eccentric bowls were identified. These striking terraced-rim bowls are of interest not merely because they are rare, but because they are our best candidates among the pottery containers for bona fide display goods, manipulated by elites for special uses. Sherds from pottery vessels, primarily bottles, bearing engraved representational art were also recovered with some frequency at Mound Q. In the pertinent typology the corresponding type is Moundville Engraved, *var. Hemphill*, to which 152 sherds were assigned. The more prominent themes borne

on these sherds are, in their order of frequency, the winged serpent, the crested bird, paired bird tails, center symbols and bands, and scalps.

Besides the copper and galena already mentioned there are other noteworthy exotica. Among these are certain artifacts that would be at home in the Cahokia sphere: a midsection of a Ramey knife of Mill Creek chert, a serrated biface midsection of Burlington chert, and two hoe chips of Mill Creek chert. From the east there is muscovite mica (109 occurrences), and from the south a fossil shark's tooth.

Crude, free-standing human figurines of pottery occur (n=9) in "necked" and "neckless" varieties. These we take to be of probable ritual use, especially since one of them, as previously mentioned, was formed around a wad of yaupon leaves.

Human burials are present in Mound Q, a fact that sets it apart from the larger mounds of the plaza periphery, but they are uncommon. Only one of four construction stages in the large summit block contained any burials, and that stage (Stage V) contained only two. One was a juvenile buried with a copper ornament (completely disintegrated), a small stone disk, the base of an engraved bottle, and a "pillow" of potsherds. The other was a probable empty grave, an oblong pit from which the remains had been disinterred aboriginally, but which still contained a complete bottle with a winged serpent design and a fragment of copper-clad wood (possibly an ear disk) at one end of the pit. In short, mortuary ritual although occasionally practiced was not a prominent component of Mound Q summit activity.

There exists, however, another pattern of human bone disposal on Mound Q that deserves attention. Scattered, highly fragmented bits of human bone were recovered from midden and feature fill contexts on the summit and flanks. In all there were 29 occurrences involving 39 individual bone pieces. A tally of the identifiable elements reveals a biased distribution. Forty-four percent are cranial fragments. Of the postcranial skeleton, the entire axial portion (clavicles, scapulae, vertebrae, sacra, ribs, pelvii) is missing, whereas 75 percent come from the lower extremities, an overrepresentation of legs over arms. Bearing in mind that the remains are intermixed with ordinary refuse, such a pattern is suggestive not of secondary burial of the honored dead but rather of the handling of skulls and limb bones perhaps originally acquired as trophies.

In sum, as soon as we try to put our finger on an activity profile for the Mound Q remains, we find that it defies reduction to any simple formula. The behaviors exhibited are diverse. This fact finds best expression in the unusually wide variety of pottery vessel shapes and sizes that were broken and discarded in middens and feature fills. The social contexts responsible for this debris were not monotonously uniform. Domestic food preparation and consumption took the form of repetitive, minor events extending over many decades. Corn, shelled and cooked on site, was the preeminent staple of mound-related activities, but there was also a distinctive pattern of high-quality meat procurement, consistent with the regular acquisition of meat as tribute. The character of tools and tool fragments scattered through the middens and feature fills make it abundantly clear that the small multi-room summit buildings were no austere temples or

shrines. They were instead the bustling residences of elites prominently engaged in the skilled crafting of goods.

It is frustrating that we cannot pinpoint with much precision the kinds of goods crafted at Mound Q. The possibilities, however, can be narrowed down bearing in mind the range of locally produced display goods known from burials. From Mound Q, a combination of greenstone celts and chisels, expedient cutting and scraping tools of chert, a small bit tool complex of imported chert, and a prominent suite of pigments, pigment containers, and paint palettes suggest an application to durable but perishable products whose manufacture left no debris other than the discarded tools themselves. Fine woodcarving and painting is the most conspicuous possibility. Combined with the evidence of copper scrap, it is plausible that copper-clad wooden ornaments such as ear disks were among the items produced. But the crafting obviously was not confined to any single product. Preciosities such as galena and mica sheets were put to decorative use, and there was lapidary work as well, focused apparently on sawing, grooving, and notching of tabular stone artifacts, probably palettes and pendants.

Fragmentary human bone, scattered through the same midden contexts, reveals that skulls and limb bones were displayed or handled in mound summit contexts. Such activity seems at first glance a curious juxtaposition with the evidence of skilled crafting. Although such bones might have originated as trophies taken in war, as contrasted to disinterment of the honored dead, one need not conclude that this behavior is a raw demonstration of elite success in the art of warfare. Whatever the origin of the bones, from a comparative perspective it seems more likely that this manner of bone handling symbolized the residents' connection with the past. It is not at all inconsistent with the artisan's common desire to communicate that crafting skills were passed down from ancestral powers (Helms 1993:28-32).

The importance of dress and body decoration on Mound Q is evident in the presence of finished ornaments of sheet copper and copper-clad wood, pendants of stone, and ornaments of marine shell, bone, and clay. It has also been suggested that some part of the pigment complex may have been devoted to body paint and tattooing, the latter performed with sharpened fish spines.

Other evidence hints more directly at ritual contexts. Here we might mention the use of rare and elaborately decorated eccentric bowls, and numerous bottles bearing engraved depictions of otherworldly themes. There is some evidence that crude human figurines of clay had a ritual purpose. Also to this general category one might assign smoking pipes and the botanical remains of tobacco. There are, finally, occasional funerary remains in Mound Q, both in the form of undisturbed interments and exhumed graves.

The most closely comparable situation to Mound Q in Mississippian site archaeology is that of the premound midden, structural remains, and pit features underlying the Kunnemann Mound at Cahokia (Pauketat 1993:36-43; 137-140). These remains date to the Lohmann and Early Stirling phases, ca. AD 1050-1150. Here, Preston Holder excavated the remains of a building with an exterior annexed room, Feature 3-5, which has been characterized as "the residence of an elite person or the residence of someone closely linked to an elite person" who, based on abundant

evidence of craft production was "an artisan, or task specialist" (Pauketet 1993:140). As at Mound Q, the artifact assemblage includes expedient chert tools, microblades and blade cores, sandstone saws, and palettes, resulting from "a complex and diverse production process" (Pauketat 1993:139) in several media. Associated faunal remains emphasize deer meat procured "from outside the immediate [American] Bottom area, perhaps through a centripetal social network (Pauketat 1993:140). In an associated pit feature were disarticulated skeletal remains of several individuals bundled together, including a skull showing possible pre-burial fractures, all interpreted by the excavator as possible "trophy" material (Pauketat 1993:37). This apparent conjunction of elite artisanry and bone handling at Cahokia resonates strongly with the chronologically later Mound Q remains at Moundville.

Comparison with Mound G

We may now turn to a comparison with the evidence from Mound G. Mound G is one of the larger mounds of the plaza periphery group, rising 6.5 meters above level ground on the east margin of the plaza. Twenty-five test units placed into its summit in 1905 by Clarence Moore did not reveal any indications of human burial. Our excavations in 1993 consisted of a discontinuous trench placed into the north flank, intercepting the summit crest and the toe of the mound (Figure 78). Based on Moore's negative evidence, our assumption was, and remains, that the primary summit use of Mound G (and comparable large mounds around the plaza) was for residences of Moundville's elites.

Our trench excavations penetrated the final four construction stages in Mound G's history. In the absence of horizontal summit excavations, nothing can be said about the form or configuration of summit buildings, although three of the four stages yielded post holes, hearths, and thin horizontal middens indicative of buildings situated close to the summit crest. All four of the identified construction stages, fortunately, were associated with downslope flank middens deriving from summit activity, and these middens were highly productive of artifactual, botanical, and faunal remains. They date from the Early Moundville II phase (Stage I) through Late Moundville II (Stages II and III) and Early Moundville III (Stage IV), a sequence exactly coordinate with that of the excavated deposits in Mound Q.

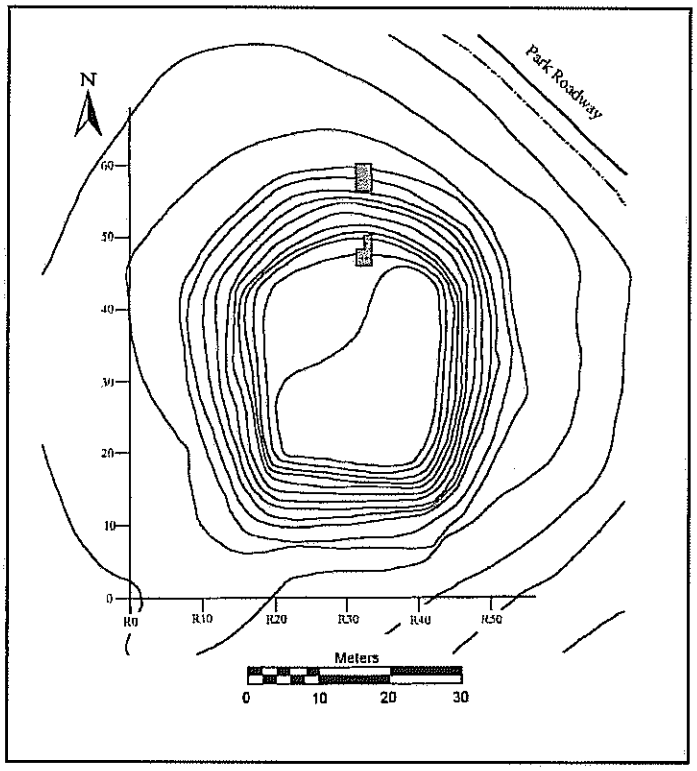

Figure 78. Contour map of Mound G showing location of north flank trench.

The contents of the Mound G flank middens are similar to those of Mound Q in several ways. We can begin by noting that patterns of food consumption at Mounds G and Q are highly similar. Neither Margaret Scarry, who analyzed the plant remains, nor Edwin Jackson and Susan Scott, who analyzed the faunal material, conclude that feasting contributed much if anything to the foodways here. Other kinds of meals, presumably less public in nature, are implicated. As with Mound Q, the corn to nutshell ratio is extraordinarily high, indicating a strong preference of that grain relative to other common foods. As before, the kernel to cupule index does not differ from that of outlying sites, showing that maize ears were shelled on site (Scarry 1996). The overall meat food profile is also very similar to that of Mound Q. There is little primary butchering debris, and the degree of bone processing for marrow extraction is low. Dominant among the animal foods are prime cuts of venison, again, as elsewhere at Moundville, emphasizing shoulders over hindquarters. The pattern, as before, is strongly suggestive of the regular acquisition of meat foods by the elite as tribute. Quantities of turkey are large, and in general the bird assemblage is unusually diverse. As with Mound Q, carnivore taxa are conspicuous (Appendix E).

There are, however, some important differences in the fauna from Mound G. Apparently the rarest taxa occur here, including shark, peregrine falcon, and bison. The three bovid specimens are all from young individuals and therefore can be identified only as "possible bison" based on comparison with specimens in the American Museum of Natural History. Jackson and Scott believe that these bones do not necessarily indicate the consumption of bison as food at Moundville. They instead suggest that "these bones arrived as riders on bison hides used to transport dried meat or other Plains products, left on to serve as handles for the bundles, a pattern documented at Plains village sites. They were detached from the hide at Moundville and discarded. Another difference in the fauna lies in the significantly smaller degree of fragmentation of deer bone at Mound G. This pattern suggests to Jackson and Scott that "private elite meals depended less on the products of bone processing than did those associated with Mound Q" (Appendix E). Stated another way, while the degree of bone processing is relatively low in both mound contexts, at Mound G there is conspicuously greater wastage of bone products such as marrow.

Moving to the material culture, a study by Kristi Taft (1996) compared the relative proportions of pottery vessel shapes in Mounds G and Q. Jars, as standard cooking vessels, and flaring-rim bowls, as standard food service vessels, have nearly identical proportionate frequencies in the two mounds. Two other categories, however, show substantial differences. Bottles exhibit significantly higher frequencies (by 7%) in Mound G over Mound Q, whereas a category of "other bowls," subsuming hemispherical bowls, cup-shaped bowls, and restricted-mouth bowls, are significantly more common in Mound Q (again by 7%) than Mound G (Taft 1996:61). I am not inclined to think that these differences express a difference in foodways. Instead, we already know that hemispherical bowls were used as pigment containers at Mound Q, and I suspect, more generally, that the greater prominence of deep bowl forms at Mound Q is a function of the prominence of skilled crafting there, as bowls were probably used as utility containers in various craft-making procedures. The greater prominence of bottle forms at Mound G is more difficult to explain, although, bearing in mind that these bottles are primary carriers of iconography, I suspect that this prominence, like the incidence of the rarest fauna at Mound G, is in some manner a reflection of sumptuary privileges accorded to the residents of the larger mound.

Unfortunately, vessel size classes cannot be reliably compared between Mounds G and Q because of the small sample sizes available for Mound G (Taft 1996:62).

By far the most striking divergences between the Mound G midden contents and those of Mounds Q take the form of differences in the abundance of craft-related artifacts, differences in the abundance of non-local raw materials, and differences in the prevalence of the pigment complex. In short, the strong signature of skilled crafting that is characteristic of Mound Q is not found at Mound G. In a study of these differences, Julie Markin (1997) used an abundance index that compared tools and materials used in craft production, artifacts of the pigment complex, and total nonlocal items for the Moundville II and Moundville III phase deposits in both mounds. For the purposes of this paper I have re-graphed Markin's comparisons, using updated data from Mound Q (including materials not available to Markin), and I have slightly modified her abundance index.[1] The results, given here as Figures 79, 80, and 81, demonstrate this distinctiveness of the Mound Q contexts in each of these dimensions as contrasted with Mound G, particularly in the Moundville II phase. Such results lend support to the notion that artifacts associated with crafting, those associated with the pigment complex, and the importation of non-local materials are to a large degree expressive of the same general phenomenon. Finally, no evidence of fragmentary human bone was found in the Mound G middens, in contrast to the remains from Mound Q interpreted as the result of bone handling.

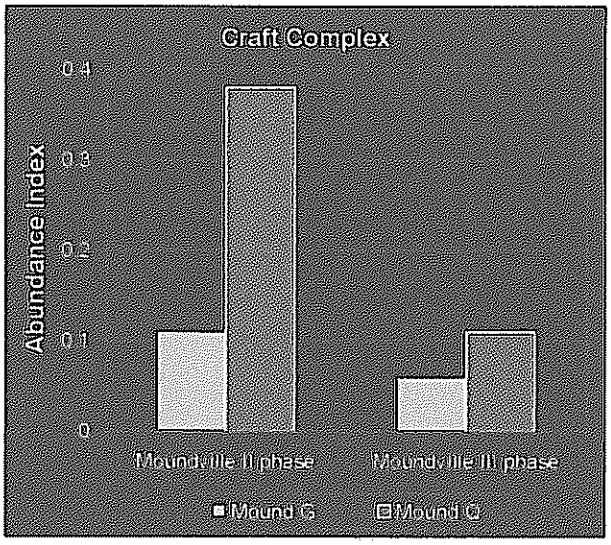

Figure 79. Relative abundance of craft items, Mounds G and Q.

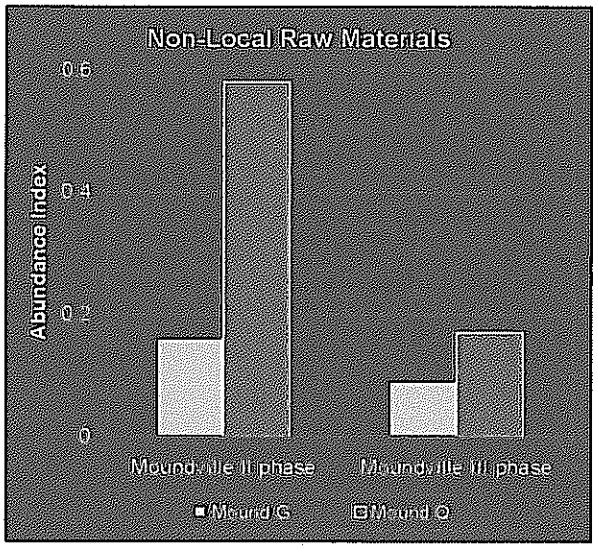

Figure 80. Relative abundance of non-local raw materials, Mounds G and Q.

Conclusion

A goal of this summation has been to characterize the contents of middens and feature fill associated with mound summit activity at Moundville. The results of a comparison between Mounds Q and G are encapsulated in Table 28. Such a comparison reveals that it is plainly a mistake to assume that elite contexts at a large Mississippian center are equivalent and can be

essentialized. The differences that both mound contexts exhibit to the chronologically earlier, non-mound elite contexts north of Mound R can be attributed to changes in the political economy over the history of the Moundville polity. Synchronic differences between the two mounds, in contrast, can be attributed to the differentiation of elite social roles in the later history of the polity.

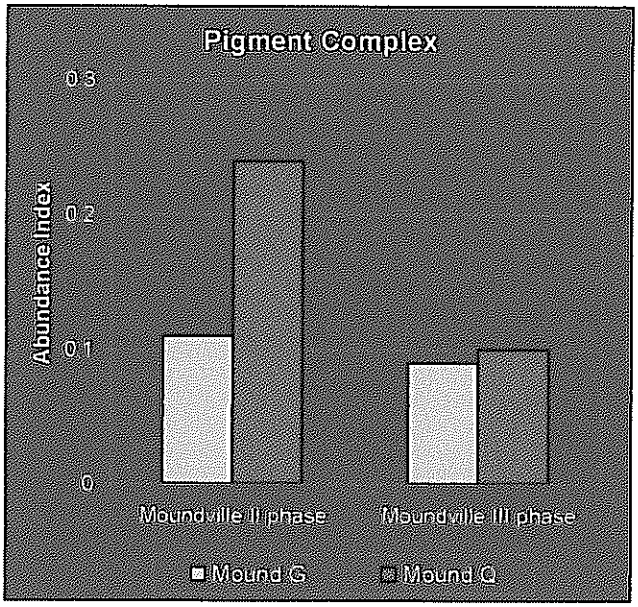

Figure 81. Relative abundance of pigment complex artifacts, Mounds G and Q.

As it is currently understood, the distinction between Mounds Q and G is not that of elite residence versus temple, as originally hypothesized thirty years ago (Peebles 1971:82). Instead, both mounds were probably residential and both were occupied by individuals engaged in what were, unambiguously, elite behaviors in the Mississippian world. A better characterization of the distinction, if I may be pardoned a metaphor borrowed from the height of the respective mounds, is roughly that between "high" elites behaving with an aloofness appropriate to their station versus "low" elites distinguishing themselves as artisans, ritual practitioners, and bone handlers. This metaphor need not imply that there were really two separate classes of elites. Rather, I see these as two "faces" or roles that Moundville elites might assume, appropriate to two different categories of social space. Regarding the crafting activity, moreover, I see no need to postulate "attached specialists," particularly as both mound contexts were almost identically provisioned with food.

In a recent article Lindauer and Blitz (1997) characterized the difference between Mississippian platform mounds and their Woodland predecessors. Their claim was that Woodland platform mounds possess a communal aspect and are concerned with social integration, whereas by contrast Mississippian platform mounds exhibit an exclusory principle, and are concerned with social differentiation as the segregated social space of an elite. While this generalization seems valid at the broadest level, it does not quite capture the evidence that confronts us from Moundville. From a somewhat different frame of reference I have pointed out that within Moundville's public architecture there is a tension between the inclusive and integrative versus the exclusive and differentiated (Knight 1998:59-60). Along the same lines, what I think we see in the distinctions cited in this paper is the inward-looking face of an elite on Mound G versus its outward-looking face on Mound Q. At Mound G the references are seemingly cloistered and segregative. At Mound Q, in contrast, all the references are external; on display here are proofs of the efficacy of elites as advertised to their clientele. That efficacy was demonstrated by mastery of decorative arts, by skill in acquiring goods from the external world, and by demonstration of ties to an ancestral past, symbolized in bone handling. I suspect that the effect of this display was socially integrative, as the clientele-audience would here participate more at a sensory level in the dramas of Mississippian elitedom.

	Mound Q	Mound G
Summit Architecture	Small structures with conjoined spaces, storage pits.	(Present but poorly documented)
Refuse Disposal	Dense flank middens on north side of mound.	Same as Mound Q.
Botanical Remains	Corn dominant; kernel to cupule ratio similar to farmsteads.	Same as Mound Q.
	Plants with ceremonial uses: yaupon, tobacco.	
Faunal Remains	Meat tribute indicated.	Same as Mound Q.
	Deer quarters overrepresented; shoulders favored over hindquarters.	Same as Mound Q.
	Little primary butchering debris.	Same as Mound Q.
	Level of bone processing low.	Level of bone processing minimal.
	Bird component of assemblage diverse; passenger pigeon present.	Same as Mound Q.
	Male turkeys unusually common.	Same as Mound Q.
	Carnivores conspicuous.	Same as Mound Q.
		Rare taxa, including bison, peregrine falcon.
Pottery Vessels.	High diversity in shapes and size classes.	
	Emphasis on bowl forms.	Emphasis on bottle forms.
Evidence of Skilled Crafting	Limonite saws.	Present in low frequency.
	Copper scrap.	
	Bone awls; sandstone abraders.	Present in low frequency.
	Greenstone celts, chisels.	Present in low frequency.
	Expedient tools of local chert.	
	Small bit tool complex: drills, microdrills, perforators, blade-like flakes, cores of imported chert.	
Pigment Complex	Formal sandstone paint palettes.	Present in low frequency.
	Pigment containers of pottery.	
	Red and yellow ochres.	Same as Mound Q.
	Glauconite (green pigment).	
	Galena crystals.	Present in low frequency.
	Graphite and coal.	
	Sharpened fish spines (tattooing needles?)	Present in low frequency.
Ornaments	Sheet copper and copper-clad wooden ornaments.	
	Pottery ear plugs.	
	Beads of marine shell and clay.	
	Bone hair pins.	
	Pendants of tabular stone, pottery.	
Ceremonial Objects	Turkey wing fan element (drilled carpometacarpus)	
	Eccentric bowls.	
	Moundville Enraved, var. Hemphill bottles (with SECC art)	Same as Mound Q.
	Human figurines of clay.	
	Smoking pipes of stone and clay.	
Other Exotica	Ramey knife, Mill Creek chert.	
	Serrated biface, Burlington chert.	
	Hoe chips, Mill Creek chert.	
	Mica (abundant).	Present in low frequency.
	Fossil shark's tooth.	
Human Skeletal Remains	Flesh interment.	(Absence of human skeletal remains)
	Emptied grave pit.	
	Scattered human bone fragments in middens, feature fills (trophy remains).	

Table 28. Comparison of traits from midden and feature fill contexts, Mounds Q and G.

Endnote

[1] For her abundance index Markin (1997) weighted raw artifact counts by dividing by the weight of common hearth rock by context, the hearth rock (brown Pottsville sandstone plus tabular limonitic sandstone) serving as a standard for "background" domestic activity. She also showed that the weight of hearth rock is strongly correlated with the frequency of ceramic jar rims. In my re-calculation I have substituted jar rim counts for hearth rock weight in the denominator, so that the index becomes, for craft-related items:

A = CRI/JR

where A=Abundance, CRI=total count of craft related items, and JR=total count of jar rim sherds. Items included in each category are as follows:

Craft Complex: Ground sandstone, sandstone abraders, sandstone saws, perforators, microdrills, drills, blade flakes, polished greenstone chips, greenstone celts and chisels, bone awls, plus occurrences of copper, galena, and muscovite mica.

Pigment Complex: Ground hematite, unmodified pigment-quality hematite, glauconite, graphite, formal sandstone palettes.

Total Non-Local Items: Unmodified greenstone, polished greenstone chips, greenstone celts and chisels, occurrences of copper, galena, muscovite mica, and all artifacts plus debitage of blue-gray Fort Payne chert.

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Appendix A Inventory of Features

Feat. No.	Type	Stage Assignment	Season of Excav.	Comment
1	midden-filled depression	unassigned	F90	west flank units
2	wall trench	Stage III	F90, F91	assoc w/ F. 61; confused with a Stage II wall trench, F92-F94
3	hearth	Stage III	S92	partially cut away, mapped in balk
4	large post hole	Stage III	F94	mapped in profile, S92
5	irregular pit	Stage IV or V	S92	
6	hearth	Stage III	S92	
7	rectangular pit	modern	S92	attributed to C.B. Moore
8	large post pit	Stage IVa	F94	initially recorded S92
9	rectangular pit	modern	S92	attributed to C.B. Moore
10	burial pit	Stage IV or V	S92	contains Burial 1
11	irregular pit	Stage IV or V	S92	contains sherd dusters F.S. 85-86
12	possible burial pit	Stage IV or V	S92	contains vessel F.S. 87; wood and copper fragments F.S. 100
13	large pit	modern	S92	east summit units
14	large pit	modern	F92	attributed to C.B. Moore
15	basin-shaped pit	unassigned	F92	recorded in profile; possibly modern
16A	large pit	unassigned	F92	recorded in profile; probably modern
16B	large pit	unassigned	F92	recorded in profile; probably modern
17	large straight-sided pit	modern	F92, F93	attributed to C.B. Moore
18	basin-shaped pit	unassigned	F92	recorded in profile; possibly modern
19	rectangular pit	modern	F94	attributed to C.B. Moore
20	basin-shaped pit	unassigned	F92	recorded in profile; possibly modern
21	wall trench, shallow	Stage II	F93, F94	
22	wall trench, deep	Stage II	F93, F94	same as F. 77
23	wall trench, deep	Stage II	F93, F94	
23A	large post hole	Stage II	F93	
24	wall trench, shallow	Stage II	F93	
24A	post hole	Stage II	F93	merges with F. 24
25	probable root disturbance	unassigned	F93	
26	unknown, irregular	unassigned	F93	
27	unknown, irregular	unassigned	F93	same as F. 26
28	wall trench, shallow	Stage II	F94	
28A	large post hole	Stage II	F94	
29	possible post hole	unassigned	F93	
30	unknown	unassigned	F93	
31	unknown, irregular	unassigned	F93	
32	possible post hole	unassigned	F94	
33	large post hole	Stage II	F93	
34	wall trench, deep	Stage II	F93, F94	same as F. 44, F. 202; internal post holes labeled F. 34 A-F, F. 51
35	unknown, irregular	unassigned	F93	
36	unknown	unassigned		mapped F92; not excavated
37	unknown	unassigned		mapped F92; not excavated
38	post hole	Stage II	F94	
39	unknown, irregular	unassigned	F94	

Feat. No.	Type	Stage Assignment	Season of Excav.	Comment
40	unknown, irregular	unassigned	F94	
41	wall trench, shallow	Stage II	F93, F94	same as F. 195
42	unknown, irregular	unassigned	F93	confused with F. 34D in field
43	unknown, irregular	unassigned	F94	
44	wall trench, deep	Stage II	F94	same as F. 34, F. 202
45	unknown	unassigned		mapped F92; not excavated
46	void			stain incorrectly mapped F92
47	wall trench, shallow	Stage II	F94	
48	unknown	Stage II		not excavated; same as F. 207; merges with F. 177
49	unknown	unassigned		not excavated; faint stain recorded F92 not relocated
50	void			stain incorrectly mapped F92
51	probable post hole	Stage II	F92	in F. 34
52	post hole	Stage II	F93, F94	
53	post hole	Stage II	F94	see form for F. 54
54	post hole	Stage II	F94	
55	post hole	Stage II	F94	
56	rodent burrow	unassigned	F93, F94	intrudes from upper mound
57	large post hole	Stage III	F93, F94	mapped in F91
58A	deep cylindrical pit	Stage II	F94	
58B	cylindrical pit	Stage II	F94	
59	void			stain incorrectly mapped F92
60	unknown	unassigned	F94	
61	wall trench	Stage III	F93, F94	associated with F. 2
62	post hole	Stage III	F92	in F. 2 wall trench
63	post hole	Stage III	F94	in F. 2 wall trench
64	post hole	Stage III	F94	in F. 2 wall trench
65	post hole	Stage III	F94	in F. 2 wall trench
66	post hole	Stage III	F94	in F. 2 wall trench
67	post hole	Stage III	F94	in F. 2 wall trench
68	post hole	Stage III	F94	in F. 2 wall trench
69	post hole	Stage III	F93	in F. 2 wall trench
70	post hole	Stage II	F94	
71	unknown, irregular	unassigned	F94	
72	unknown, irregular	unassigned	F94	
73	possible post hole	unassigned	F93	in F. 61 wall trench
74	unknown, irregular	unassigned	F93	
75	unknown, irregular	unassigned	F93	
76	unknown, irregular	unassigned	F93	intrudes from upper mound
76A	unknown, irregular	unassigned	F93	
77	wall trench, deep	Stage II	F93	same as F. 22
78	post hole	Stage III		in F. 2 wall trench; mapped stain not relocated F93
79	unknown, irregular	unassigned	F93	
80	post hole	Stage III	F93	in F. 2 wall trench
81	possible post hole	unassigned	F93	
82	possible post hole	unassigned	F93	shallow, day filled
83	possible post hole	unassigned	F93	shallow, irregular bottom

Feat. No.	Type	Stage Assignment	Season of Excav.	Comment
84	wall trench, shallow	Stage II	F93	merges with F. 77
85	wall trench, shallow	Stage II	F93	merges with F. 77
86	unknown, irregular	unassigned	F93	
87	wall trench, shallow	Stage II	F93	
87A	post hole, shallow	Stage II	F93	within F. 87 wall trench
88	post hole	Stage II	F93	intrudes F. 89 trench; screened together with F. 89
89	wall trench, shallow	Stage II	F93	
90	post hole and mold	Stage II	F94	intruded by F. 89 trench
91A	probable root disturbance	unassigned	F94	
91B	probable root disturbance	unassigned	F94	
92	unknown, irregular	unassigned	F93	
93	possible post hole	unassigned	F93	
94	possible post hole	unassigned	F93	
95	possible post hole	unassigned	F93	
96	unknown, irregular	unassigned	F93	
97	unknown, irregular	unassigned	F93, F94	
98	possible post hole	unassigned	F93, F94	
99	possible post hole	unassigned	F93, F94	
100	unknown, irregular	unassigned	F94	
101	post hole	unassigned	F93	
102	possible post hole	unassigned	F93	
103	large, irregular "dugout"	Stage II	F94	partially excavated; originally "Area A;" merges with F. 48/207
104	void			number voided; re-mapped F94
105	probable root disturbance	unassigned	F94	merges with F. 107
106	unknown	unassigned		mapped F92, not excavated
107	probable root disturbance	unassigned	F94	merges with F. 105
108	possible post hole	unassigned	F94	intrudes rodent burrow F. 105
109	unknown	unassigned	F93	
110	possible post hole	unassigned	F94	intrudes rodent burrow F. 105
111	unknown	unassigned		mapped F92, not excavated
112	unknown, irregular	unassigned	F94	
113	unknown, irregular	unassigned	F94	
114	unknown	unassigned		mapped F92, not excavated
115	post hole	Stage II	F94	
116	unknown	unassigned	F94	
117	possible post hole	unassigned	F94	
118	rodent burrow	unassigned	F94	
119	large post hole	Stage II	F94	intrudes F. 123 trench
120	unknown, irregular	unassigned	F94	
121	probable root disturbance	unassigned	F93	divided into 121 A-D
122	unknown	unassigned		mapped F93; not excavated
123	wall trench, shallow	Stage II	F94	
124	post hole	Stage III	F94	noted in profile F92
125	post hole	Stage II	F94	
126	unknown, irregular	unassigned	F94	
127	probable root disturbance	unassigned	F94	
128	hearth	Stage II	F94	

Feat. No.	Type	Stage Assignment	Season of Excav.	Comment
129	post hole	Stage II	F94	
130	possible post hole	unassigned	F94	
131	post hole	Stage II	F94	
132	post hole	Stage II	F94	
133	post hole	Stage II	F94	
134	possible post hole	unassigned	F94	
135	post hole	Stage II	F94	
136	post hole	Stage II	F94	see form for F. 54
137	post hole	Stage II	F94	
138	post hole	Stage II	F94	
139	unknown	unassigned		mapped F92; not excavated
140	post hole	Stage III		in F. 2 wall trench, not excavated
141	post hole	Stage III		in F. 2 wall trench, not excavated
142	possible post hole	unassigned	F94	
143	post hole	Stage III	F94	in F. 2 wall trench
144	wall trench, shallow	Stage II	F94	
145	unknown	unassigned		mapped F92; not excavated
146	unknown, irregular	unassigned		mapped F92; not excavated
147	unknown, irregular	unassigned	F94	
148	unknown	unassigned	F94	
149	possible post hole	unassigned	F94	
150	possible rodent burrow	unassigned	F94	
151	possible post hole	unassigned	F94	
152	unknown, irregular	unassigned	F94	
153	probable root disturbance	unassigned		mapped F92; not excavated
154	wall trench	Stage III or IVa		not excavated; indudes mapped post holes F. 154A-J
155	unknown	unassigned		mapped F92; not excavated
156	post hole	Stage II	F94	
157	post hole	Stage II	F94	
158	post hole	Stage II	F94	
159	probable post hole	Stage II		not excavated; assignment based on alignment w/ F. 156-158
160	probable post hole	Stage II		not excavated; assignment based on alignment w/ F. 156-158
161	probable post hole	Stage II		not excavated; assignment based on alignment w/ F. 156-158
162	probable post hole	Stage II		not excavated; assignment based on alignment w/ F. 156-158
163	unknown	unassigned		mapped F92; not excavated
164	unknown	unassigned		mapped F92; not excavated
165	unknown	unassigned		mapped F92; not excavated
166	post hole	Stage II	F94	intrudes F. 167 trench
167	wall trench, deep	Stage II	F94	
168	wall trench, shallow	Stage II	F94	
169	possible rodent burrow	unassgned	F94	
170	possible post hole	unassigned	F94	
171	unknown	unassigned		mapped F92; not excavated
172	unknown, irregular	unassigned		mapped F92; not excavated

Feat. No.	Type	Stage Assignment	Season of Excav.	Comment
173	unknown	unassigned		mapped F92; not excavated
174	unknown	unassigned		mapped F92; not excavated
175	unknown	unassigned		first noted and mapped F90; not excavated
176	unknown	unassigned		mapped F92; not excavated
177	large, irregular "dugout"	Stage II	F94	partially excavated; merges with F. 87, F. 153
178	post hole	Stage III or IVa		not excavated; assoc. w/ F. 154?
179	unknown	unassigned		mapped F92; not excavated
180	post hole	Stage II	F94	
181	possible post hole	unassigned	F94	
182	post hole	Stage II	F94	
183	unknown	unassigned		mapped F92; not excavated
184	unknown	unassigned		mapped F92; not excavated
185	unknown	unassigned		mapped F92; not excavated
186	unknown	unassigned		mapped F92; not excavated
187	trench segment	unassigned		mapped F92; not excavated
188	unknown	unassigned		mapped F92; not excavated
189	unknown	unassigned		mapped F92; not excavated
190	unknown	unassigned		mapped F92; not excavated
191	unknown	unassigned		mapped F92; not excavated
192	trench segment	unassigned	F94	
193	wall trench, deep	Stage II	F93	merges with F. 34
194	void			feature number voided
195	wall trench, shallow	Stage II	F93	same as F. 41
196	post hole	Stage III	F93	in F. 2 wall trench
197	unknown, irregular	unassigned	F93	
198	possible post hole	Stage II	F93	north flank units
199	midden-filled depression	Stage II	F93	north flank units
200	post hole	Stage III	F94	in F. 2 wall trench
201	post hole	Stage III	F94	in F. 2 wall trench
202	wall trench, deep	Stage II	F94	same as F. 34, F. 44
203	unknown, irregular	unassigned	F94	
204	post hole	Stage II	F94	
205	unknown, irregular	unassigned	F94	
206	void			feature number voided
207	unidentified	Stage II	F94	partially excavated; same as F. 48; merges with F. 177
208	unknown	unassigned		mapped F92; not excavated
209	unknown	unassigned		mapped F92; not excavated
210	root disturbance	unassigned		dup. F. 177, re-assigned; mapped in profile and plan; not excavated

Appendix B. Pottery from Miscellaneous Proveniences

TYPE	Post-occupation features	Unassigned features	West flank Reference Trench	Miscellaneous	Totals
Mississippi Plain	163	424	5,166	1,645	7,398
Moundville Incised, *var. Carrollton*			1	7	8
Moundville Incised, *var. Moundville*		4	31	18	53
Moundville Incised, *var. Snows Bend*			1	2	3
Moundville Incised, *var. Oliver*			1	2	3
Moundville Incised, *var. Unspecified*	2	5	19	18	44
Bell Plain	58	122	1,518	590	2,288
Carthage Incised, *var. Akron*			4	4	8
Carthage Incised, *var. Carthage*			2	2	4
Carthage Incised, *var. Fosters*			7	2	9
Carthage Incised, *var. Moon Lake*			2		2
Carthage Incised, *var. Unspecified*	2	6	39	15	62
Moundville Engraved, *var. Elliots Creek*			2	2	4
Moundville Engraved, *var. Havana*			4	2	6
Moundville Engraved, *var. Hemphill*			2	22	24
Moundville Engraved, *var. Maxwells Crossing*			1		1
Moundville Engraved, *var. Middleton*				1	1
Moundville Engraved, *var. Stewart*				1	1
Moundville Engraved, *var. Taylorville*			4	4	8
Moundville Engraved, *var. Tuscaloosa*	2		1	6	9
Moundville Engraved, *var. Wiggins*				1	1
Moundville Engraved, *var. Unspecified*	4	5	131	55	195
Baytown Plain			4	1	5
Mulberry Creek Cord Marked			1		1
Alligator Incised			2		2
Barton Incised, *var. Barton*		1			1
Parkin Punctated				1	1
Langston Fabric Marked			1		1
Other Types	4	9	33	27	73
Totals	235	576	6,977	2,428	10,216

Table B1. Sherd types from miscellaneous proveniences.

DIAGNOSTIC MODE	Post-occupation features	Unassigned features	West flank Reference Trench	Miscellaneous	Totals
Beaded rim			8	6	14
Cutout rim			1	1	2
Folded rim	1		14	3	18
Folded-flattened rim		4	6		10
Indentations	1		2		3
White on red painted			1		1
Polychome/negative painted			1		1
Hemagraved		2		1	3
Short necked bowl			2	3	5
Pedestal base			1		1
Slab base			2	3	5
Frog effigy features			2		2
Fish effigy features				1	1
Totals	2	6	40	18	66

Table B2. Diagnostic decorative and vessel shape modes from miscellaneous proveniences.

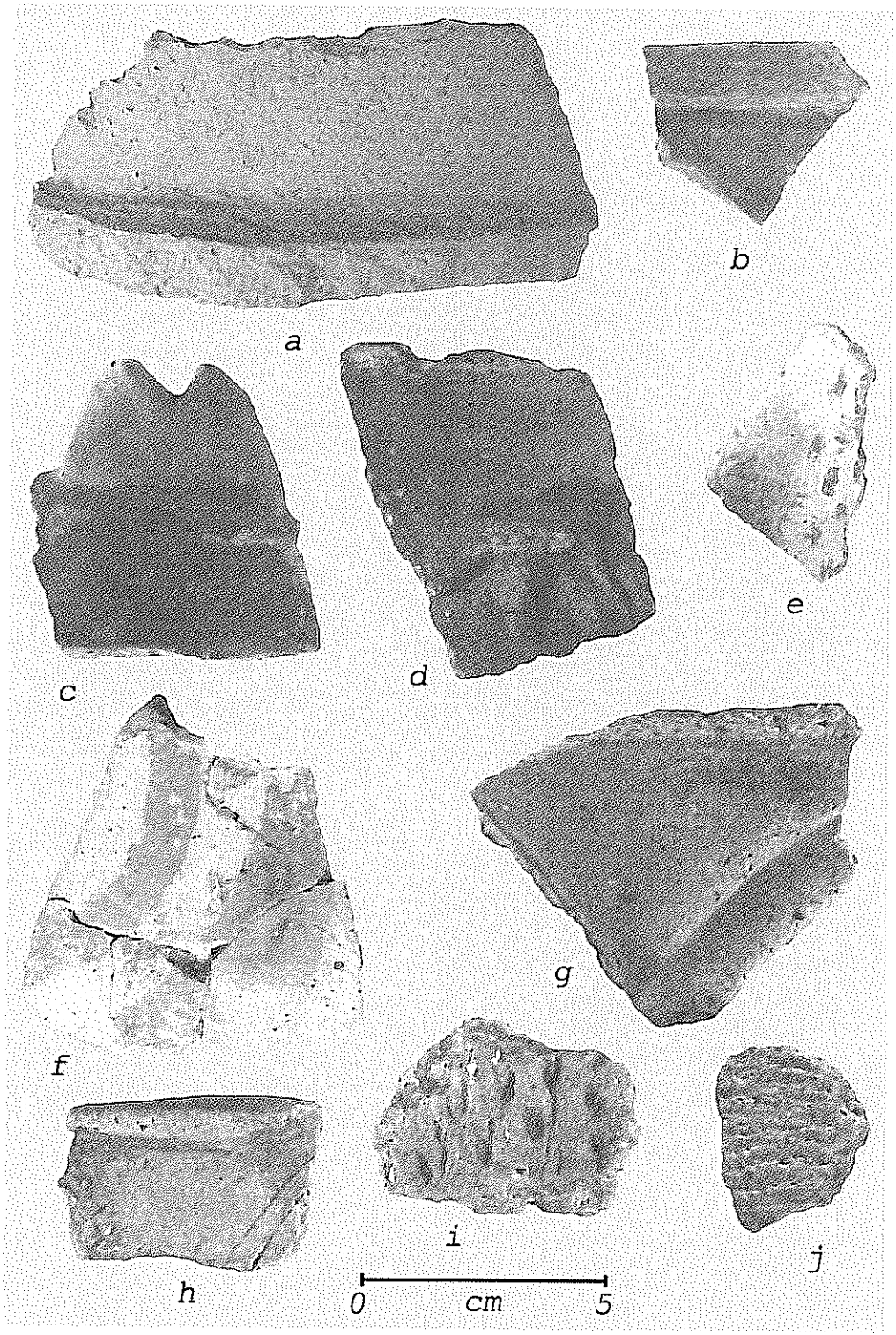

Figure B1. Sherds from miscellaneous proveniences, Mound Q. (a) Mississippi Plain, sherd from unusual large coarseware bottle; (b) Bell Plain, short-necked bowl rim with traces of red paint; (c) Bell Plain, fish effigy lug tail on simple bowl; (d) Mississippi Plain, jar sherd with handle scar; (e) Bell Plain, polychrome negative painted, red and black on white; (f) Mississippi Plain, with gray slip decoration on buff-colored ware; (g) Moundville Incised, *var. Carrollton*; (h) Alabama River Incised, jar rim with handle scar; (I) Parkin Punctated; (j) Langston Fabric Marked.

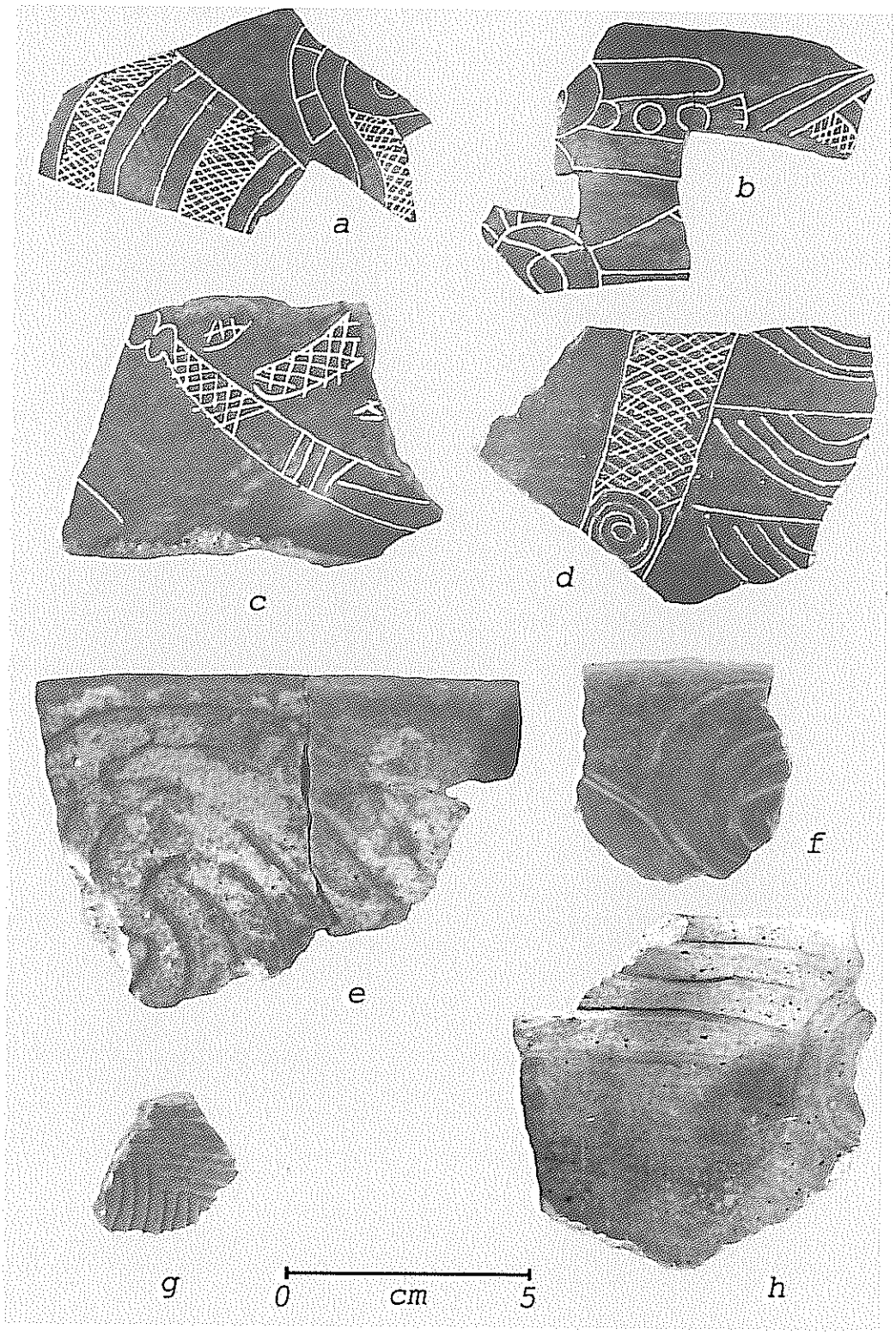

Figure B2. Sherds from miscellaneous proveniences, Mound Q. (a-d) Moundville Engraved, *var. Hemphill* – a and b belong to the same bottle and have crested bird, c has winged serpent, d has serpent or raptor wing; (e and f) Carthage Incised, var. Carthage – e is cup shaped bowl, f is flaring-rim bowl; (g) Moundville Engraved, *var. Tuscaloosa*; (h) Carthage Incised, *var. Akron*, simple bowl. (a-d have pigment added to engraved lines for photography.)

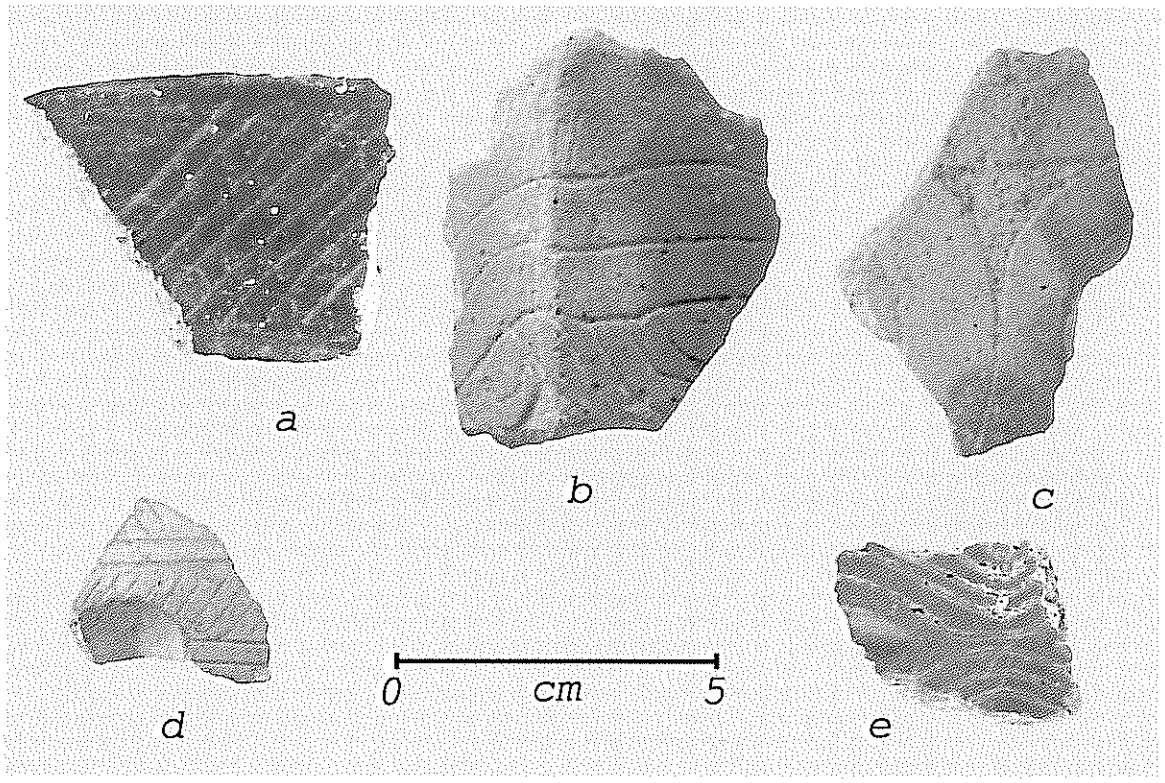

Figure B3. Sherds from miscellaneous proveniences, Mound Q. (a) Moundville Engraved, *var. Stewart*, flaring-rim bowl; (b) Moundville Engraved, *var. unspecified*, eccentric bowl rim; (c) Moundville Engraved, *var. Elliots Creek*, hemagraved; (d) Moundville Engraved, *var. Prince Plantation*, with indentation; (e) Moundville Engraved, *var. unspecified*, red filmed with unusual ogival indentation, probably from eccentric bowl.

Appendix C Catalog Numbers of Illustrated Specimens

Figure 13. Catalog numbers. (a) 40.366.1; (b) 40.367.1; (c) 40.375.2; (d) 40.3861.2

Figure 14. Catalog numbers. (a) 40.35.4; (b) 40.364.5; (c) 40.364.4; (d) 40.35.1; (e) 40.32.2; (f) 40.36.2; (g) 40.40.2; (h) 40.38.4; (i) 40.36.1; (j) 40.364.2; (k) 40.34.9; (l) 40.34.7; (m) 40.36.4; (n) 40.32.4

Figure 35. Catalog number. 40.2743.1

Figure 37. Catalog number. 40.3315.1

Figure 39. Catalog numbers. 40.1086, 40.1617, 40.3328

Figure 42. Catalog numbers. (a) 40.4990.1; (b) 40.4985.2; (c) 40.4985.1; (d) 40.4987.2; (e) 40.4909.1; (f) 40.5028.1; (g) 40.4992.1; (h) 40.4187.1; (i) 40.4983.1; (j) 40.2012.1; (k) 40.4016.1; (l) 40.4992.2

Figure 43. Catalog numbers. (a) 40.2532.2; (b) 40.1568.2; (c) 40.3948.1; (d)40.2001.1; (e) 40.3983.1; (f) 40.1205.9

Figure 44. Catalog numbers. (a) 40.3331.1; (b) 40.741.1; (c) 40.1592.2; (d) 40.2361.2; (e) 40.3992.1; (f) 40.3972.1; (g) 40.3961.1; (h) 40.649.1; (i) 40.1578.1

Figure 45. Catalog numbers. (a) 40.3622.1; (b) 40.1602.1; (d) 40.2012.1; (e) 40.3993.1; (f) 40.632.2; (g) 40.754.1

Figure 46. Catalog numbers. (a) 40.1975.2; (b) 40.3622.3; (c) 40.2357.1; (d) 40.742.5; (e) 40.3865.1; (f) 40.1975.1; (g) 40.628.2

Figure 47. Catalog numbers. (a) 40.1611.2; (b) 40.2017.5; (c) 40.1612.4; (d) 40.1612.3; (e) 40.3934.1; (f) 40.1610.3; (g) 40.1612.6; (h) 40.2360.4; (i) 40.2360.3; (j) 40.2023.2; (k) 40.1612.2; (l) 40.2017.1; (m) 40.1612.1; (n) 40.2360.6

Figure 48. Catalog numbers. (a) 40.1589.3; (b) 40.3919.1; (c) 40.2011.3; (d) 40.3939.1; (e) 40.1996.5; (f) 40.3967.1; (g) 40.3966.1; (h) 40.1995.1; (i) 40.3951.1; (j) 40.3976.1; (k) 40.1984.2; (l) 40.1996.1; (m) 40.970.1; (n) 40.1606.1; (o) 40.1685.1

Figure 49. Catalog numbers. (a) 40.3950.1; (b) 40.3965.1; (c) 40.3927.1; (d) 40.3943.1; (e) 40.1979.7; (f) 40.1087.4; (g) 40.3920.2; (h) 40.1588.1; (i) 40.3974.1; (j) 40.2011.5; (k) 40.1973.1; (l) 40.1993.1; (m) 40.1093.1

Figure 58. Catalog numbers. (a) 40.4001.1; (b) 40.4012.3; (c) 40.4096.3; (d) 40.4094.1; (e) 40.4096.1; (f) 40.4220.1

Figure 59. Catalog numbers. (a) 40.4012.1; (b) 40.4010.1; (c) 40.4222.2; (d) 40.4226.2; (e) 40.4226.1; (f) 40.4098.2; (g) 40.4096.4

Figure 60. Catalog numbers. (a) 40.2042.2; (b) 40.2370.1; (c) 40.3936.1; (d) 40.2730.1; (e) 40.2733.1; (f) 40.1643.1; (g) 40.2734.1; (h) 40.1654.1; (i) 40.3942.1; (j) 40.1654.1

Figure 61. Catalog numbers. (a) 40.352.1; (b) 40.329.4; (c) 40.1159.2; (d) 40.320.1; (e) 40.1350.1

Figure 62. Catalog numbers. (a) 40.1650.2; (b) 40.320.4; (c) 40.353.1; (d) 40.1239.7; (e) 40.1161.1; (f) 40.2562.1; (g) 40.331.1

Figure 63. Catalog numbers. (a) 40.340.7; (b) 40.340.4; (c) 40.1128.1; (d) 40.1278.3; (e) 40.1160.2; (f) 40.3982.1; (g) 40.324.11; (h) 40.1653.3; (i) 40.3981.1; (j) 40.1340.2; (k) 40.325.4; (l) 40.1239.8; (m) 40.2564.1; (n) 40.2548.4

Figure 64. Catalog number. 40.1095.1

Figure 69. Catalog number. 40.3960.1

Figure 70. Catalog number. 40.3949.1

Figure 71. Catalog number. 40.376.4

Figure 72. Catalog number. 40.2781.1

Figure 73. Catalog number. 40.3954.1

Figure 75. Catalog number. 40.3958.1

Figure 76. Catalog numbers. (left) 40.1037; (right) 40.4137

Figure 77. Catalog number. (a) 40.5497.1

Figure B1. Catalog numbers. (a) 40.835.1; (b) 40.3579.2; (c) 40.3984.1; (d) 40.1.4; (e) 40.2501.1; (f) 40.2010.1; (g) 40.3848.1; (h) 40.1631.2; (i) 40.1554.4; (j) 40.383.6

Figure B2. Catalog numbers. (a) 40.1153.6; (b) 40.1153.5; (c) 40.392.6; (d) 40.398.6; (e) 40.964.4; (f) 40.965.5; (g) 40.2339.1; (h) 40.4657.1

Figure B3. Catalog numbers. (a) 40.4139.1; (b) 40.370.4 (c) 40.1332.1; (d) 40.2525.1; (e) 40.1571.1

Appendix D. Data from Plant Remains, prepared by C. Margaret Scarry

Table D.1. Flotation samples from Mound Q from which plant remains were analyzed. [1]

Catalog No.	Unit	Feature No.	Context	Plant Weight (grams)
5282.64	22R18	167	Stage II	0.64
5254.6	24R20	58	Stage IV	0.35
5277.61	24R20	58	Stage IV	4.61
5278.62	24R20	58	Stage IV	6.21
5279.63	24R20	58	Stage IV	2.03
5273.54	24R22	2	Stage III-IV	2.37
5280.55	24R22	2/61	Stage III-IV	1.38
5281.56	24R22	2/61	Stage III-IV	3.21
4131.5	24R22 Cut 2		Stage IV	1.67
5274.57	24R24	22	Stage II	3.14
864.21	26R14 P-3		Stage IV	1.96
865.22	26R14 P-3		Stage IV	0.99
868.25	26R14 P-3		Stage IV	1.44
866.23	26R14 P-4		Stage IV	1.42
867.24	26R14 P-4		Stage IV	1.5
872.26	26R14 P-6		Stage II	0.01
5276.59	26R20	41	Stage II	1.89
4132.49	26R22 Cut 3		Stage III	5.8
5275.58	26R23	23	Stage II	2.68
4567.44	26R24 Fea 22		Stage II	0.18
4571.48	41R23 Cut 13		Stage II	10.89
4897.51	41R23 Cut 13		Stage II	2.97
4133.53	41R23 Cut 7		Stage II-III	14.11
4134.52	41R23 Cut 7		Stage II-III	2.69
4568.45	41R23 Cut 9		Stage II	0.31
4569.46	41R23 Cut 9		Stage II	7.92
4570.47	41R23 Cut 9		Stage II	4.78
842.01	43R23 Cut 3		Stage V	1.32
843.02	43R23 Cut 3		Stage V	5.45
844.03	43R23 Cut 3		Stage V	1.36
845.04	43R23 Cut 3		Stage V	10.12
846.05	43R23 Cut 3		Stage V	3.18
847.06	43R23 Cut 3		Stage V	8.75
848.07	43R23 Cut 3		Stage V	2.87
849.08	43R23 Cut 3		Stage V	11.81
850.09	43R23 Cut 3		Stage V	0.29
851.1	43R23 Cut 3		Stage V	7.32
852.11	43R23 Cut 3		Stage V	0.52
853.12	43R23 Cut 3		Stage V	4.43
854.13	43R23 Cut 3		Stage V	2.12
855.14	43R23 Cut 3		Stage V	5.63
856.15	43R23 Cut 3		Stage V	0.9
857.16	43R23 Cut 3		Stage V	5.49
860.17	43R23 Cut 3		Stage V	1.85

Catalog No.	Unit	Feature No.	Context	Plant Weight (grams)
861.18	43R23 Cut 3		Stage V	2.14
862.19	43R23 Cut 3		Stage V	1.74
863.2	43R23 Cut 3		Stage V	3.98
1181.27	43R23 Cut 4		Stage V	8.16
1182.28	43R23 Cut 4		Stage V	1.51
1183.29	43R23 Cut 4		Stage V	1.14
1185.3	43R23 Cut 4		Stage V	4.95
1186.31	43R23 Cut 4		Stage V	5.28
1187.32	43R23 Cut 4		Stage V	0.2
1323.33	43R23 Cut 4		Stage V	5.96
1324.34	43R23 Cut 4		Stage V	0.6
1325.35	43R23 Cut 4		Stage V	7.76
1326.36	43R23 Cut 4		Stage V	0.29
1327.37	43R23 Cut 4		Stage V	0.42
1328.38	43R23 Cut 4		Stage V	2.71
1329.39	43R23 Cut 4		Stage V	3.56
1419.4	43R23 Cut 4		Stage V	13
1422.41	43R23 Cut 4		Stage V	0.24
4565.42	Fea 22a		Stage II	0.17
4566.43	Fea 22a		Stage II	0.99

[1] Both light and heavy fractions were analyzed for all samples

Table D2. Plant taxa identified in the flotation samples from Mound Q

Common Name	Taxonomic Name	Count
Introduced Crops		
Corn cupule	*Zea mays*	849
Corn kernel	*Zea mays*	248
Bean	*Phaseolus vulgaris*	5
Bean cf.	*Phaseolus vulgaris*	2
Tobacco	*Nicotiana* sp.	1
Native Crops		
Chenopod	*Chenopodium berlandieri*	38
Knotweed	*Polygonum* sp.	1
Knotweed cf.	*Polygonum* sp.	1
Little barley	*Hordeum pusillum*	4
Maygrass	*Phalaris caroliniana*	26
Squash/gourd cf.	*Cucurbita* sp.	2
Cucurbit rind	Cucurbitaceae	3
Nuts		
Hickory	*Carya* sp.	246
Acorn	*Quercus* sp.	36
Acorn meat	*Quercus* sp.	11
Beech husk	*Fagus grandifolia*	1
Fruits		
Blueberry	*Vaccinium* sp.	2
Grape	*Vitis* sp.	1
Maypop	*Passiflora incarnata*	2
Persimmon	*Diospyros virginiana*	72
Plum/cherry	*Prunus* sp.	3
Miscellaneous		
Wild bean	*Strophostyles* sp.	1
Amaranth	*Amaranthus* sp.	5
Carpetweed	*Mollugo* sp.	3
Cheno/am	*Chenopodium/Amaranthus*	24
Cleaver	*Galium* sp.	2
Morninglory	*Ipomoea/Convolvulus*	4
Purslane	*Portulaca* sp.	10
Verbena	*Verbena* sp.	1
Water privet cf.	*Forestiera* sp.	1
Yellow Star-grass	*Hypoxis* sp.	2
Grass family	Poaceae	24
Mallow family	Malvaceae	3
Pink family	Caryophyllaceae	1
Sedge family	Cyperaceae	1
Spurge family	Euphorbiaceae	1

Table D3. Standardiazed counts of plants in Late Moundville I/Early Moundville II and Early Moundville III contexts on Mound Q at Moundville.

COMMON NAME	Late Moundville I/Early Moundville II				Early Moundville II			Early Moundville III	
	26R14 P-6 Stage II	41R23 Cut 13 Stage II	41R23 CUT 9 Stage II	41R23 CUT 7 Stage II/III	26R22 Cut 3 Stage III	24R22 CUT 2 Stage IV	26R14 P-3 Stage IV	43R23 CUT 4 Stage V	43R23 CUT 3 Stage V
Corn cupule	0.68	2.67	1.31	3.15	5	4.19	0	4.09	4.36
Corn kernel	0	3.39	0.46	0.6	1.03	1.2	0.68	1.69	0.76
Bean	0	0	0	0	0	2.4	0	0.02	0
Bean cf.	0	0	0	0	0	0	0	0	0.01
Tobacco	0	0	0	0	0	0	0	0	0.01
Chenopod	0	0.65	0	0.12	0	0	0	0.05	0
Knotweed cf.	0	0	0	0	0	0	0	0	0.01
Maygrass	0	0.07	0.08	0.3	0	0	0	0.04	0.12
Squash/gourd cf.	0	0.07	0	0	0	0	0	0	0
Hickory	0	0.51	0.38	1.61	1.21	0	0.91	1.88	1.01
Acorn	0	0.65	0.08	0.36	0.17	0	0	0.29	0.02
Acorn meat	0	0	0	0.06	0	0	0	0.07	0.07
Beech	0	0.07	0	0	0	0	0	0	0
Blueberry	0	0	0	0	0	0	0	0	0.01
Grape (fruit)	0	0	0	0	0	0	0	0	0.01
Maypop	0	0.07	0	0	0	0	0	0	0
Persimmon	0	0.65	0.38	0.12	0	0	0	0.43	0.27
Wild bean	0	0	0	0	0	0	0	0.02	0
Cheno/am	0	0	0	0.06	0	0	0	0.09	0.14
Cleaver	0	0	0	0	0	0	0	0.02	0.01
Morninglory	0	0	0.08	0.06	0	0	0	0	0.02
Purslane	0	0.14	0	0	0	0	0	0	0
Yellow Star-grass cf.	0	0	0	0	0	0	0	0.02	0
Water privet cf.	0	0	0	0	0	0	0	0.02	0
Grass family	0	0	0.15	0.12	0	0	0	0.07	0.05
Sedge family	0	0	0	0	0	0	0	0	0.01
Spurge family	0	0.07	0	0	0	0	0	0	0

Appendix E. Faunal Utilization by the Moundville Elite: Zooarchaeology of Mounds Q, G, E, F, and R, by H. Edwin Jackson and Susan L. Scott

Introduction

Moundville provides an important, well documented data set for examining a range of questions about the economic, political, and social organization of the Mississippian cultures that flourished in the Southeast during the last 500 years of prehistory. The faunal material recovered from excavations of mound deposits associated with both domiciliary and ceremonial structures provides an opportunity to expand our present understanding of the subsistence patterns of the Moundville elite and the social and symbolic manipulation of animal resources during the zenith of the Moundville polity, which at the time represented among the most centralized and complex chiefdoms to develop in the Southeastern U.S. The data from Moundville permit us to further examine a number of propositions regarding the economic and ideological underpinnings of Mississippian elite animal use, based on analyses of several other Mississippian faunal assemblages

Faunal Use Among Mississippian Elites

In recent years, zooarchaeological research has begun to document how faunal assemblages reflect Mississippian social order (Zeder 1995; Kelly 1994, 1997; VanDerwarker 1997). In our own research (Jackson and Scott 1995a, 1995b; Jackson, Scott and Schambach 1997; Scott 1982, 1983; Scott and Jackson 1997), we have been looking at the social and economic implications for patterns of animal use in Mississippian societies, with particular interest in the food and animal use patterns of the Mississippian elite. Along with food's obvious role in nutrition, it is integral to the social, economic, and political interactions that define and convey social inequality. We have argued that in Mississippian societies, economic relations as well as an underlying system of symbols related to social inequality, and political and religious power conditioned access to meat and certain other animal products. Meat was particularly important in this regard. Among groups that depend on hunting to obtain it, meat is often accorded high social and symbolic value. Kent (1989), in a cross-cultural examination of the cultural value placed on hunted meat, indicates that hunters tend to view hunted animals and humans as quite similar and closely related categories in the biological world, a generalization that seems to hold true regardless of the actual contribution meat makes to the diet. The close relationship between humans and animals is expressed in mythology as well as in often complex and regimented rituals associated with the hunt.

Elite members of chiefdom societies have access to resources that commoners do not. To a variable degree, this includes social labor. In addition, the elite employ a myriad of material symbols to express their social status. We would expect evidence of animal resource use to reflect not only differential access to labor and subsistence commodities, but also to include symbols of the social differences. We have not been disappointed to find that faunal refuse from elite Mississippian contexts does distinguish itself in a number of ways. Part of the variability relates to the economic mechanisms by which the elite were provided with animal products: for instance, receipt of meat as tribute or through provisioning can be expected to increase the representation of meat-bearing anatomical units of generally highest quality cuts from deer and other large

mammals, while reducing primary butchering waste as a consequence of transport considerations. Anatomical part distributions imply receipt by the elite of better cuts in samples from elite contexts at Lubbub Creek (Jackson and Scott 1995a; Scott 1983), the center of a small polity in west central Alabama, at Crenshaw (Jackson and Scott, and Schambach 1997; Scott and Jackson 1997), an early Caddo ceremonial center, at Cahokia (Kelly 1996, 1997), and at the site of Toqua in Tennessee (Bogan 1980; VanDerwarker 1997).

In addition to large mammals, birds, particularly turkey and waterfowl, but also (and we think importantly) passenger pigeon, also seem to have been preferred meats. For instance, at Crenshaw, samples from within the structure occupied by the politico-religious leader produced more than 90 percent of the passenger pigeon remains, compared to a nearly even split of turkey remains in the samples from within the structure and extra-mural contexts.

Faunal refuse from elite contexts may also be differentiated from that in other contexts as a consequence of the responsibilities of political and religious elites for hosting feasts and their ability to mobilize resources for these events. Feasts serve to reinforce or redefine social distinctions, forge alliances, and compete for social and political status (e.g. Dietler 1996; VanDerwarker 1997; Welch and Scarry 1995). Ethnohistoric (e.g., Swanton 1911:102, 130) and ethnographic (Junker 1994:315) accounts attest to the central role of the elite in orchestrating feasts. Calendrical (for instance, the green corn ceremony; Hudson 1976:371-375) or socio-political events (war feasts, e.g., Swanton 1911:130, or funerals) served as reasons for conducting them. As noted by VanDerwarker (1997), feasts are conducted in particular locations. Given the association of feasting with elites and the sacred space defined by mound construction on Mississippian sites, it reasonable to assume that feasting likely took place in the vicinity of mounds (e.g., Blitz 1992; Scott 1983; Smith and Williams 1994).

Feasts are considered to have a finite and generally limited duration, creating certain demands on what can be efficiently procured, prepared and consumed. Importantly, feasting provides abundant opportunities for communicating a wide range of social messages, often simultaneously, related to the social distinctions of those participating, goals of the various participants, and the solidarity of the collective whole. Such messages are encoded in speeches, the guest list, seating arrangements, and the food itself. The composition of elite-sponsored feasting refuse may be expected to have attributes related to those messages as well as to the demands of procurement and the attentuated duration of the event, all of which distinguish it from the remains created by elite private consumption (Jackson and Scott 1995b).

We have also suggested that certain animal taxa are more likely to be associated with elite contexts as a consequence of the symbolism associated with specific animals (Jackson and Scott 1995b: 106). The symbolic attributes accorded these taxa are related to the cosmological system of southeastern Indians and the specific qualities that their cosmological position implies. In particular, birds, associated with the Upper World in Southeastern cosmology, appear to have played a an important role in defining the supernatural qualities or connections of the elite. Raptors such as hawks, owls, falcons and eagles, are clear cosmological symbols in southeastern religion, and their association with Mississippian political power is amply depicted in Southeastern Ceremonial Complex iconography, such as the falcon warrior. Certain waterfowl may have similar

symbolic attributes, as the large number of swans identified by Kelly (1997) from the pit below Mound 51 at Cahokia suggests. Smaller birds, such as crows, jays, and other songbirds, though probably not important for their contributions to elite meals, nonetheless provide colorful plumage that can often be related to the symbolism such as that associated with the cardinal directions, or war and peace. At Lubbub, for instance, among the birds limited to mound contexts were cardinal, mockingbird, Carolina parakeet, crow, bluejay, and a merlin (Scott 1983). In addition to birds, rare or dangerous taxa, such as bear and dangerous carnivores—cougar or bobcat —are far more likely to be found in elite faunal refuse than that of the general populace. The combination of greater than expected large mammal meat bearing elements, key species, and a generally more diverse assemblage differentiates elite refuse from that produced by non-elite contexts.

Having attributed this constellation of attributes to elite faunal refuse, it is fair to say that the correlation with elite refuse is far from absolute. First, we can expect inter-cultural variability in the definition of symbols to produce differences in the specific taxa and the degree to which those animals are restricted to elite consumers. Secondly, there is the problem of systemic contexts in which animals are consumed. Elite private refuse may often be mixed with the remains of ceremonial activities such as feasting, the participants of which may vary considerably from culture to culture. It is likely that in cases in which the economic organization that provided daily fare to the elite also served to provision ceremonial feasts, it may be difficult to differentiate the different purposes, particularly if both daily and ceremonial meals and/or their preparation occurred in the same locations. We might, however, expect that the hunters provisioning feasts were concerned with obtaining large amounts of food and would concentrate on large or plentiful animals rather than diversity. Finally, and this point takes on importance for understanding the present Moundville case, Mississippian chiefdoms are quite variable in their scale and degree of centralization. For instance, Lorenz (1996) has argued that Mississippian societies on the Big Black River were likely "big man" systems rather than chiefdoms ruled by hereditary chiefs; Lubbub Creek is a chiefdom, but on a much smaller scale than Moundville. At the peak of Moundville's political control, it is likely that the unprecedented mobilization of labor documented by the massive scale of mound and palisade construction might also represent a more regimented organization for provisioning the Moundville elite, resulting in a more intensive exploitation of available faunal resources, than has been indicated by studies of smaller, less complex polities.

Among the factors that must be considered are the mechanisms by which meat was obtained by the elite, presuming that they did not usually participate directly in the hunt, and the contexts of their consumption. Although others may be envisioned, three basic practices may be identified, ranked in terms of labor mobilization and regularity. First, provisioning, defined here as systematic and regular hunting for the elites' meat requirements, would imply a constant level of labor mobilization, since unlike plant foods, meat is more difficult to store, and more desirable fresh than smoked or dried. Since the labor investment for maintaining a meat provisioning system would likely conflict with the other labor requirements of local farmers, it is unlikely that occupants of outlying agricultural settlements would have been regularly involved in provisioning meat. It is more likely that if provisioning was accomplished, specialists would be needed. Such specialization may not have been possible even at the peak of Moundville political complexity.

However, Du Pratz (in Swanton 1911:110) suggests that certain warriors regularly hunted for the Great Sun of the Natchez. Preserved meat, being stripped from the bone, would not leave an archaeological signature where it was consumed, although it might be possible to identify locations where intensive meat stripping occurred (presumably at outlying settlements to maximize transport efficiency).

Tribute, defined here as periodic prestations (required or otherwise), is less labor intensive but less regular as well. Tribute may be envisioned as including a certain part of a hunted animal that was due the chief, certain animals such as the first killed as practiced by the Talipoosi (Moore 1988), or certain taxa reserved for elite consumption. Differentiating between resources obtained from provisioning versus tribute presents something of a quandary, since the rules regulating appropriate cuts or taxa could be the same in both cases. On the other hand, provisioning, at least with respect to large mammals, could, given its specialized bulk procurement objective, emphasize total meat bearing anatomical units in contrast to possibly more restricted unit representation resulting from rules of tribute.

Punctuated or periodic mobilization offers a third possible mechanism for providing meat for the elite in situations where large amounts might be required at particular times, such as preparation for large feasts. Intensive procurement paralleling provisioning, and possibly accomplished by specialists charged with feeding the elite, is one possible means for obtaining the necessary meat. Alternatively, a "potluck" approach has been suggested (VanDerwarker 1997; Zeder 1996). The latter is seen as bringing together the readily available food resources to supply the feast. According to Charlevoix (Swanton 1911:122), "Each private person contributes something of his hunting, his fishing, and his other provisions, which consist in maize, beans, and melons" to the midsummer harvest festival held by the Natchez. Provisioning feasts would likely focus on high meat yielding taxa to the exclusion of others, rendering an assemblage with low diversity, while the latter likely would be considerably more diverse and variable from feast to feast (VanDerwarker 1997). Moreover, exploited species would be the most plentiful at the time of year the feast was held, so that menus varied according to seasonal availability.

The constraints on the degree and regularity of animal tribute in whatever form must be seriously considered if we are to develop a model applicable to the Mississippian case. Zeder (1996) has suggested two requirements that must be met for a resource to be a candidate for inclusion in an elite-controlled system: ability of the elite to manipulate production, and ability to move and stockpile the resource so that its distribution can be manipulated to suit the goals of the elite. Spoilage of fresh meat sets serious limits on the extent to which game was a regular component of elite provisioning. Dried meat offers a possibility, although as noted above, the processing involving in drying results in little archaeological evidence, at least at the location of consumption. As Zeder notes, ribs are the one anatomical portion that might be transported with dried meat (with a corresponding increase in transport costs); over-representation of ribs in an elite assemblage would be a possible indicator of acquisition of dried meat. Finally, it should be noted that it is likely that no single mechanism operated in a given society, thus blurring whatever general predictions we might offer regarding archaeological signatures in terms of the composition of taxa and their anatomical representation.

In addition to species and anatomical part representation, there may be differences in the character of the bones themselves, related to the patterns of cooking and other processing employed in different food preparation contexts, although frankly we do not expect that to sort itself out in any simple way. Methods of cooking may differ in different social contexts, although considerable overlap may be expected as well. Ethnohistoric records suggest that roasted meat was served for ritual feasts, for instance the at the Natchez war feast reported by Du Pratz (Swanton 1911:129; also Zeder 1996). Among the Hasinai, a Caddoan group, deer was barbequed (or smoked) to amass a sufficient amount for the feast (Griffith 1954). Greater frequency of burned bone, particularly exposed articular ends would be an indication of roasting. Relatively complete elements would be likely as well. However stews were also a likely component of feasting fare. At the Natchez war feast, both roasted and stewed venison were served (in addition to dog). Zeder (1996) has suggested that stewing would increase fragmentation due to chopping anatomical parts into pieces small enough to fit in the pot. Compared to roasting, this is a reasonable assumption.

The decision to serve roasted or stewed venison might depend on a variety of factors. It is certain that stewing provides the more complete use of prey, and can be stretched by adding more water to the pot. Roasting results in the loss of drippings, and is more likely to emphasize the meatiest limb cuts rather than meat on irregularly shaped bones (i.e., vertebrae) which can best be cooked in a pot. While stewing implies efficient use of available meat to feed participants, roasting implies an abundance of available meat and could be a sign of conspicuous waste, such as might be expected in the context of competitive feasting.

Turning to the domestic side of the question, there is no *a priori* reason to suspect either roasting or stewing to have been the exclusive cooking method. Both stews and roasts could have been consumed. In addition, we would expect to have greater evidence of processing other bone products (marrow, grease) in the form of fragmentary bone than would be expected in a feasting context, where consumption was temporally constrained.

If stewing were employed in both domestic and feasting contexts, preparation in the former is likely to have resulted in greater element fragmentation than would be produced in the preparation of stews for feasts. This assertion is based on the presumption, not entirely without support, that larger cooking vessels would be used for preparing stews for larger groups (feasts). Yellen (1977) notes that pot size determines how much the !Kung butcher their prey. Blitz's (1993) analysis of ceramics from Lubbub Creek Archaeological Locality demonstrates differences in vessel size in the village area versus the mound area, interpreting the greater vessel volume in the latter as reflecting differences in the size of the consuming group participating in public feasts. However, a counter example is provided by Pauketat (1997) who found that vessels used in feasting near Mound 51 during the Lohman phase were essentially the same size as those used in domestic contexts, a pattern that may point to a "pot-luck" method of resource mobilization. In general, it is arguable that larger vessels for larger groups would permit larger pieces of stew meat bones to be included, resulting in less breakage than that resulting from private fare cooked in similar manners. Obviously, the impact of food preparation in different social contexts can be monitored only if degree of fragmentation is recorded and data are collected that permit comparison of the large mammal taxa of interest and the more general taxonomic categories into which the most fragmentary remains would be classified.

Having drawn as much of a dichotomy between feasting and elite private consumption as logic allows, there remains the possibility that other contexts of consumption existed among the Moundville elite. Markin's (1997; also Knight 1992) interpretation that craft production dominated activities on Mound Q suggests a ritualized, though not necessarily public context for meals. Whether or not the meals on Mound Q would qualify as feasts in the sense considered above is unclear. Craft activities, interpreted as a strategy by which the elite maintained and promoted connections with the Mississippian world system and thus their local status, suggests extended periods of use of the Mound Q structure. The craftsmen elite may simply have been served meals as they worked. Of course this does not preclude the possibility that the structure also served as the site for feasts as well.

Previous Research on Moundville Faunal Use

Previous research on Moundville faunal use gives some indication of the nature of elite patterns of meat consumption. Lauren Michels (1992) has reported on faunal samples from several socially differentiated contexts at Moundville, including off mound middens north and west of Mound R, interpreted as elite residential areas. Michels found that anatomical unit representation is indicative of deer provisioning and she identified a positive correlation between social rank and increased representation of upper forequarters and axial remains.

Welch (1991) provides a view of faunal use at a subsidiary center of the Moundville system. Scott Blanchard's analysis of fauna from excavations at the White site, a Moundville III single mound site located 13 km from Moundville, indicates that overall taxonomic contributions to the total sample were not significantly different from those documented for either Lubbub Creek or Michel's sample from Moundville (Welch 1991). Deer body part representation indicates that the elite residing in subsidiary centers were likely being provisioned by other smaller communities, and that at these subsidiary centers hind limbs, in contrast to the pattern reported by Michels, are considerably better represented than forelimbs. Other than fox, no "exotic" carnivores are represented in the White site sample, and no birds other than turkey and a teal sized individual were identified. The White site residents, although presumably at least minor Moundville elite, based on this small sample, appear to have had somewhat restricted access to the species thought to symbolize political and ritual power in Mississippian societies, but were not necessarily engaged in procurement of their own venison. Small sample size, approximately 10 percent by weight of our combined samples from Mounds Q and G, could be a factor in the impoverished species diversity currently documented for the White Site.

Mound Excavations at Moundville

The faunal samples discussed in this report were collected during excavations conducted by the University of Alabama under the direction of Jim Knight, funded by the University of Alabama and the National Science Foundation (Knight 1992, 1995, this report). Five mounds were examined between 1989 and 1994 in order to better understand site chronology and variation in mound function. While all five mounds produced faunal material, excavations at Mounds Q and G encountered substantial flank midden deposits from which were recovered sizable samples, providing the bulk of the data for this study.

At Mound Q, located in the northwest corner of the plaza, excavations included a trench in the western flank, a 4 by 4 meter block in the northern flank, and an excavation block on the mound summit (Knight 1992, this report). Much of the bone was recovered from the northern flank where a thick midden deposit was encountered. A total of five major building stages were identified, dating from early Moundville II through early Moundville III, or approximately A.D. 1250 through 1450. Mound summit excavations disclosed the presence of structures associated with each stage of construction. Knight has determined that the structures have both residential and ceremonial aspects, the latter evidenced by a preponderance of unique ceramic vessels and other exotic artifacts including crude human figurines, stone and pottery discoidals, a variety of pigments, sandstone palettes, a limonite pipe, mica, galena, deliberately smashed greenstone celts, sandstone saws, pottery trowels, and blades made from Ft. Payne chert.

Mound G is located near the southeast corner of the plaza (Knight 1995). Excavations there included a discontinuous trench on the northern flank, one near the summit and the second near the base of the mound. These encountered substantial midden related to four building stages. The first and largest mound addition dates to the early Moundville II period. The remainder are more modest additions, dating from late Moundville II to early Moundville III. Knight has interpreted the mound as having served as a platform for elite residences.

Excavations were also conducted on Mounds E, F and R. Mound R is the third largest mound at Moundville (Knight 1995: 13), and is interpreted as an elite residence mound. Excavations consisted of a discontinuous trench on the western flank of the mound, exposing at least five building stages associated with the latter part of the mounds history, and dating to the late Moundville II-early Moundville III time range. Only a small faunal sample was recovered. Mound F, a mortuary structure located on the eastern margin of the plaza, was investigated by a trench on the western flank (Knight 1995: 26). Stratigraphy suggests two major building episodes during the Late Moundville I and Moundville II phases. Mound E is located across the plaza from Mound Q and is a broad two tiered structure of residential function. Both the south flank and the mound summit were investigated (Knight 1995:52), revealing a large summit structure and building stages dating to Moundville II-III. The analyzed faunal remains were recovered from the flank excavation trench.

Analysis

Excavation produced samples of various sizes (Table 1). The analysis focused on the largest of the mound faunal samples, collected from controlled excavation units in Mound Q and Mound G. Since the two mounds were occupied contemporaneously, but served different functions, i.e., ceremonial structure versus elite domicile, a comparison of the two faunal samples should provide added insights into animal use patterns in elite contexts at Moundville. The samples from the remaining mounds are too small than do more than tentatively corroborate patterns observed in the larger samples. Full faunal inventories are not presented in this report but are available from the authors.

Methods

Prior to analysis, samples from different contexts and recovered via different methods, were prioritized with regard to the intensity of analysis to which they would be subjected. Three kinds of samples were collected during mound excavations (Table E.1). Unsystematically collected "grab" samples of bone were produced from reference trenches. Controlled samples collected using 6 mm screen were collected from stratigraphic control trenches. Fine screen or flotation samples were collected from other proveniences. Each was analyzed separately. Collections from stratigraphic control units were subjected to the most extensive analysis and entered into a computer database for analysis. Fine screen or flotation samples were treated in the same manner, but were kept analytically separate from the 6 mm screened material. Reference trench material was scanned, recording species, element, symmetry, modification, and for some units, specimen weight, primarily to determine whether they contained taxa not represented in the controlled samples. Given collection procedure, these reference trench samples are almost certain biased toward larger specimens, and their use to make quantitative interpretations, such as relative species composition, would be suspect. Certain other proveniences with mixed contexts, small or poorly preserved specimens were treated in a similar fashion. In the following discussion, conclusions reached rely mainly on those patterns apparent in the controlled samples, although scanned materials are referred to in order to augment or evaluate conclusions drawn from the former.

Context	Controlled 6 mm	Finescreen	Scanned Samples
Mound Q	10577	2587	
Mound G	3119	60	544
Mound R	26		
Mound E	506		
Mound F	477		

Table E.1. Samples from mound contexts.

Specimens were identified by comparison to the authors' reference collection, or collections made available by the University of Southern Mississippi, the Museums of Anthropology and Zoology at the University of Michigan, the University of Georgia Museum of Natural History, and the American Museum of Natural History. For each specimen from controlled contexts, attributes recorded included: taxon (to the most specific level possible given the surviving morphological characteristics of the fragment), element, symmetry, fragment size, element portion, degree of ephiphyseal fusion, weight, and modification (evidence of burning, gnawing, butchering, etc.). These were entered into a database and analyzed using dBase and Excel.

Additional data were collected for deer and large mammal remains. When possible, age was estimated for deer elements based on ephiphyseal fusion. Teeth were aged using criteria established by Severinghaus (1949) and by comparison with aged reference specimens of *Odocoileus virginianus borealis* collected at the George Reserve, Michigan, and curated by the University of Michigan Museum of Zoology. Deer element fragmentation was recorded in terms of portion of bone present (<1/4, 1/4-1/2, 1/2-3/4, 3/4-complete, and complete). Elements that could not be positively identified were recorded as more general element categories (vertebra, skull fragment, etc). Unidentified large mammal and very large mammal remains were differentiated. Large mammal data, presumed to be dominated by deer remains too fragmentary to reliably identify as such, were assigned to gross anatomical categories when actual element could not be identified. These categories include longbones (usually shaft fragments), skull fragments, axial remains (ribs and vertebral fragments) and indeterminate fragments (primarily trabecular bone from vertebrae, innominate, or articular ends of longbones). Weights were recorded for these anatomical categories, rather than for the collective large mammal remains from a provenience unit. This allowed greater use of the large mammal component of the collections. For instance, by merging deer and large mammal weight data by anatomical category it is possible to determine whether or not element representation in the deer sample was a function of variably reduced identifiability related to fragmentation (see below).

Assemblage Characteristics

At least 58 species are represented in the collection (Table E.2). The number of identified taxa from different mounds is correlated with sample size; greatest species representation was found in the controlled samples from Mound Q (45 taxa, NISP=10,577) followed by Mound G (34 taxa, NISP=3,119). One additional taxon was identified in the quarter-inch sample from Mound E, while none were added by the small samples from F or R. Although uncontrolled samples were examined specifically to identify additional taxa, only a single taxon (a whooping crane, *Grus cf. Americana*, see below) from Mound Q was added to the species list from these contexts; these samples reflected a collection bias toward larger bones, mainly from deer and large birds.

Several of the identified taxa, including mouse, rat, and frog/toad, are assumed to be commensal. The remaining taxa, including 17 mammalian, 13 avian, 8 reptilian, and 16 piscine, are presumed to have been consumed or used in some other way.

Mound Q

Mound Q produced the bulk of the analyzed collection. The analysis concentrated on control units located on the northern flank midden. More than 10,500 specimens recovered from 1/4 inch screening were examined and systematically analyzed from this context. Of these 9,600, could be identified to class or more specific taxonomic levels. Nearly 2,800 additional bones from flotation samples were analyzed as well, but kept analytically separate from the 1/4 inch material.

Much smaller samples recovered from reference trenches, the west flank excavation and from the summit excavation were examined and attributes were recorded, but were not included

Scientific Name	Common Name
Didelphis virginianus	Opposum
Sylvilagus virginianus	Eastern Cottontail
Sylvilagus aquaticus	Swamp Rabbit
Sylvilagus sp.	Unid. Rabbit
Peromyscus sp.	Mouse
Cricetidae	Mouse
Cricetidae	Rat
Cricetidae	Rat/Mouse
Rodentia	Rodent
Marmota monax	Woodchuck
Sciurus carolinensis	Eastern Gray Squirrel
Sciurus niger	Eastern Fox Squirrel
Sciurus sp.	Squirrel sp
Castor canadensis	Beaver
Procyon lotor	Raccoon
Mustela vison	Mink
Mephitis mephitis	Skunk
Lynx rufus	Bobcat
Felis concolor	Cougar
Ursus americanus	Black Bear
Canis familiaris	Domesticated Dog
Urocyon cinerogentus	Gray Fox
Canidae	Dog Family
Carnivora	Unid Large Carnivore
Carnivora	Unid Medium Carnivore
Bos/Bison	Cow/Bison
Odocoileus virginianus	Whitetail Deer
	Very large Mammal
	Large Mammal
	Medium Mammal
	Small Mammal
Eudocimis alba	White Ibis
Branta canadensis	Canada Goose
Grus canadensis	Sandhill Crane
Grus cf. americana	cf. Whooping Crane
Aix sponsa	Wood duck
Aythya americana	Redhead
Aythya marilla	Greater Scaup
Anatidae	Medium Duck
Buteo jamaicensis	Redtail Hawk
Buteo sp.	Hawk
Falco peregrinus	Peregrine falcon
	Raptor
Meleagris gallopavo	Turkey
Corvus brachyrhynchos	Crow
Ectopistes migratorius	Passenger Pigeon
Passerine	Unid. Songbird

Table E.2: Vertebrate taxa identified in mound samples.

Scientific Name	Common Name
	Unid. Large Bird
	Unid. Medium Bird
	Unid. Small Bird
	Unid. Bird
Chelydra serpentina	Snapping Turtle
Chrysemys picta/Pseudemys floridana	*Painted/Cooter*
Pseudemys/Graptemys/Chrysemys	Painted/Map/Cooter
Terrapene carolina	Box Turtle
Sternotherus sp.	Musk Turtle
Kinosternidae	Mud/Musk Turtle
Trionychidae	Softshell Turtle
Testudines	Unid. Turtle
Coluber/Masticophus	Racer/Coachwhip
Elaphe/Lampropeltis	King/Rat Snake
Viperidae	Viper
Crotalus horridus	Rattlesnake
Serpentes	Unid. Snake
Rana/Bufo sp.	Frog/Toad
Amia calva	Bowfin
Atractosteus spatula	Alligator Gar
Lepisosteus platystomus	Shortnosed Gar
Lepisosteidae	Gar
Ictiobus bubalus	Smallmouth Buffalo
Ictiobus sp.	Unid Buffalo
Moxostoma carinatum	River Redhorse
Moxostoma poecilurum	Blacktail Redhorse
Moxostoma sp.	Redhorse
Catostomidae	Sucker
Pylodictus olivaris	Flathead Catfish
Ictalurus furcatus	Blue Catfish
Ictalurus punctatus	Channel Catfish
I.furcatus/punctatus	Blue/Channel Catfish
Ictulurus melas	Black Bullhead
Ictalurus sp.	Catfish
Ictaluridae	Catfish
Micropterus salmoides	Largemouth Bass
Micropterus dolomieui	Smallmouth Bass
Micropterus sp.	Bass
Pomoxis sp.	Crappie
Micropterus/Pomoxis	Bass/Crappie
Lepomis sp.	Sunfish
Centrarchidae	Unid. Sunfish
Aplodinotus grunniens	Freshwater Drum
Perciformes	Spiny Ray Fish
Carcharhinidae	Shark
Pisces	Unid Fish

Table E.2, continued: Vertebrate taxa identified in mound samples.

in the database, because of biases noted above. Taxon and elements were recorded, and notations made regarding epiphyseal fusion, burning or other characteristics.

Approximately 9% of the quarter-inch specimens from Mound Q control units showed evidence of burning, 80% of which were either deer or large mammal. Burning was recorded for approximately 18% of the fine screen sample. Rodent or carnivore gnawing was observed on 0.8% of the quarter-inch sample.

Deer and Large Mammal

In terms of relative contributions of the 45 identified taxa, large mammals, almost entirely deer, make up the greatest proportion. By count, deer and large mammal comprise 71% of the identifiable portion of the sample; by weight their contribution exceeds 90% (Figure E.1). Deer comprises 15% of the total MNI. Comparison of the relative contributions by weight of major taxonomic groups in quarter inch and flotation samples indicates that there is a slight but insignificant under-representation of fish and small mammals in the quarter inch sample (Figure E.2). The fact is that deer made up the bulk of the meat consumed by participants in Mound Q activities.

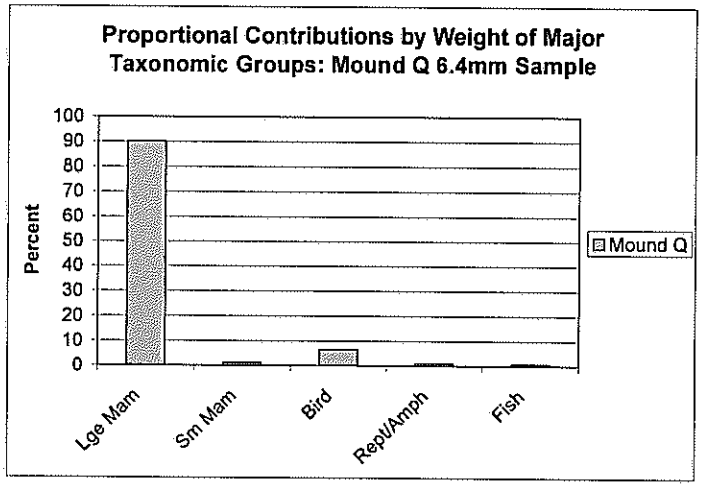

Figure E.1. Proportional contributions by weight of major taxonomic groups, Mound Q 6.4mm sample.

Anatomical Representation. Deer element representation corresponds well with patterns identified in elite contexts by Michels for Moundville and from elite contexts at other Mississippian sites. Element representation was evaluated by calculating the MNE (Minimum Number of Elements) for each element portion (e.g., proximal humerus, distal humerus). Unlike MNI, MNE disregards symmetry and age related structure. These were transformed into MAU (minimal animal units), by dividing MNE by the number of that element or element portion found in a single skeleton. MAU figures were then scaled as a percentage of the MAU of the most common element. Using the percentage MAU, the anatomical units represented in the north flank midden are primarily high utility cuts, specifically upper fore and hind quarters (Figure

E.3). The pattern is corroborated by examining the proportions of anatomical units as measured by count and weight (Figure E.4).

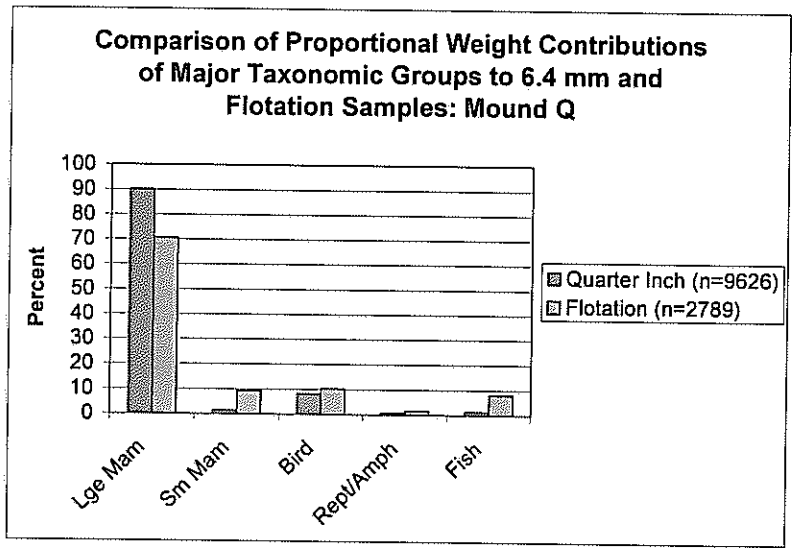

Figure E.2. Comparison of proportional weight contributions of major taxonomic groups to 6.4 mm and flotation samples, Mound Q.

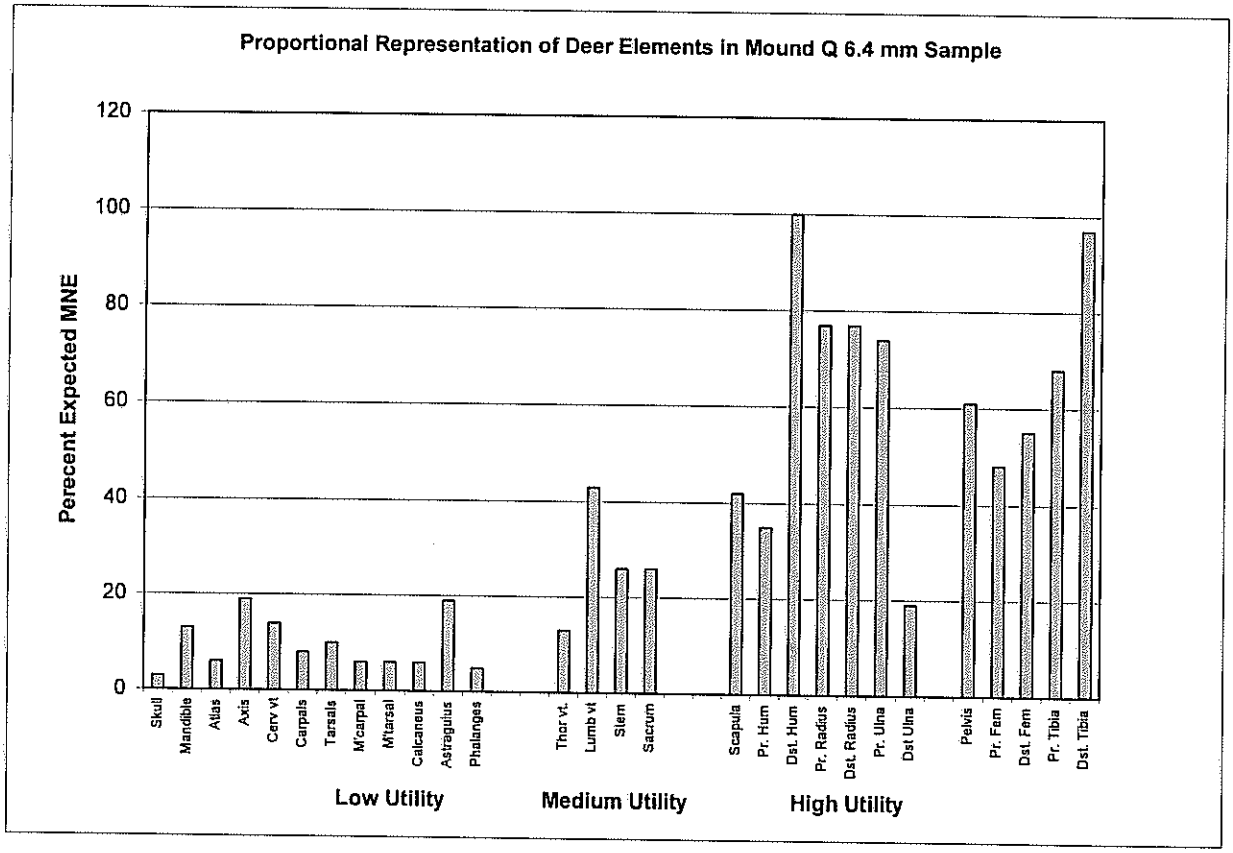

Figure E.3. Proportional representation of deer elements in Mound Q, 6.4 mm sample.

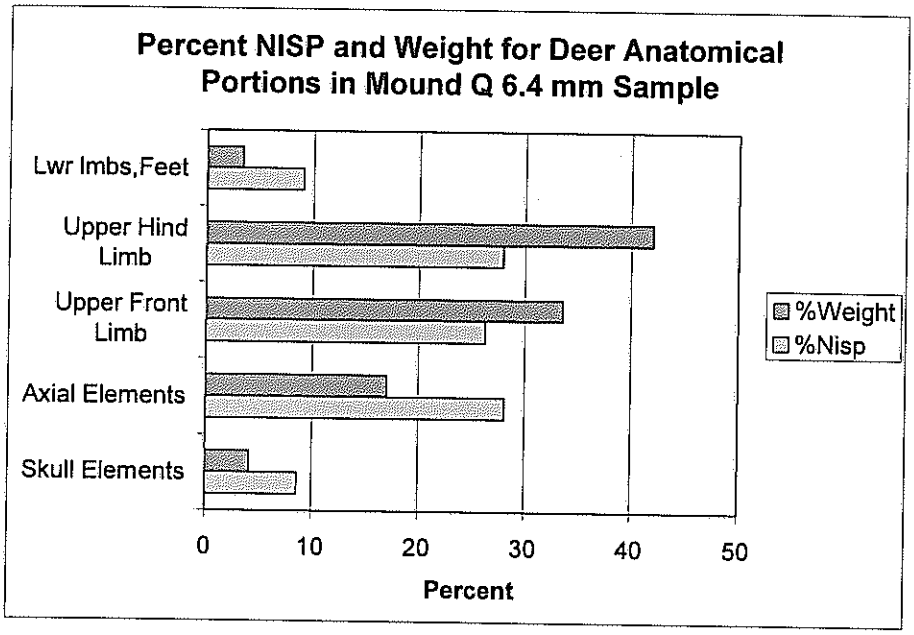

Figure E.4. Percent NISP and weight for deer anatomical portions in Mound Q, 6.4 mm sample.

As Michels noted in her analysis of elite samples from elsewhere at Moundville, forequarters are somewhat better represented than hind limbs. Elements representing low and medium utility cuts or primary butchering debris are decidedly more poorly represented. To test the significance of the percent MAU distribution, it was compared to Binford's (1978) Modified General Utility Index (MGUI) for caribou, using Pearson's rho. There is a significant positive rank order correlation (Pearson's rho=.521, p=.004). Given Lyman's (1985, 1991) concern that taphonomic processes may often be responsible for element representation, element distribution was correlated with bulk density values of deer elements (Lyman 1984, 1991). No correlation exists between the two (rho=.006, p=.977), indicating that bone destructive processes were not significantly involved in the creation of the element frequency pattern. In combination, the positive correlation between percent MAU and MGUI and lack of correlation between MAU and bulk density is what one would predict for sample composition where higher value carcass portions were transported to the locus of consumption.

The dominance of upper limbs in the sample is further substantiated by combining large mammal remains, which were classified according to general anatomical region (Figure E.5). By combining deer with large mammal, the effects of reduced identifiability of deer due to fragmentation is diminished. Proportional contributions by weight are plotted against the relative weights of bones of the anatomical units recorded for a modern deer specimen, indicating in a relative way which portions of the carcass are overrepresented and which are under-represented. As with deer alone, upper limbs are over-represented in the archaeological sample relative to a complete skeleton, while the other three anatomical portions are under-represented, particularly the head and lower limbs and feet. The same pattern is evident in the scanned sample recovered from the mound summit excavation (Figure E.6). Here NISP for each element divided by the element frequency in a complete skeleton is plotted. MNE is not used because of the casual manner of recovery; dividing by expectable element frequency scales the bone fragments

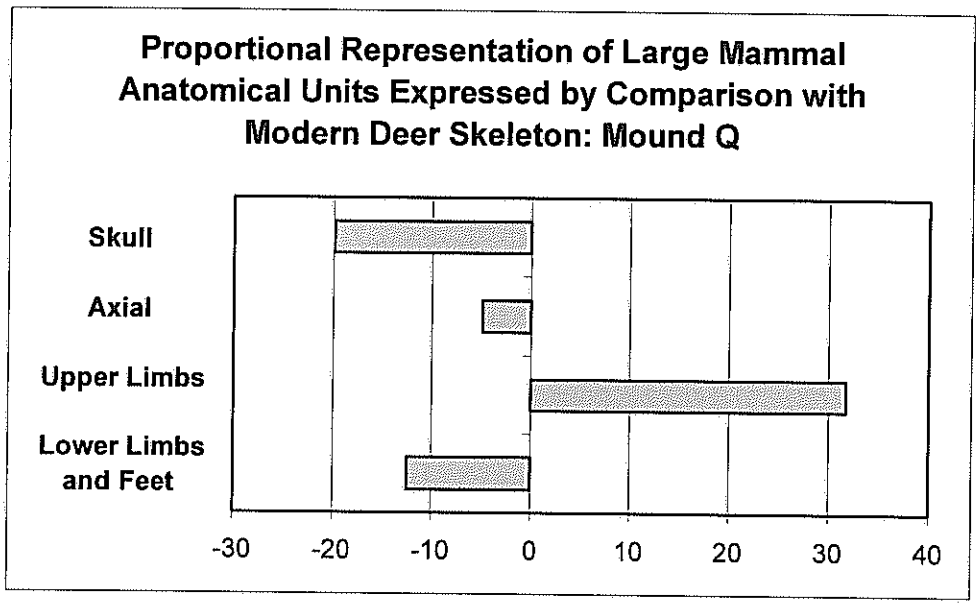

Figure E.5. Proportional representation of large mammal anatomical units expressed by comparison with modern deer skeleton, Mound Q.

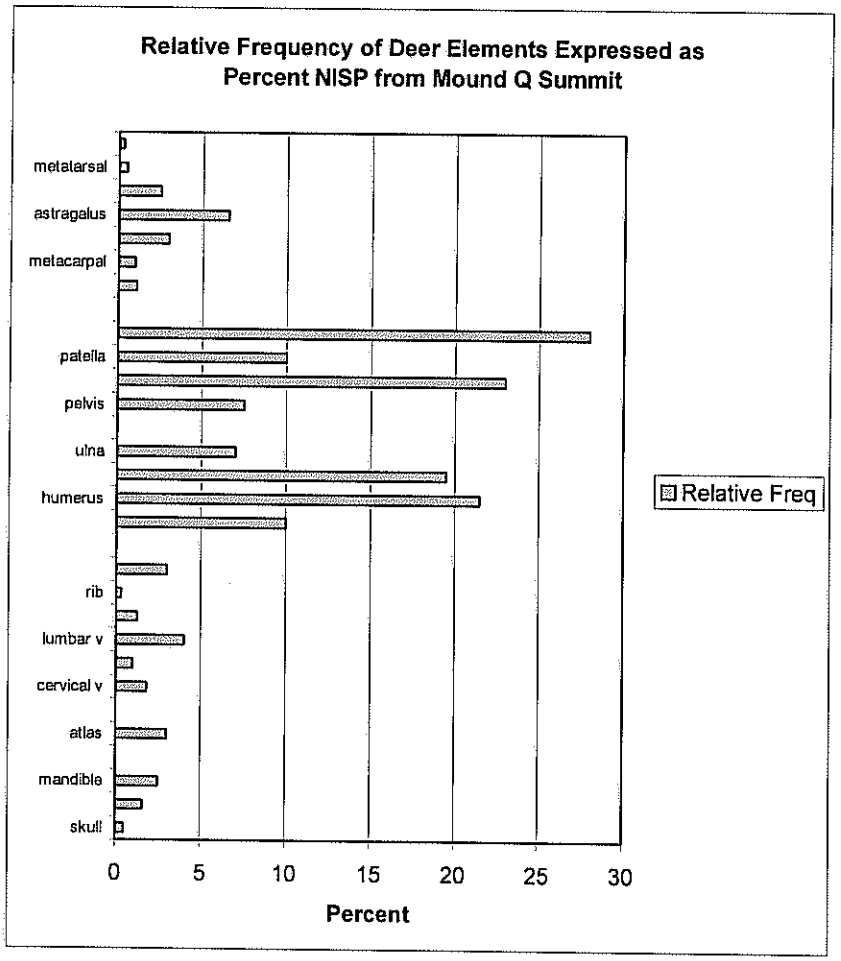

Figure E.6. Relative frequency of large mammal anatomical units expressed by percent NISP from Mound Q summit.

commensurate with representation in complete skeletons. As with the controlled sample from the flank midden, upper limbs are clearly the dominant deer refuse that accumulated in or near the mound summit structures. Hind limbs are somewhat better represented, though element fragmentation has not been taken into account.

Overrepresentation of meat-bearing anatomical units may reflect off-mound primary butchering or else field dressing to reduce transport costs. Yellen (1977: 284) observed that the !Kung rarely carried more than 27-32 kg (60-70 lbs). Field butchering and discard of marginally valued anatomical units would be increasingly expected as transport distance increased. The effects of field dressing can be appreciated by comparing the Mound Q pattern to the deer element data from the Yarborough site, a single structure Mississippian farmstead in west central Alabama (Figure E.7). The somewhat impoverished representation of meat-bearing elements at Yarborough has previously been interpreted as a consequence of provisioning political centers (Jackson and Scott 1995a; Scott 1982).

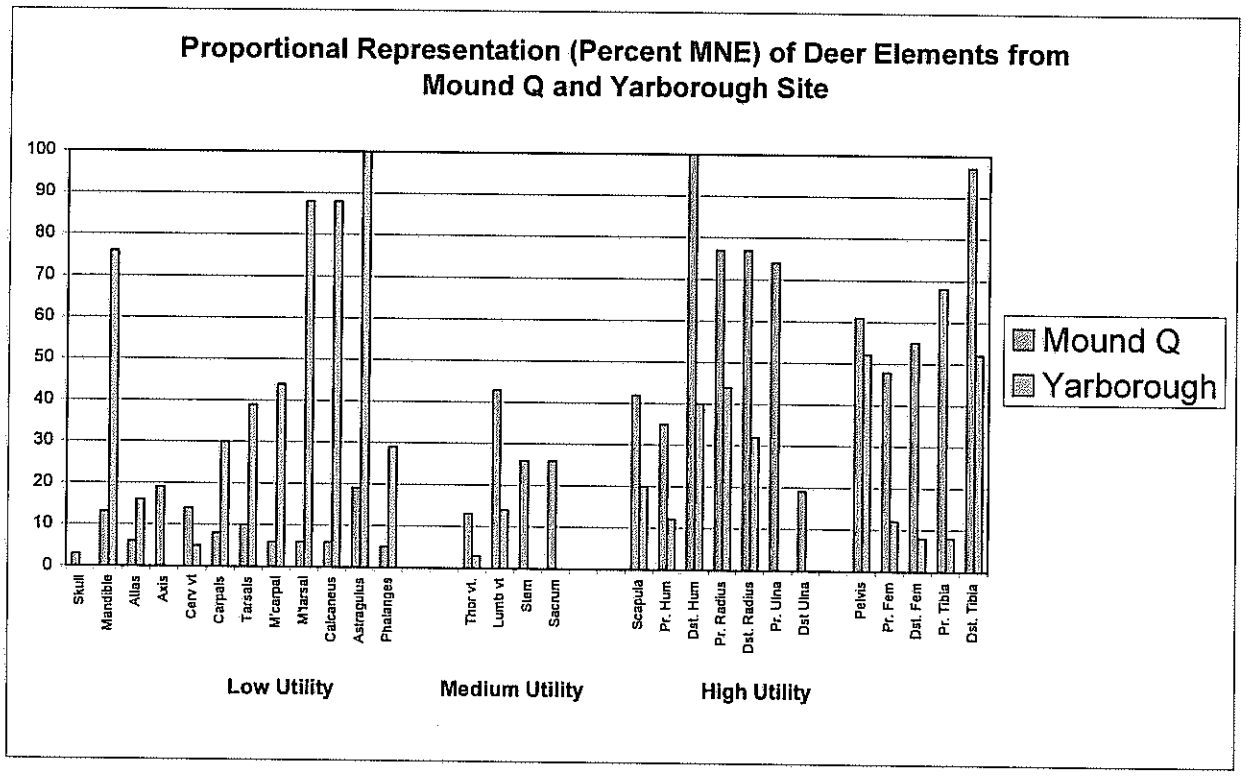

Figure E.7. Proportional representation (percent MNE) of deer elements from Mound Q and Yarborough site.

The apparent preference for forelimbs in Moundville elite contexts runs counter to assessments of differential carcass part utility formulations (e.g. Binford 1978, 1984; Binford and Bertram 1977; Metcalfe and Jones 1988). In addition, hind limbs appear to be from somewhat younger individuals, based on observed patterns of epiphyseal fusion. It should be noted that epiphyseal fusion provides only a coarse estimate of an individual's age. Different elements begin to fuse at different ages, and the fusion process may take months or years, depending on the particular element. Food quality (range condition) and health may also affect fusion. Finally for

white-tail deer the timing of onset of fusion is generally earlier for females than for males, although for archaeologically retrieved elements sex is most often impossible to determine. Age estimates for the present sample are based on fusion data presented by Purdue (1983) for a large sample of white-tail deer from eastern North America. Table E.3 presents the number of fused, fusing, and unfused element portions in the Mound Q controlled sample, as well as the approximate age, when known, at which fusion begins for female white-tail deer. These, then, are the earliest estimates for the onset of fusion, and likely overestimate younger individuals. The data presented in Table E.3 are reorganized in Table E.4, according to order of the onset of fusion. If the elements are derived from animals of roughly the same age, the percentages of fusing or fused bones for successive elements in the table should decrease as a function of the increased age at which fusion begins. While such a pattern is generally evident in the presented data, two notable deviations from the trend are the percentages of fused/fusing proximal tibiae and proximal femora, which are underrepresented. This would suggest that the samples of these hind limb elements include relatively greater numbers of these elements from younger individuals. Thus not only are hind limbs less well represented than meat utility indices would predict, but a greater number of those that are present are from younger animals than would be predicted.

Element	# Fused	# Fusing	# Unfused	Earliest Age Fusing Begins [1]
Prox. Humerus	1	1	11	29 months
Dist. Humerus	23	1	1	2 months
Dist. Radius	13	2	15	20 months
Prox. Ulna	9		6	20 months
Dist. Ulna	3		4	23 months
Pelvis	13			5 months
Prox. Femur	13	1	14	20 months
Dist. Femur	2	1	10	23 months
Prox. Tibia	7	2	22	23 months
Dist. Tibia	23	2	6	17 months
Calcaneum	1		1	17 months
Dist. Metapodials	3		2	20 months
Prox. Phalanges	12		3	5 months

[1] Earliest age of onset of epiphyseal closure for female white-tail deer. Based on Purdue (1983).

Table E.3. Epiphyseal fusion data for Mound Q, controlled sample

The relative frequencies of hind versus forequarters and the difference in individual age are somewhat perplexing. It is possible that there existed a cultural preference that defies more

rationally determined predictions about quality. However, two other (not necessarily mutually exclusive) possible explanations can be proposed. One possibility is that transport considerations were sufficient to warrant tribute or provisioning of smaller, more manageable cuts. Shoulders can be easily removed from the carcass by cutting through the soft tissue behind the scapula, rendering a small meat package of about 5-6 kg. Hindquarters are considerably more difficult to disarticulate and are larger and more irregularly shaped, the latter increasing the difficulty of transporting them. When hindquarters were carried to Moundville, they were more often from younger and presumably, on average, smaller individuals. Such an explanation would account for the greater representation of hindquarters at the White site, since movement of cuts from outlying villages would not be so great. A second explanation focuses on the possible tension that may have existed between hunters and the provisioned elite. By supplying forequarters to the elite, hunters may have abided by the letter of the law in providing the requisite deer "quarter," while maximizing the amount of remaining meat available for their own families.

		Approximate Age in Months					
Element	Aged NISP[2]	> 2	>5	> 17	>20	>23	>29
D Humerus	25	96					
Innominate	13		100				
D Radius	31			80			
D Tibia	30				100		
P Femur	28				46		
P Tibia	31				29		
P Ulna	15				60		
D Radius	30				50		
D Femur	13					23	
P Humerus							50

Table E.4. Estimated age structure of deer in Mound Q controlled sample, based on approximate age epiphyseal closure begins in white-tail deer[1]

Other Evidence of Age Distribution. Age distribution normally can be estimated by tooth eruption and wear. However, the relevant sample size is extremely small, and sheds little light on the veracity of the pattern suggested by epiphyseal fusion discussed above. Using the mandibles, maxillae, and loose teeth in the sample, representing an MNI of nine, estimated ages of 6-8 months (n=1), 15-16 months (n=1), 1.5-2.5 years (n=1), 2.5-3.5 years (n=1), 3.5-5.5 years (n=3), and 5.5-7.5 years (n=1) were obtained. Selection for prime aged deer is suggested by the data, if taphonomic factors are not responsible for underrepresenting younger aged individuals in the sample. Munson (1991) has suggested that younger aged individuals may in fact suffer attrition

from carnivore destruction; however by including loose teeth (which are less susceptible to carnivore damage and certainly less attractive to hungry dogs) in the assessment, we believe have at least partially compensated for this possibility.

Fragmentation. The degree of fragmentation of deer elements was also considered in the analysis. Fragmentation may be a consequence of both cultural practices, such as butchering, rendering anatomical units appropriate for cooking vessels, and processing for marrow and grease, and natural post-depositional factors (Scott 1983:290ff)). Fragmentation of identifiable deer bones were recorded as a fraction of whole elements (Table E.5). Overall, the sample has been

Element	<1/4	1/4-1/2	1/2-3/4	3/4 Complete
Atlas	2 (40.0%)	2 (40.0%)		1 (20.0%)
Axis	2 (6.9%)	22 (75.9%)	4 (13.8%)	1 (3.4%)
Cervical Vert	41 (78.9%)	6 (11.5%)	4 (7.7%)	1 (1.9%)
Thoracic Vert	41 (49.4%)	20 (24.11%)	4 (4.8%)	18 (21.7%)
Lumbar Vert	58 (41.7%)	11 (7.9%)	33 (23.7%)	37 (26.6%)
Ribs	10 (%55.6)	3 (16.7%)	1 (5.6%)	4 (22.2%)
Caudal Vert				2 (100%)
Scapula	24 (53.3%)	9 (20.0%)	7 (15.6%)	5 (22.2%)
Humerus	48 (57.8%)	29 (34.9%)	4 (4.8%)	2 (2.4%)
Radius	58 (65.2%)	19 (21.3%)	7 (7.9%)	5 (5.6%)
Ulna	43 (61.4%)	18 (25.7%)	4 (5.7%)	5 (7.1%)
Carpals		1 (5.6%)		17 (94.4%)
Metacarpals	6 (85.7%)		1 (14.3%)	
Sacrum	5 (50.0%)	3 (30.0%)		2 (20.0%)
Pelvis	45 (78.9%)	2 (3.5%)	7 (12.2%)	3 (5.3%)
Femur	84 (72.4%)	24 (20.7%)	2 (1.7%)	6 (5.2%)
Patella	1 (5.0%)	2 (10.0%)	3 (15.0%)	14 (70.0%)
Tibia	78 (65.0%)	29 (24.2%)	11 (9.1%)	2 (1.7%)
Tarsals				13 (100.0%)
Astragulus	1 (%14.3)	1 (14.3%)		5 (71.4%)
Calcaneum	3 (60%)			2 (40%)
Metatarsals	5 (71.4%)	2 (28.6%)		
Phalanx 1	4 (44.4%)			5 (55.6%)
Phalanx 2	3 (21.4%)	3 (21.4%)		8 (57.1%)
Phalanx 3			1 (20.0%)	4 (80.0%)
Phalanx 1/2	1 (100.0%)			
Metapodial	13 (92.8%)	1 (7.2%)		

Table E.5. Relative degree of fragmentation for deer postcranials calculated as fractions of complete elements: Mound Q.

bones were recorded as a fraction of whole elements (Table E.5). Overall, the sample has been subjected to less fragmentation than comparable assemblages comprised of domestic refuse. Figure E.8 compares the Mound Q deer sample and that from the Mississippian component sample from Lubbub Creek Archaeological Locality (Scott 1983: Table 6). The Lubbub Creek data include samples from both village and mound areas. Comparison is based on the percentage of elements represented by fragments greater than 50% complete. Overall, fragmentation is less in the Mound Q sample (i.e., there are higher percentages of fragments greater than 50% complete). Of particular note is the greater percentage of more complete vertebrae in the Mound Q sample (axis, cervical, and lumbar vertebrae). This suggests that the vertebral column was not subjected to the degree of processing evident in the Lubbub sample. If boiled in stews, vertebrae were simply discarded once the meat fell away, rather than being further processed to render grease, a pattern that would be predicted if feasting contribute to the assemblage. Similarly, phalanges are less fragmented, suggesting that these were more often discarded whole, without being split open for marrow. In contrast, longbones exhibit similar fragmentation at both sites, with only small percentages (less than 15%) greater than 50% complete, indicating that these bones were regularly broken to extract marrow. While marrow could have been casually consumed while bulk meat was stripped away, such a practice would not be an expected characteristic of preparations for a feast. In a similar comparison (Jackson and Scott 1995a) of Lubbub Creek and the Yarborough Site, fragmentation was found to be greater at the latter, suggesting that the intensive processing of bone is associated with domestic contexts, particularly at sites representing the lowest tier in the settlement hierarchy (and presumably the lowest tier of the social system as well).

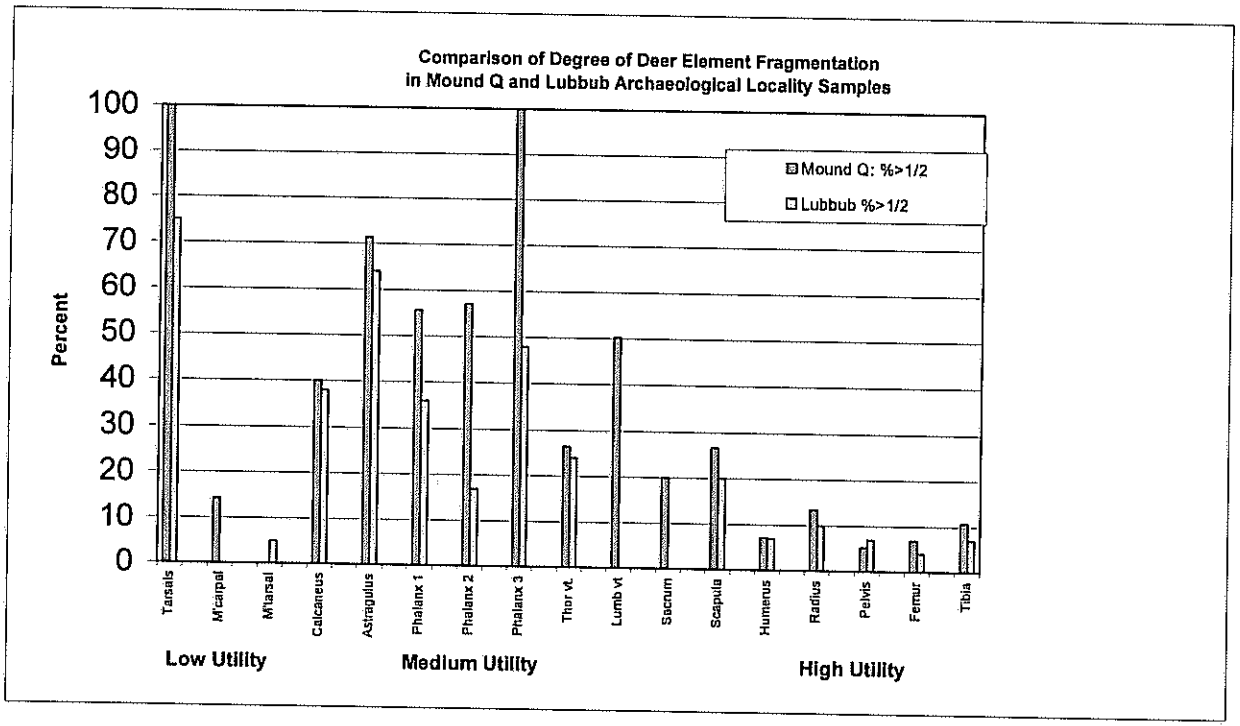

Figure E.8. Comparison of degree of deer element fragmentation in Mound Q and Lubbub Archaeological Locality samples.

Cultural and Natural Modification. Overall, only a small portion of the deer assemblage provided evidence for cultural or modifications. Charring, a byproduct of roasting or as a result of refuse disposal, was recorded for 2.8 percent of the deer element fragments (Table E.6). Elements exhibiting higher percentages of burning include metacarpals, ischia, patellae, calcanei, and phalanges. With the exception of the ischia, the burned fragments could be considered primary butchering refuse and may indicate refuse incineration. However, if left articulated, the observed charring could indicate roasting of entire forelimbs/hindlimbs. A somewhat greater

Element	Number Burned	Percent Burned	NISP
Lumbar Vertebra	2	1.8	109
Scapula	1	2.2	45
Humerus	2	2.4	83
Radius	3	3.4	89
Ulna	2	2.9	70
Metacarpal	2	11.6	7
Ischium	2	14.3	14
Femur	3	2.5	116
Patella	3	15.0	20
Tibia	2	1.8	110
Calcaneus	1	20.0	5
Metapodial	1	7.1	14
Phalanx 1	1	11.1	9
Phalanx 2	3	21.4	14
Phalanx 3	1	20.0	5

Table E.6. Evidence of burning of deer post-cranial elements: Mound Q.

proportion of the unidentifiable large mammal fragments were burned, at 13 percent.

Other cultural modifications to deer remains include butchering marks on the distal shaft fragment of a humerus and an ilium fragment, chop marks on a sacrum, tools made from a radius, four ulnae, and a shaft fragment of a femur, two drilled bone fragments (a distal ulna and distal tibia), and a drilled deer tooth (see below).

Natural modifications include both carnivore and rodent gnawing. A total of 58 deer

Element	Carnivore Gnawing[1]	Rodent Gnawing[1]	NISP
Cervical Vertebra	1 (1.6)		61
Thoracic Vertebra	2 (2.4)		83
Lumbar Vertebra	2 (1.8)		109
Sternebra	1 (20.0)		5
Sacrum	3 (27.3)		11
Scapula	2 (4.4)		45
Humerus	4 (4.8)		83
Radius	4 (4.5)		89
Ulna	6 (8.6)		70
Carpal	1 (6.25)		16
Pelvis	8 (13.6)		59
Femur	13 (11.0)	1 (0.9)	116
Patella	2 (10.0)		20
Tibia	7 (6.4)		110
Lateral Malleolus	1 (10.0)	1 (10.0)	10
Calcaneus	1 (20.0)		5
Phalanx 1	1 (11.1)		9

[1] Percent NISP in parentheses.

Table E.7. Carnivore and rodent gnawing exhibited by deer remains: Mound Q.

fragments (5.6% of deer NISP) exhibited carnivore gnawing, presumably by dogs (Table E.7). Evidence of carnivore gnawing is extremely variable among late prehistoric sites. The frequency here is high compared with other assemblages examined by us. For instance, of 2,271 deer element fragments in the Crenshaw sample, only six (0.3%) exhibited evidence of gnawing (Scott and Jackson 1997). Similarly, at Lubbub, 0.3% of the deer were carnivore gnawed (Scott 1983:290). However, in his analysis of the Dallas phase fauna from the Toqua site in Tennessee, Bogan (1980: Table 9) reports significantly higher rates of carnivore damage, attributable both to gnawing and also digestion (there were no digested bones in the Moundville sample), with 13% of the deer sample having some damage, and some element portions exhibiting rates as high as 66%. Comparing the Moundville data with that from Toqua (Table E.8), it is apparent that overall, much lower rates of carnivore damage are present in the former. Although clearly not as ravaged as Toqua, the slightly higher frequency suggests that the bones wer not immediately buried. In the Mound Q sample, of particular note is a high incidence of gnawing on sacrum fragments,

indicating that these were likely disposed of in the process of butchering with some meat still attached. This would support the contention that a high volume of meat was being prepared at

Element	Percent Gnawed	
	Mound Q	Toqua
Cervical Vertebra	1.6	19.0
Thoracic Vertebra	2.4	4.5
Lumbar Vertebra	1.8	10.2
Sternebra	20.0	0
Sacrum	27.3	Not reported
Scapula	4.4	15.0
Humerus	4.8	52.5
Radius	4.5	11.5
Ulna	8.6	28.7
Carpal	6.25	8.0
Pelvis	13.6	19.6
Femur	11.0	28.6
Patella	10.0	15.0
Tibia	6.4	17.1
Lateral Malleolus	10.0	0
Calcaneus	20	34.5
Phalanx 1	11.1	7.9

[1] Percent NISP in parentheses.

Table E.8. Comparison of gnawing exhibited by deer remains from Mound Q and Dallas phase component at Toqua (Toqua data based on Bogan 1980: Table 9).

least periodically.

Other Mammals

Excluding probable commensal taxa (mice and rats), 13 mammalian species were identified in the Mound Q sample. Squirrels, both fox (MNI=5) and gray (MNI=8), were the most plentiful, followed by, in descending order of abundance (based on MNI), cottontail (MNI=2),

swamp rabbit (MNI=2), raccoon (MNI=2), beaver (MNI=1), mink (MNI=1), skunk (MNI=1), bobcat (MNI=1), cougar (MNI=1), black bear (MNI=1), and domestic dog (MNI=1). The presence of dangerous prey (bobcat, cougar, and bear) is interesting in light of our conjecture that these animals may have had significant roles in the symbolization of power. All three species are represented by either limb or vertebral elements; none are burned or otherwise modified. One of the bear elements, an unfused proximal humerus, exhibited carnivore gnawing. Two additional fragments, a sternebrae fragment and a long bone shaft fragment were noted as possibly bear, but included with indeterminate large mammal. In addition to bone identifiable to particular taxa are two fragments identified as very large mammal, indicating the presence of a taxon larger than whitetail deer. Based on identification of other very large mammal bone in Mound G (see below) as probable bison, it is possible that these bones are from this taxon, although they may have derived from bear.

Birds

Birds, dominated by turkey, comprise the second most plentiful taxonomic category. Turkey comprises 87% of the bird NISP identified to levels more specific than class. Turkey plus unidentifiable large bird constitutes 91% of bird remains measured by NISP and nearly 97% measured by weight. Waterfowl represented in Mound Q include Canada goose, wood duck, redhead, greater scaup, white ibis, and whooping crane (from a reference trench sample), all with an MNI of 1. The white ibis is an uncommon inclusion in southeastern faunal assemblages, particularly from inland sites. Passenger pigeon was represented by 12 fragments (MNI=2), with a thirteenth probably also passenger pigeon, but too fragmentary to positively identify. The whooping crane is provisionally identified, based on size, which is larger than any of the sandhill crane specimens in the ornithological collection curated by the University of Michigan Museum of Zoology. Six bones from raptors were identified, but only one could be identified to species, a redtail hawk.

The preponderance of turkey is of interest since it likely was second only to deer in the amount of meat contributed to meals on Mound Q. Body, wing and leg elements are well represented, although extremities (phalanges, pollex, tarsometatarsus) and skull elements are present as well, indicating that whole turkeys may have been prepared for consumption on the mound. An effort was made to identify the probable sex of each element, based on size (Table E.9). Smith (1975), based on Schorger's (1966) study of the wild turkey, suggests that we should expect kill assemblages to have more females and pre-adults than males, mirroring the composition of flocks and also because gobblers tend to be more wiley and difficult to capture. In Smith's (1975:Table 18) analysis of the sex composition of turkeys from seven Middle Mississippi sites, the average proportion of males was 23 percent. Smith's determination of sex was limited to the presence or absence of spurs on the tarsometatarsus. In the present sample, based on size assessments of all possible elements, males comprise 37% of the controlled sample by NISP, and 40% of the larger sample including bones from scanned proveniences. Calculation of a chi-square statistic for the sex composition of the Mound Q and Middle Mississippi samples indicates that there is a significant difference between the two (chi-square= 6.063, p=.014). Why males are better represented in the Moundville sample is of interest. One possibility is that the elite simply more often received the larger gobblers, particularly for the non-domestic meals on

Mound Q (although the turkey sample from Mound G is essentially identical in composition). A second possibility is that wild poults were raised at Moundville, a practice mentioned as having been observed at contact (Smith 1975:77). If this level of husbandry was present at Moundville, a more even representation of males and females would be an expectable culling strategy, postponing the killing of juveniles until they were full grown. Such a strategy differs from culling domesticated flocks, which likely would emphasize killing males while retaining females for breeding. Attempting to raise turkeys would be a first step in gaining better control over meat production, which as noted above Zeder suggests as being critical for effective provisioning. Unfortunately, to our knowledge there have no attempts to critically examine turkey samples from Mississippian sites with this question in mind, so any conclusion must remain conjecture at this time.

	Male		Female	
Element	Controlled Units	Scanned Units	Controlled Units	Scanned Units
Mandible			1	
Maxilla	1			
Vertebrae	2		5	
Sacrum			1	
Sternum	1			
Scapula	4	1	1	1
Coracoid	5	1	5	3
Humerus	1	5	7	1
Radius	4	1	4	3
Ulna	6		3	
Radial Carpal	1			
Carpometacarpal		1	3	1
Phalanx 1			1	
Phalanx 2			1	
Pollex				1
Pelvis	1		2	
Femur	3	8	3	4
Fibula	1		2	
Tibiotarsus	5	5	7	7
Tarsometatarsas	2	1	7	4
TOTALS	32	21	53	26
TOTALS/Sex	53		79	

Table E.9. Turkey elements identified according to sex: Mound Q.

Reptiles and Amphibians

A variety of turtles, including snapping turtle, aquatic emydids, box turtle, musk turtle, and softshell turtle, are represented by carapace and plastron fragments. Box turtle is the most common, based on both NISP and weight, followed by softshell turtle. Only two snake taxa were identified, including coachwhip or racer, represented by two vertebrae, and a viper represented by 4 vertebrae. A single frog or toad element may represent a commensal inclusion rather than the remains of a meal.

Fish

Fish make a minor contribution to the meals on Mound Q (Figures E.1, E.2), compared to large mammal or large bird. However, the sample is diverse. The single most abundant species is freshwater drum, comprising 16% of fish MNI (Figure E.9). Suckers, including blacktail redhorse, river redhorse, and smallmouth buffalo comprise nearly 29% of the sample. The catfish family (25% of the fish sample) is represented mainly by blue and channel cats, and a single black

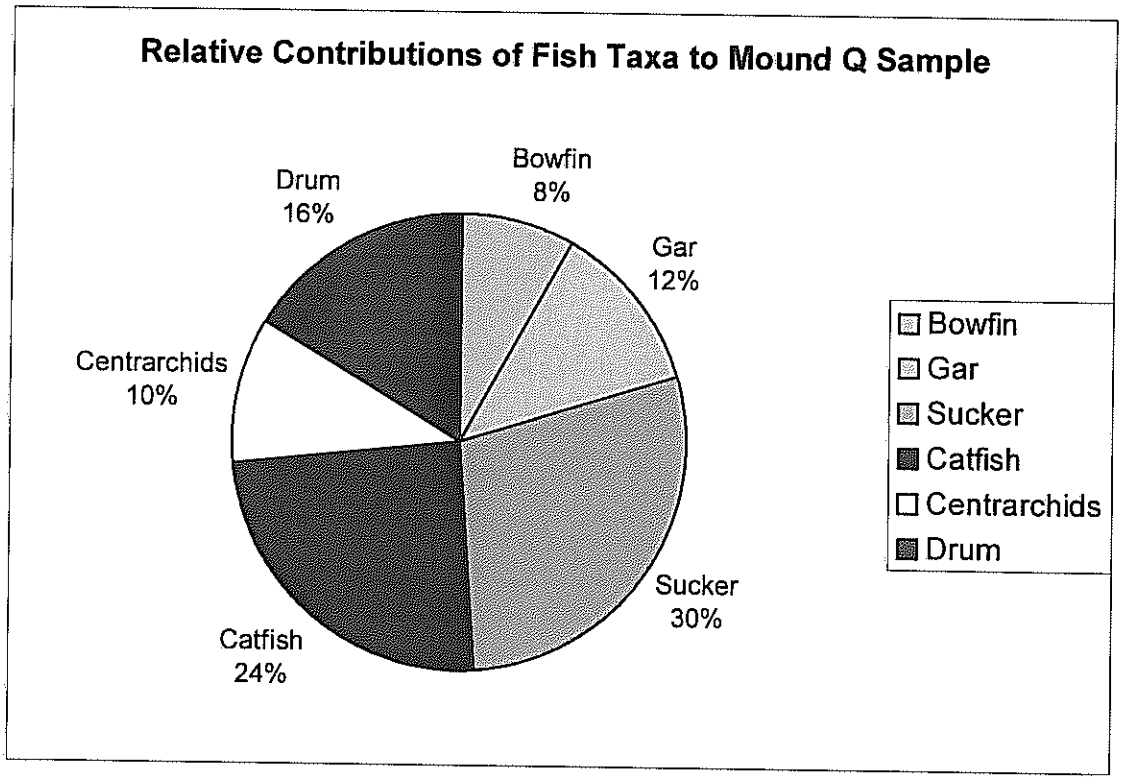

Figure E.9. Relative contributions of fish taxa to Mound Q sample.

bullhead. Gar, which comprise 12% of the sample, include both alligator gar and short nosed gar. Four scales were identified as well as the skeletal elements used in calculating taxon percentages. The remaining 20% of the fish MNI is comprised of bowfins and largemouth bass,

and possibly other centrarchids. Fish sizes were estimated by comparing archaeological specimens with comparative specimens of known lengths, and grouped in 5, 10, or 20 cm intervals, depending on how comprehensive the comparative collection was for a particular taxon, as well as how specifically a particular specimen could be identified. Length measurements refer to standard length (body length minus the tail). Modal body length for most taxa falls within the 30-45 cm range, although certain taxa, including gar, redhorse, and channel/ blue catfish all had individuals in excess of 55 cm, and one alligator gar specimen was from an individual greater than 100 cm in length. A general emphasis on river channel fishing is indicated by fish species composition, casting doubt on the idea of fishing in borrow pit ponds. It is likely that fishing provided a greater contribution to the meals on Mound Q during the summer months, assuming year-round occupation by elite artisans, although no data on this issue were collected.

A comparison of quarter-inch and fine screen samples indicates that the former likely underrepresents fish in the smaller size ranges (Figure E.10). As noted, in the quarter-inch sample modal size ranges is 30-45 cm. Fish larger than 50 cm were only recorded for the quarter-inch sample. Modes in the fine screen sample occur in the 15-20 cm range and, similar to the quarter-inch, at the 25-35 cm range. Fish in the 5-10 cm range occur only in the fine screen samples. However, these make up a small percentage of the sample and may simply reflect the stomach contents of larger fish that were prepared for consumption at Mound Q.

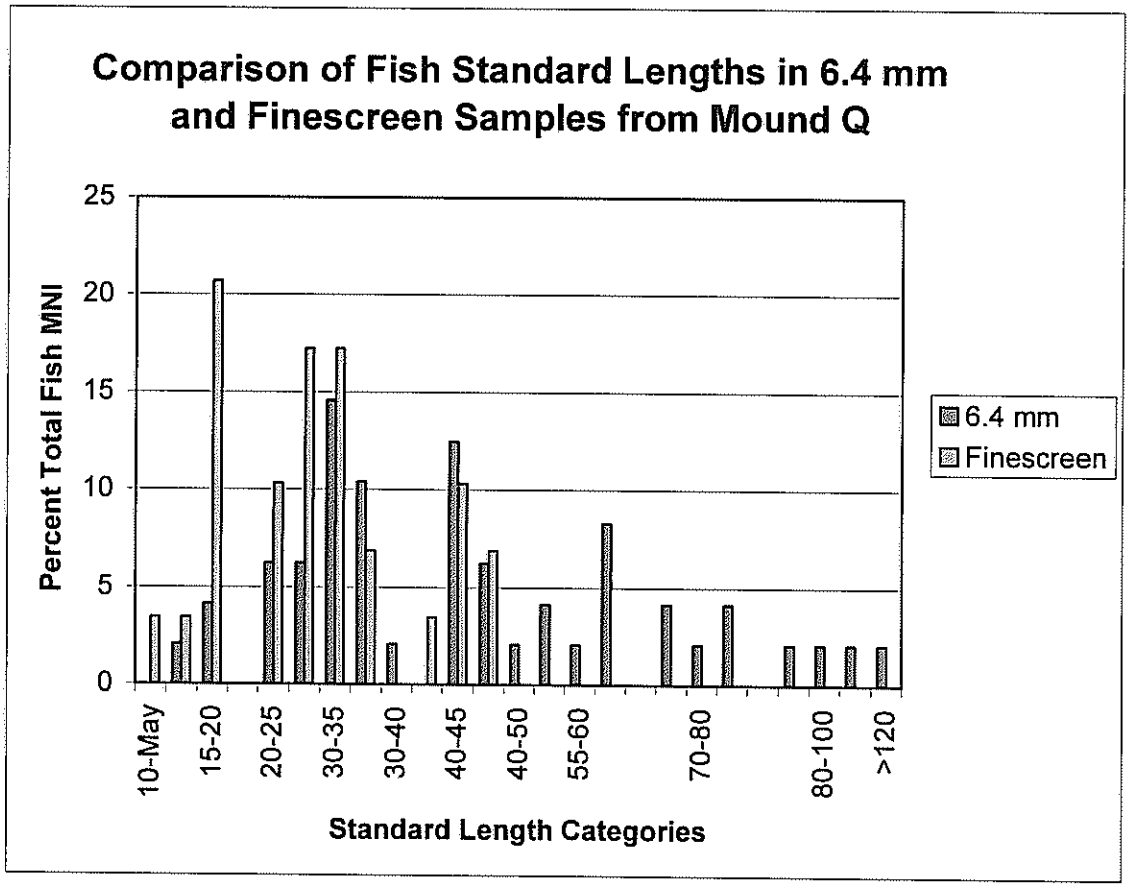

Figure E.10. Comparison of fish standard lengths in 6.4 mm and fine screen samples from Mound Q.

Seasonality

A few bones provide some evidence for the seasons during which the Mound Q structure was occupied. A number of juvenile deer post-cranial elements from individuals 4-6 months in age suggest late fall-early winter, assuming an early June birthing period. In addition, a pair of frontals with the antlers chopped off, recovered from a reference trench, represents a mature deer killed during fall or winter. One small unfused distal femur represents a fawn estimated to have been 1-3 months in age, indicating late summer-early fall hunting. A carpal 4 was aged at 3-4 months (based on size), indicating early fall. A bird long bone fragment with medullary bone indicates a spring kill (e.g., Monks 1981). An unfused humerus from a young beaver indicates spring or summer. Finally an unidentified long bone from either a juvenile bird or mammal also points to spring or summer. While the data are scant, it would appear that the activities on the mound summit occurred year round.

Bone Artifacts

A variety of bone artifacts were identified in the mound Q sample, including tools or other implements, bones used as tools, and several bones exhibiting staining from ochre. Implements include two bone pins, one made from a large mammal long bone shaft and the other from a deer lateral metapodial. Nine awls were identified, three from the proximal portion of turkey tarsometatarsals, three from deer proximal ulnae, and three fashioned from bone splinters. A deer ulna and a deer rib were modified into spatulate shaped tools. One deer lower second incisor exhibited battering and flaked enamel, as if used as a chisel. A deer radius showed evidence of abrasion and two other large mammal long bone fragments exhibited areas of polish. Four bones were drilled, a deer tooth, a large bird humerus, an unidentified bone and a turkey coracoid. The coracoid had an unidentified apparent adhesive around the hole. Three bones were stained with red ochre, a deer distal ulna, a turkey humerus, and a large mammal long bone fragment. Whether these were used to mix pigments or were intentionally painted remains conjectural. Two large mammal long bone fragments were worked, possibly debitage from bone implement manufacture and a third is obviously battered. Finally, several fish spines appear to have been sharpened and polished, including a blue catfish pectoral spine, a drum dorsal spine, and a perciformes dorsal spine. Two or three others appeared suspiciously sharp, but modification could not be positively determined.

The range of bone artifacts suggests that among the activities in the Mound Q structure were the use of bone tools in manufacturing tasks as well as the production of implements or other paraphernalia out of bone. This observation corroborates the interpretation of lithic material that suggests an emphasis on craft production by the occupants. However, other bone artifacts suggest a more esoteric focus as well. The ochre-stained bone could represent byproducts of ritual activities, and the sharpened fish spines suggest their use as tattooing instruments.

Summary

The general composition of the sample shares some characteristics with feasting refuse,

although the deer element profiles and general diversity of the assemblage are not consistent with the expectation that bulk meat was the ultimate goal. Primary contributions were made by large and relatively abundant animals, in this case deer and turkey. Receipt of venison was in the form of meatier cuts, more often shoulders than hind limbs and only rarely as whole carcasses, as indicated by the paucity of primary butchering debris. Fragmentation data suggests relatively less intensive bone processing than might be expected in domestic contexts (as compared with the Lubbub Creek data), though more marrow extraction is indicated by long bone fragmentation than might be expected in a feasting context. These observations fit well with the interpretation by Knight that the structures on Mound Q served a ceremonial function, although the activities therein, including lithic craft production (Markin 1997) and manufacture of bone items as well, suggest sustained, extended food consumption rather than attenuated feasting events.

While it is clear that the deer sample was represented largely by meat-bearing elements, there are nonetheless scant primary butchering remains recovered from Mound Q. It is certainly possible that these simply represent refuse discarded prior to mound construction and subsequently incorporated into mound fill. Since there was no noticeable difference in their quality of preservation, it is also possible that in certain circumstances deer were required to be butchered on site, perhaps by a priest, and perhaps for meals attached to specific rituals.

Despite their minor contributions to meals, a number of taxa in the Mound Q samples are indicative of the elite context in which they were consumed. Among the unusual animals represented are cougar, black bear, white ibis, redtail hawk, passenger pigeon, and some unknown number of passerine taxa, fitting well with predictions about the profile of rare taxa in elite refuse. Of these, only passenger pigeon is represented by more than two bones.

Chronological Trends in Mound Q Faunal Samples

To this point the faunal remains from Mound Q have been considered as a single unit. However, ceramic and other evidence permits certain contexts to be differentiated into Moundville II and Moundville III phase sub-samples. Approximately 73% of the Mound Q quarter inch sample from controlled units placed in the north flank midden could be assigned to either Moundville II or Moundville III contexts, with the resulting sub-samples totaling 3,750 and 3,986, respectively.

Little difference is apparent in the bone from Moundville II and Moundville III contexts. Taxonomic contributions were essentially the same during the two phases (Figure E.11). Proportional representation of deer elements measured by %MAU is quite similar (Figure E.12). Comparison of large mammal anatomical unit bone weights with that of a modern reference skeleton (Figure E.13) suggests that if there is any change at all, it is apparent in a decrease in the contribution made by axial meat cuts of deer and correspondingly greater representation of long bones.

With respect to species representation in Moundville II and Moundville III contexts, no obvious differences can be discerned. Very large mammal was identified in both contexts, as were most small mammals. Bear was identified only in Moundville II contexts; the other two large

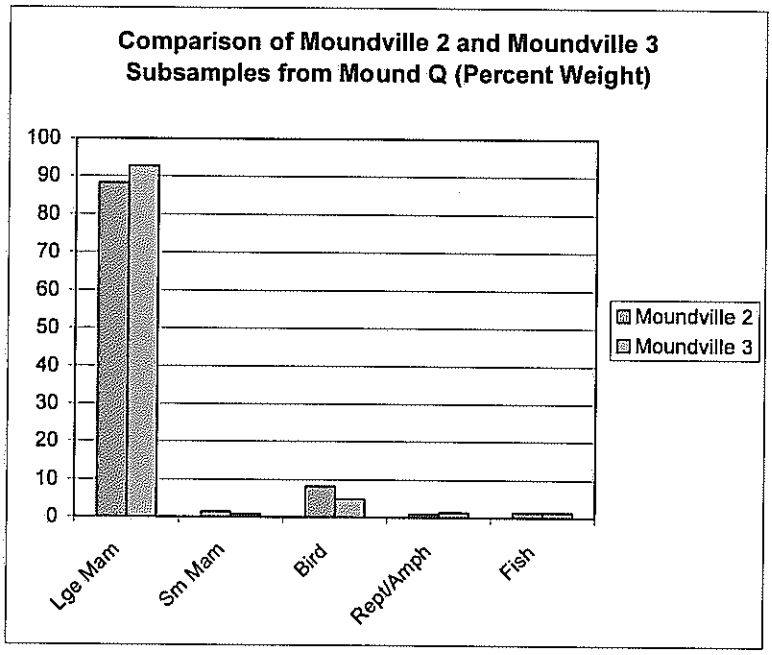

Figure E.11. Comparison of Moundville II and Moundville III subsamples from Mound Q (percent weight).

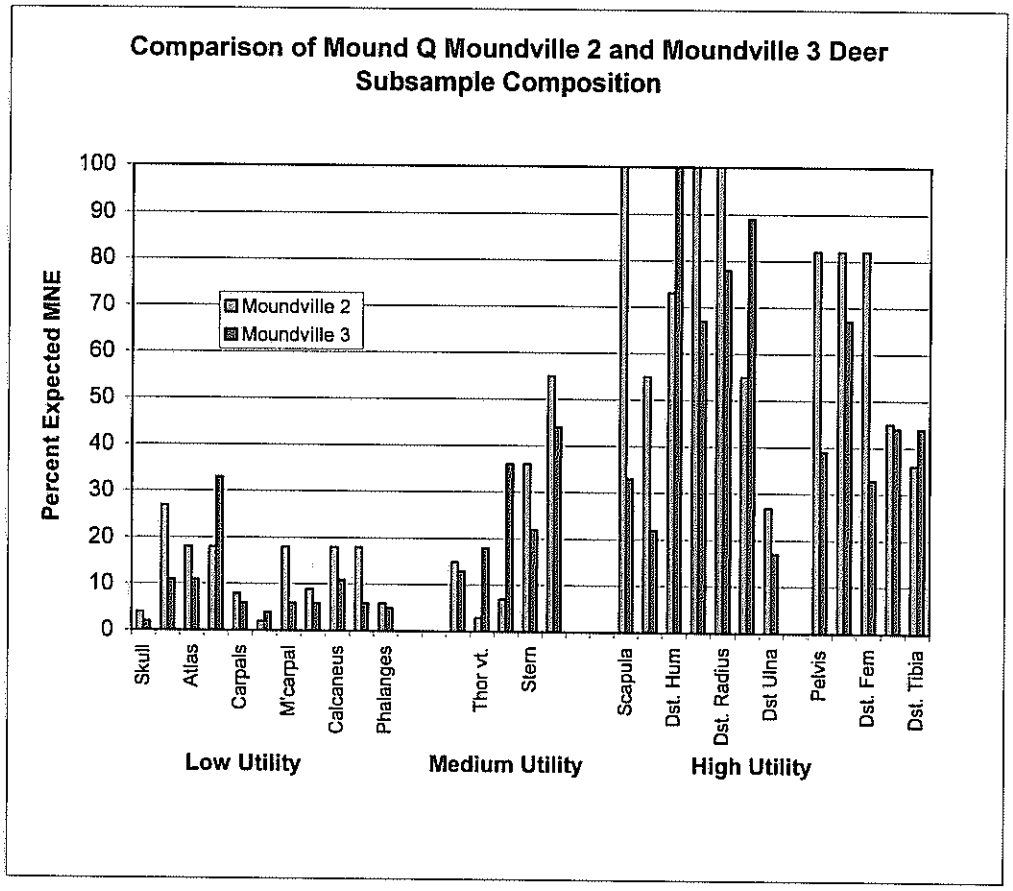

Figure E.12. Comparison of Mound Q Moundville II and Moundville III deer subsample composition.

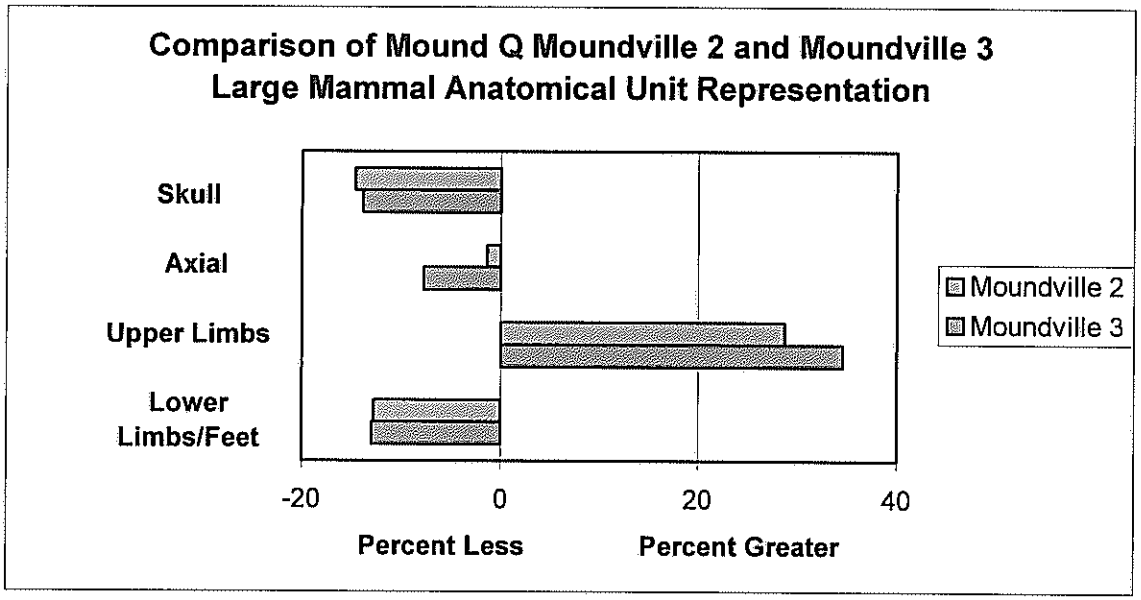

Figure E.13. Comparison of Mound Q Moundville II and Moundville III large mammal anatomical unit rerepresentation.

carnivores, bobcat and cougar, unfortunately were recovered from contexts that could not be assigned to a particular phase. Passenger pigeon, redtail hawk and other raptor bones, ducks, geese, and passerine elements also are associated with both phases. The white ibis element was collected from an undated provenience.

Among the most interesting shifts in the relative composition of the Moundville II and III samples is found in squirrels. Fox squirrels are more likely to be found in open habitats, while gray squirrels inhabit woodland settings. Following the arguments outlined by Scott (1983), the ratio of the woodland to open environment species can be used to monitor possible local environmental changes related to land clearance and agriculture. Scott (1983) found significant decreases in the ratio of gray squirrel to fox squirrel and of swamp rabbit to cottontail from Late Miller III to Mississippian phases at Lubbub, corresponding to an increased representation of domesticated taxa in the archaeobotanical record. The shift in animals was interpreted as reflecting an increase in land clearance for food production in the area surrounding the Lubbub community. In the Moundville case, just the opposite pattern is exhibited. The ratio of fox squirrel to gray squirrel (based on NISP) increases from .85 (35:41) in Moundville II to .09 (5:51) in Moundville III. It is understood that early Moundville II is included in the peak in mound construction and residential activity at Moundville, with much of the mound construction ceasing after the beginning of Moundville III. If the latter corresponds to greater population dispersal, the increase in woodland adapted taxa could reflect the regrowth of forest on abandoned fields in the vicinity of the site. Alternatively, it could reflect a depletion of local fox squirrel populations increased hunting in the woodlands beyond the core agricultural region, perhaps as a consequence of increased (provisioning?) demands. However, as Speth and Scott (1989) argue, it is likely that increased hunting range would correspond with a reduction in the procurement of smaller taxa. Finally, it should be noted that cottontail outnumbers swamp rabbits nine to one in Mound Q.

The absence of identified swamp rabbit in Moundville II contexts prevents a similar comparison, although the presence of swamp rabbit only in Moundville 3 samples could provide a similar indication of increased forest coverage. It should be kept in mind that these speculations are based on extremely small samples.

Mound G

The Mound Q sample conforms well to expectations about elite faunal use in ceremonial or ritual contexts, though does not meet our expectations regarding feasting *per se*. In Mound G, interpreted by Knight as serving an elite residential function, we would predict that fauna should be relatively diverse and contain a wide range of rare or unusual taxa. In fact, our sample of 3,300 identifiable bones from mound flank midden units are essentially identical in general composition to that from Mound Q (Figure E.14). Large mammals comprise the vast majority of the sample, followed again by bird, primarily turkey. It is only in some of the details that we can distinguish certain differences that we interpret to be related to its domestic context.

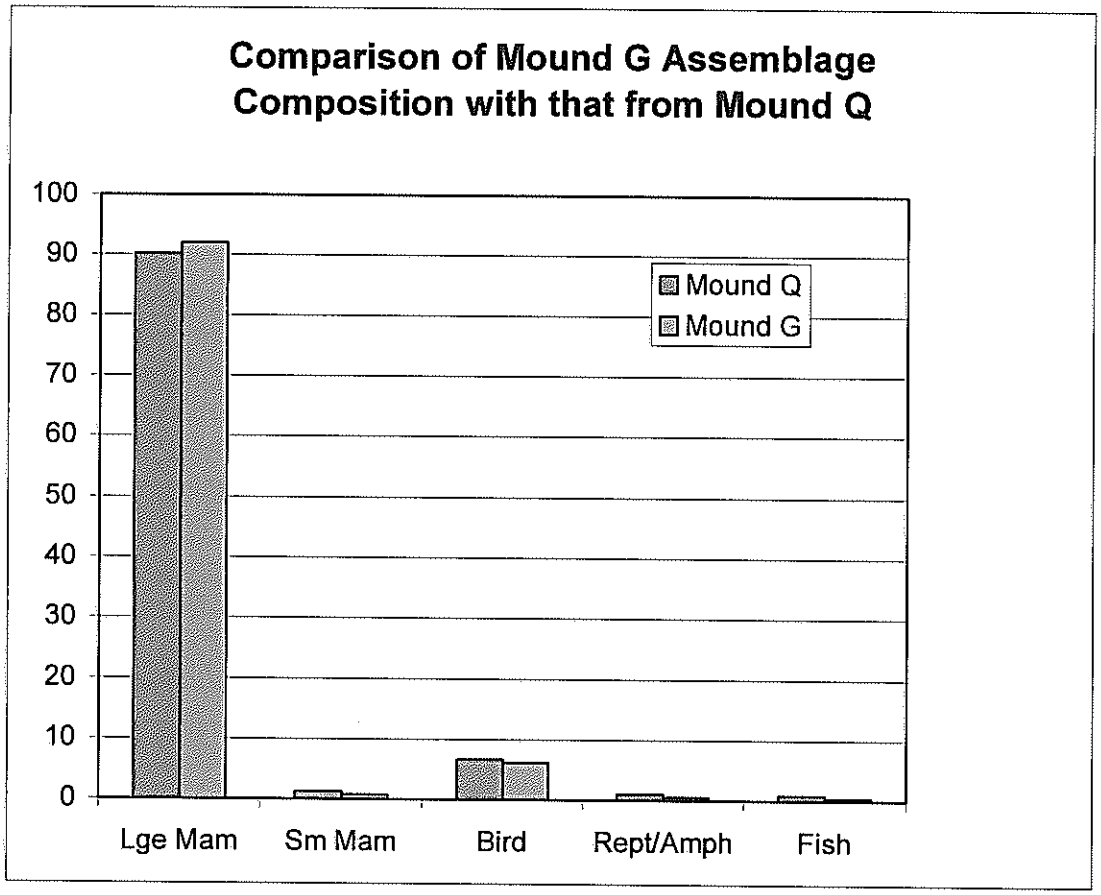

Figure E.14. Comparison of Mound G assemblage composition with that from Mound Q.

Deer

Comparison of deer element representation from Mound G with that of Mound Q indicates very similar patterns (Figure E.15). Hind limbs are better represented in Mound G.

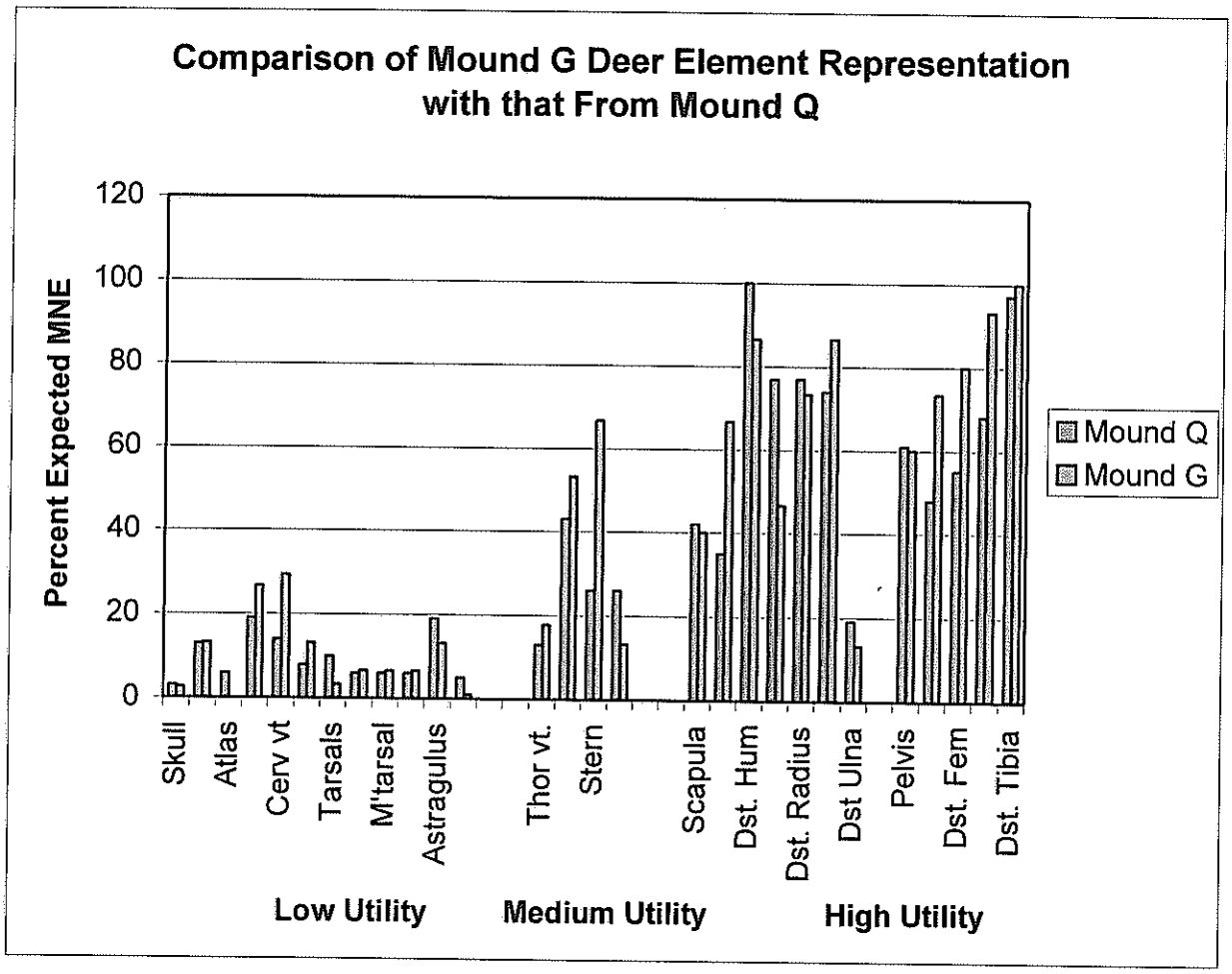

Figure E.15. Comparison of Mound G deer element representation with that from Mound Q.

Somewhat better represented in Mound G is lower axial material--vertebrae and sacrum--suggesting that domestic fare included a somewhat wider range of cuts than were consumed on Mound Q, or else less destruction of this portion of the skeleton. The lumbar region contains the "tenderloin" (the source of filet mignon). As indicated earlier, axial elements were also well represented in non-mound elite contexts north of Mound Q. The possibility that attrition is responsible for the pattern was evaluated by comparing percent MAU first with bone density and then with MGUI, as was done for the Mound Q sample. Again, there is no correlation between %MAU and density (Pearson's Rho=0.02) and there is a positive correlation between %MAU and MGUI (Pearson's Rho=0.66). We also compared the relative weights of anatomically grouped specimens to that of a modern deer, indicating that, overall, upper limbs are overrepresented while other units are underrepresented.

One surprising aspect of the deer sample from Mound G is the greater proportion of relatively complete elements. Recognizing that smaller sample size may be a factor, nonetheless, breakage is less apparent (Table E.10). Figure E.16 compares the percentage of each element represented by fragments more than half complete. Almost every element has a higher percentage of more complete bones than were recovered from Mound Q. This is the opposite of

Element	<1/4	1/4-1/2	1/2-3/4	3/4 Complete
Axis	1 (50%)			1 (50%)
Cervical Vert	17 (68%)	1 (4%)	1 (4%)	6 (24%)
Thoracic Vert	20 (40%)	13 (26%)	1 (4%)	15 (30%)
Lumbar Vert	39 (68.4%)	3 (5.3%0	2 (3.5%)	13 (22.8%)
Vert?	11 (84.6%)	2 (15.4%)		
Scapula	6 (42.9%)	4 (28.6%)	4 (28.6%)	
Humerus	15 (53.6%)	12 (42.9%)		
Radius	12 (57.1%)	4 (19.0%)	2 (9.5%)	3 (14.3%)
Ulna	10 (55.6%)	4 (22.2%)	1 (5.6%)	3 (16.7%)
Carpals		1 (50%)		1 (50%)
Metacarpals				1 (100%)
Sacrum		1 (100%)		
Pelvis	31 (89.7%)	3 (7.7%)	1 (2.6%)	
Femur	39 (79.6%)	8 (16/3%)	2 (4.1%)	
Patella				7 (100%)
Tibia	33 (73.3%)	7 (15.6%)	5 (11.1%)	
Tarsals				4 (100%)
Astragulus				2 (100%)
Calcaneum		1 (100%)		
Metatarsals	3 (75%)		1 (25%)	
Phalanx 1		2 (50%)		2 (100%)
Phalanx 2				
Phalanx 3				1 (100%)
Metapodial	3 (100%)			

Table E.10. Relative degree of fragmentation for deer postcranials, calculated as fractions of complete elements: Mound G.

what we might expect in a comparison of Mound Q ceremonial food consumption versus domestic refuse.

To explore the possible effects of processing or other attritional process on the Mound G and Mound Q samples, chi-square tests were performed comparing the amounts of deer and large mammal in the two samples, with the assumption that with increased processing larger amounts

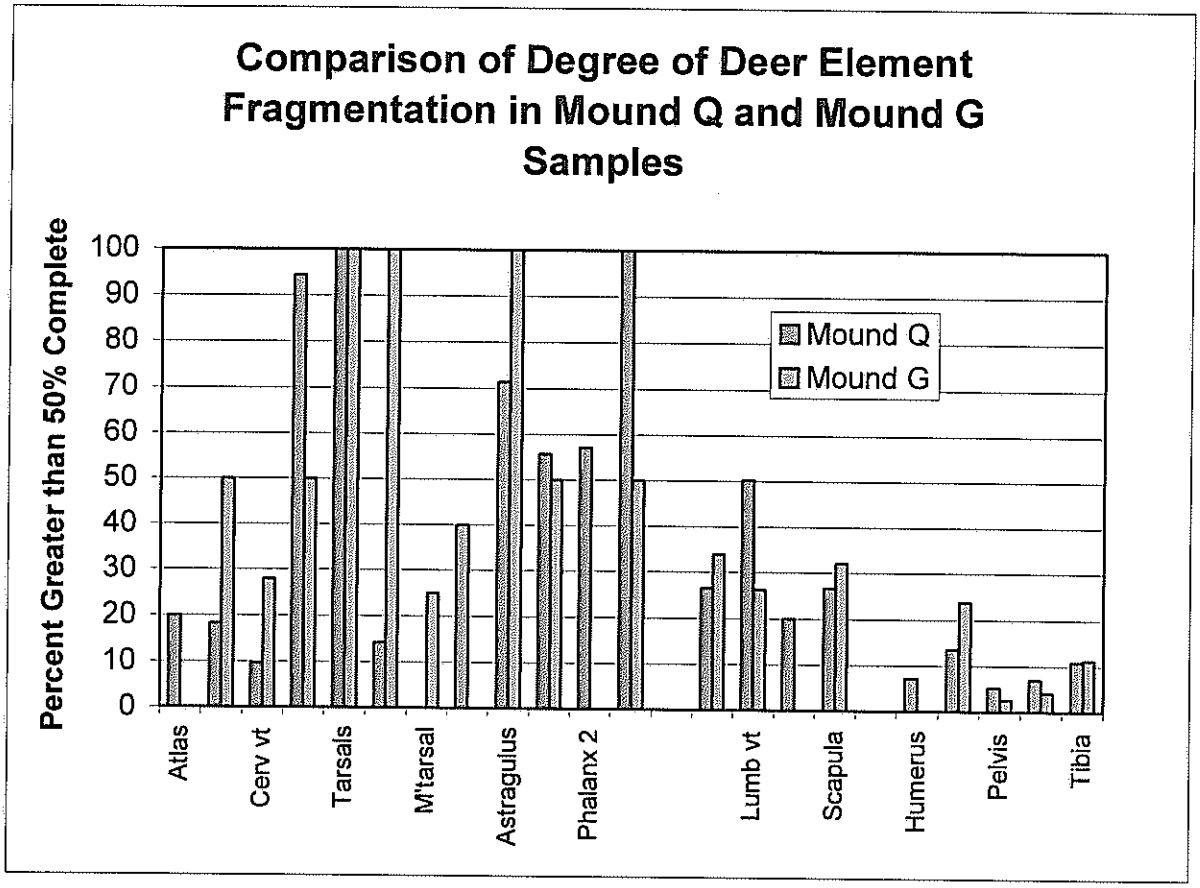

Figure E.16. Comparison of degree of deer element fragmentation in Mound Q and Mound G samples.

of deer are shifted to the large mammal category as a consequence of increased fragmentation. Looking both at NISP and bone weight, the differences between the samples are significant, indicating that there is relatively more large mammal in Mound Q than can be attributed to chance alone. For bone weight, chi-square equals 10.43 ($p=.002$, $df=1$), while for NISP chi-square equals 7.09 ($p=.008$, $df=1$). The pattern indicates more thorough bone breakage in the Mound Q sample, suggesting that private elite meals depended less on the products of bone processing than did those associated with Mound Q. Alternatively, other taphonomic processes (carnivore destruction, trampling, etc) may have played a greater role on Mound Q.

Age profiles, again relying on the rough estimates provided by epiphyseal fusion, since few intact teeth, much less tooth rows, were collected, indicates a somewhat younger profile than exhibited in the Mound Q sample (Table E.11). An MNI of only four, based on mandibles, maxillae, and loose teeth, represent individuals 1.5-2.5, 3.5-5.5, 5.5-6.5, and 6.5-7.5 years in age, adding little to our understanding of age-based selection for deer.

Carnivore gnawing was observed on five deer specimens. No rodent gnawing was noted. Evidence of butchering included cut marks on a humerus and a chopped sacrum. An additional humerus from a reference trench exhibited chop marks. A single deer bone tool, an ulna awl, was identified.

		Approximate Age in Months					
Element	Aged NISP[2]	> 2	>5	> 17	>20	>23	>29
D Humerus	12	100%					
D Tibia	13				92%		
P Femur	10				60%		
P Tibia	13				46%		
P Ulna	8				37.5%		
D Radius	9				78%		
D Femur	9					33%	
P Humerus	6						50%

[1] Based on Purdue (1983).

Table E.11. Estimated age structure of deer in Mound G controlled sample, based on approximate age epiphyseal closure begins in white-tail deer[1]

Bison

Three elements in Mound G were identified as possibly bison. The three elements, a metatarsal, a lateral malleolus, and a first phalanx, were identified based on comparison with specimens at the American Museum of Natural History. All of the elements are from an individual too young to be absolutely certain of our provisional identification. Two additional specimens, a rib fragment and an indeterminate fragment, were identified as very large mammal. These remains could be written off as intrusive cow were it not for clear aboriginal skinning marks running perpendicular to the shaft of the first phalanx. The possibility that bison were consumed at Moundville is strengthened by the identification of two fragments in the Mound Q sample as very large mammal. The only other possible candidates are bear, which frequently can be recognized on the basis of surface texture, and elk, which are absent from late Holocene archaeological assemblages as far south as central Alabama. Based on size and morphology, bovid is the most likely candidate.

Our present evidence for bison east of the Mississippi in the Mid-South dates to the protohistoric period. Among the sites producing bison are the protohistoric/historic Futorian site (Johnson et al. 1994) and the Longtown site, an early Historic Chickasaw site (Scott in preparation), both in northeast Mississippi. Since bison seem to have a very late intrusion east of the Mississippi, we suspect that the bones in the present samples most likely represent exchange of bison products. It is doubtful that the elements represent primary butchering at Moundville, however. Rather, we suggest these bones arrived as riders on bison hides used to transport dried meat or other Plains products, left on to serve as handles for the bundles, a pattern documented at Plains village sites (e.g., Jackson and Scott 1992). They were detached from the hide at

Moundville and discarded. As for the source of bison products, we note that Schambach (1993) has argued that Spiro served as a conduit funneling Plains products into the Mississippian world. Given other evidence of connections between Spiro and Moundville, the presence of bison at the latter lends support to Schambach's case.

Other Mammals

Gray squirrels are the most frequently occurring small or medium mammal in the Mound G Sample (NISP=49, MNI=6). Like the Mound Q sample, gray squirrel far outnumbers fox squirrel (25:1). Other mammals (excluding commensal taxa) include beaver, striped skunk, black bear, gray fox, and domestic dog, each by only a couple of elements and MNIs of one each. Two additional elements, a vertebra and tibia shaft fragment are probably bear, but were classified as large mammal because positive identification was not possible. Bear is also represented in reference trench samples by a scapula. Dog remains in Mound G included specimens representing an adult dog and a puppy.

Birds

Turkey and unidentified large bird dominate the bird sample. Canada goose, a medium sized duck, and passenger pigeon were also indentified. Quail is present in the Mound G sample, though not from Mound Q. A single unidentified songbird is also present. Unusual birds include a sandhill crane, a red-tailed hawk, and a peregrine falcon. The falcon in particular, notable for its portrayal in Mississippian iconography, is quite rare in Mississippian faunal samples (see below).

Male turkeys comprise 37 percent of the turkey elements for which sex could be determined, essentially the same as that in the Mound Q controlled sample (Table E.12). The higher than expected presence of males in Mound Q cannot be attributed to the ritual nature of the meals there, but rather it seems to be related more generally to the numbers of gobblers received by the Moundville elite.

Reptiles

Turtles are the only reptilian taxa represented in the Mound G sample, in contrast to Mound Q where at least two snake taxa (including a viper) were identified. Box turtle is the most common. Mud/musk turtle and softshell is also present.

Fish

In addition to making a smaller contribution to overall sample composition, Mound G fish composition differs from the Mound Q sample in lacking bowfin, although sampling error is a strong possibility. Suckers and drum contribute more than two thirds of the individuals represented, followed by catfish, centrarchids and gar (Figures E.17, E.18). Suckers also contribute the greatest number of individuals to the Mound G sample as at Mound Q, followed by catfish. One notable difference in the two samples is the generally larger size of fish from Mound Q (Figure E.19), suggesting a possible greater emphasis on the amount of meat provided, rather than simply variety.

	Male		Female	
Element	Controlled Units	Scanned Units	Controlled Units	Scanned Units
Vertebrae			1	
Sacrum			2	
Pygostyle	1			
Scapula	1	1	6	1
Coracoid	3		6	
Humerus	3	3	5	1
Radius	1	1	4	
Ulna	2	3	6	
Carpometacarpal	4			
Anterior Phalanx 2	1			
Pelvis			3	
Femur	1	1	3	4
Fibula			2	
Tibiotarsus	2	3	5	1
Tarsometatarsas			4	
Posterior Phalanx 2	1			
TOTALS	20	12	47	7
TOTALS/Sex	32		54	

Table E.12. Turkey elements identified according to sex: Mound G.

One unusual specimen in the fish sample is an unfossilized shark tooth. It is unmodified, and while it clearly indicates contacts with coastal populations or a visit to the shore, it cannot be determined whether meat or simply the tooth was obtained.

Bone Artifacts

Two bone artifacts were identified in the Mound G sample, a deer proximal ulna fashioned into an awl and a drilled box turtle carapace fragment. In addition one drum dorsal spine exhibited polishing on the tip, and a second suspicious drum spine support was noted as possibly utilized.

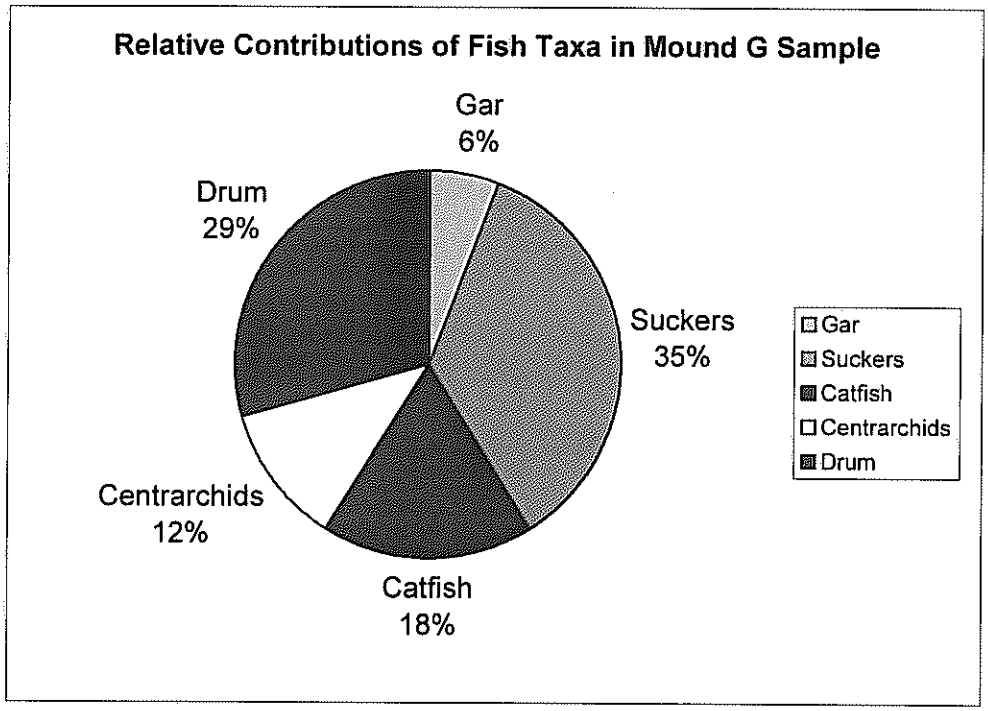

Figure E.17. Relative contributions of fish taxa in Mound G sample.

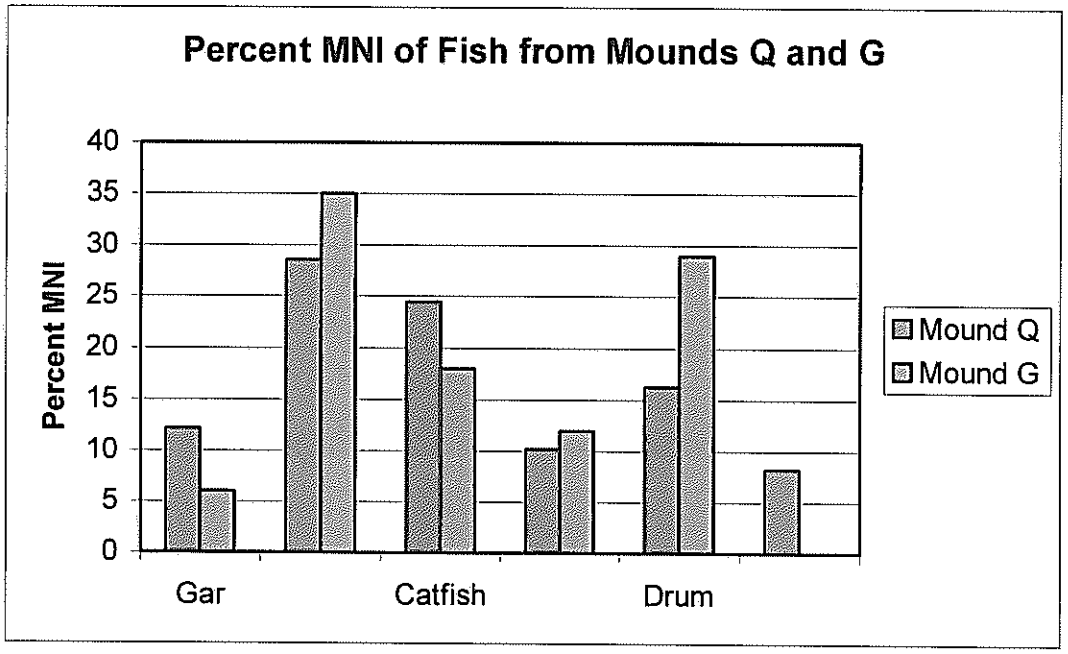

Figure E.18. Percent MNI of fish from Mounds Q and G.

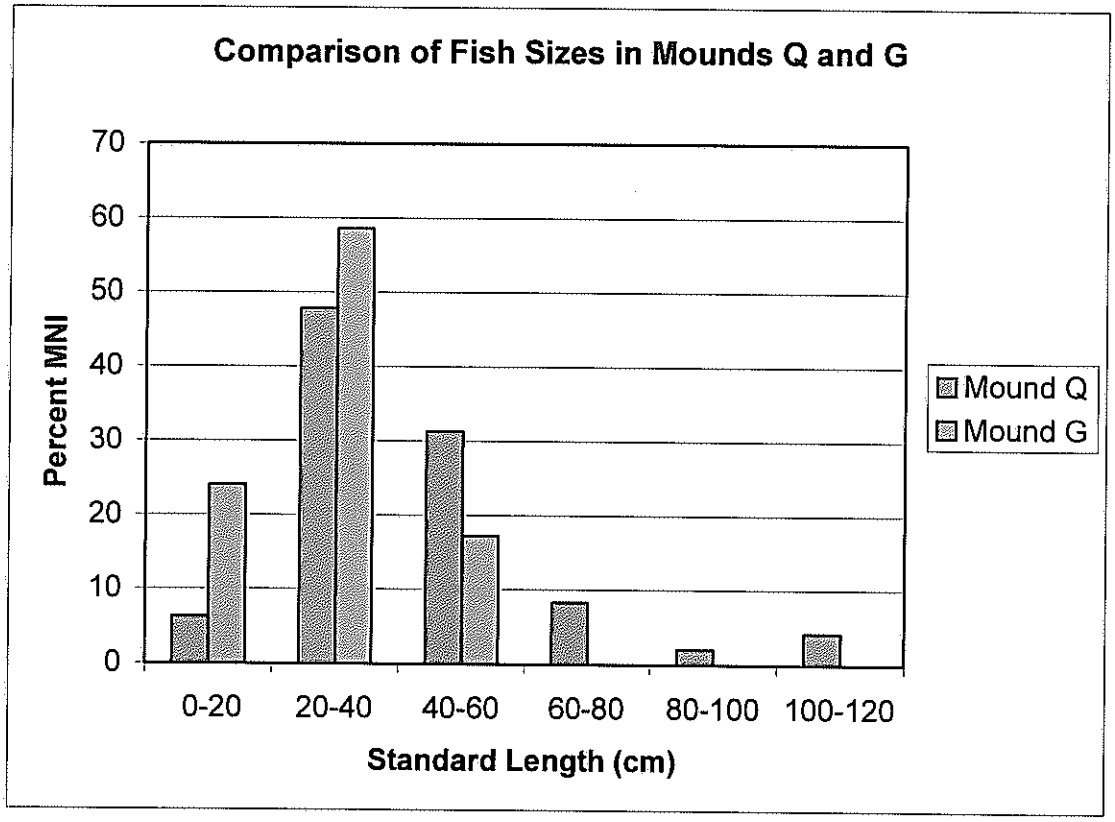

Figure E.19. Comparison of fish sizes in Mounds Q and G.

Summary

While the pattern from Mound G again indicates that deer dominated the diet, this is not to say that rare species are absent. In fact some of the most interesting species in the Moundville fauna were collected from the Mound G midden, including passenger pigeon, possible bison, black bear, gray fox, shark, sandhill crane, a redtail hawk, and a peregrine falcon. The latter is perhaps most telling of the status of the elite residents of the mound, being a central feature of Mississippian iconography, most often depicted in human bird form as a falcon warrior. Examples of perigrine falcon are exceedingly rare in Mississippian faunal assemblages. Examples can be found at Cahokia in samples from Mound 51 adjacent to Monks Mound (Churmney 1973) and from Etowah (van der Schalie and Parmalee 1960). The shark, not fossilized, likely indicates connections with coastal populations.

Mounds E, F, and R

The small samples from Mounds E, F, and R do little more than to substantiate the patterns observed in the larger samples from Q and G. Large mammal dominates all three samples, followed by bird (Table E.13). Turkey was the only identified bird. Mound E, the largest of the three, did provide the only example of a woodchuck, of some interest since Moundville is located at or near the southernmost extent of its present range (Burt and Grossenheider 1997) and is perhaps yet another example of the elite's access to rare fauna.

	Mound E (n=415)		Mound F (n=461)		Mound R (n=24)	
	%NISP	%Weight	%NISP	%Weight	%NISP	%Weight
Large Mammal	83.1	95.8	90.3	98.2	95.8	96.5
Sm-Med Mammal	4.3	0.8	0.4	.02		
Bird	11.1	2.8	9.3	1.6	4.2	3.5
Fish	1.5	.6				

Table E.13. General composition of samples from Mounds E, F, and R.

Burning was noted on approximately 19% of the bone from Mound E, 8% from Mound F, and 76% from Mound R. While that from E and F is similar to that from Q and G, the high percentage burned from Mound R almost certainly reflects degradation of the unburned portion of the deposited bone, rather than a difference in disposal patterns. Only a single bone, a deer humerus from Mound E showed evidence of carnivore gnawing. No other modifications were noted.

Deer in all three samples is represented by meat bearing elements, mainly long bones, with scant evidence of skull elements from Mound E and a single calcaneus (conceivably a "rider" attached to a tibia) from Mound R (one of the two identified deer elements) representing the only possible butchering debris. Deer anatomical composition was compared for the two largest samples, Mounds E and F (Figure E.20). Upper front limbs are better represented in Mound E, but the extremely small sample sizes must be taken into consideration (Deer NISP for Mound E is 50, for Mound F is 45). The combined large mammal remains are quite similar in the samples from Mounds E and F.

Discussion

There can be little doubt that the samples of bone collected in the mound excavations were the product of meals consumed by the Moundville elite. They have provided an opportunity to evaluate expectations regarding the general nature of elite faunal use during the Mississippian period and to isolate differences related to different social and ritual contexts. In particular, we had originally expected that the sample from Mound Q might provide a clear example of refuse from feasting. However, while feasts may have contributed to the collection, other evidence suggests that other kinds of meals were consumed there, resulting in patterns quite similar to those exhibited by the collection from the domestic contexts sampled on Mound G. Prime cuts of venison, little butchering debris, low levels of bone processing, the importance of turkey, a generally diverse bird assemblage, and carnivore taxa are shared by both samples. There are some differences as well. For instance, it would appear that the rarest taxa were associated with the elite domestic context of G, rather than the special purpose structure on Q; these include the bison, shark, and peregrine falcon. The sample from Mound Q diverges from what is predicted for feasting contexts, particularly in comparison with the Mound G sample. It is somewhat more

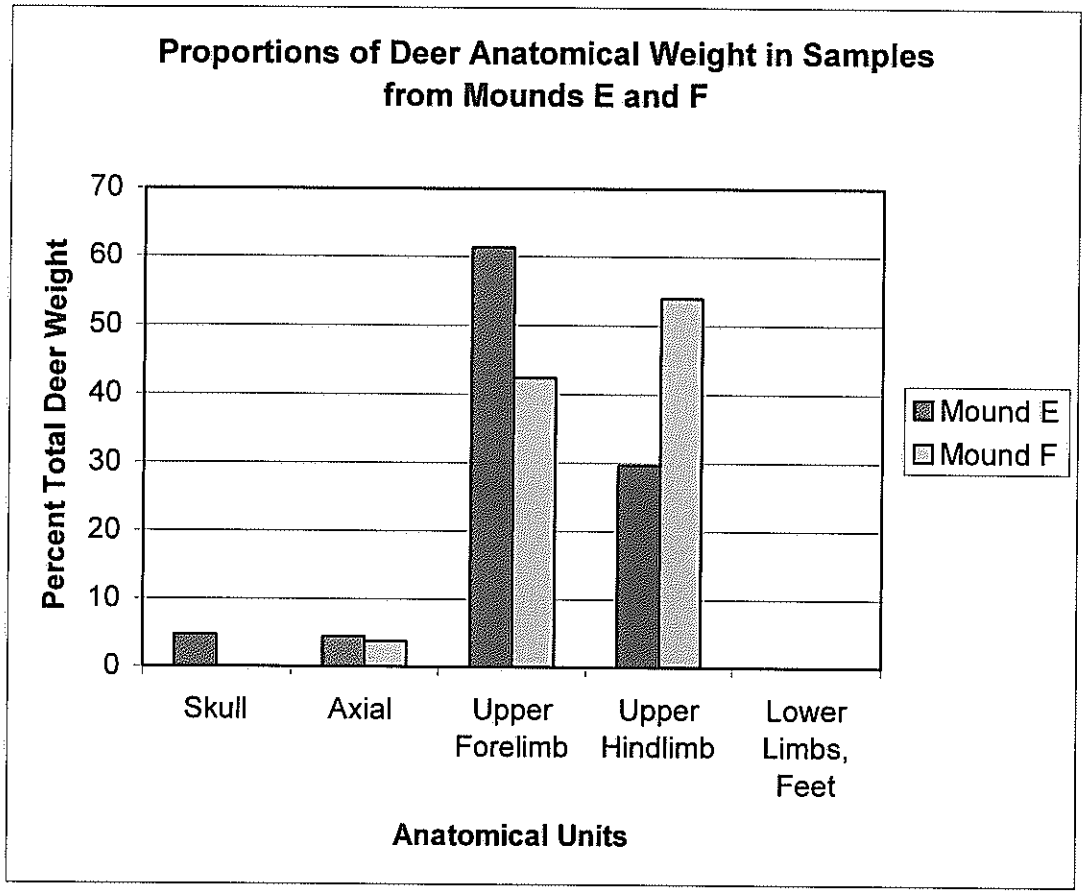

Figure E.20. Proportions of deer anatomical weight in samples from Mounds E and F.

fragmentary, suggesting more frequent bone processing or perhaps greater frequency of stewing (assuming essentially the same potential for preservation in the two mound deposits). It should be kept in mind that neither sample is as fragmentary as other Mississippian communities that we have analyzed. Given the supposed short duration of feasting events, the expectation would be that meat alone would be the target resource, and larger amounts of whole bone would be discarded than would be found in domestic contexts, even elite domestic contexts. The opposite is true, however. More prolonged meals or sequential meals may be reflected by the Mound Q bone. The clearest distinction pointing to a greater frequency of at least occasional large-group meals on Mound Q is indicated by the contrasts in fish between the two samples.

Given the other archaeological evidence that Mound Q served as a locus for intensive craft production (Knight 1992, this report; Markin 1997), we might envision elite craft producers being fed while working at their tasks. This is not to say that ritual feasts may not also have occurred, but that other kinds of meals left their mark on the composition and character of the Mound Q fauna. Of course, all this supposes that our expectations of what a feasting assemblage should look like aren't simply wrong. Clearly, additional excavation will eventually permit a refinement of these expectations.

How consumption by these elites was distinguished from that of other segments of society can be better appreciated by a comparison of anatomical part distribution from both mound samples and the sample from the White site reported by Welch (Figure E.21). Welch argued that provisioning provided deer to the White site residents; while this may be so, there is greater evidence for primary butchering in the form of lower limb elements there than is present in either Moundville sample. Likewise, as Welch noted, forequarters are underrepresented while hind quarters are the primary source of venison. The opposite is true for both Moundville samples, suggesting, as Michels did, that the forequarter was the preferred cut for the highest echelons of Moundville society, and the appropriate cut for ceremonial occasions.

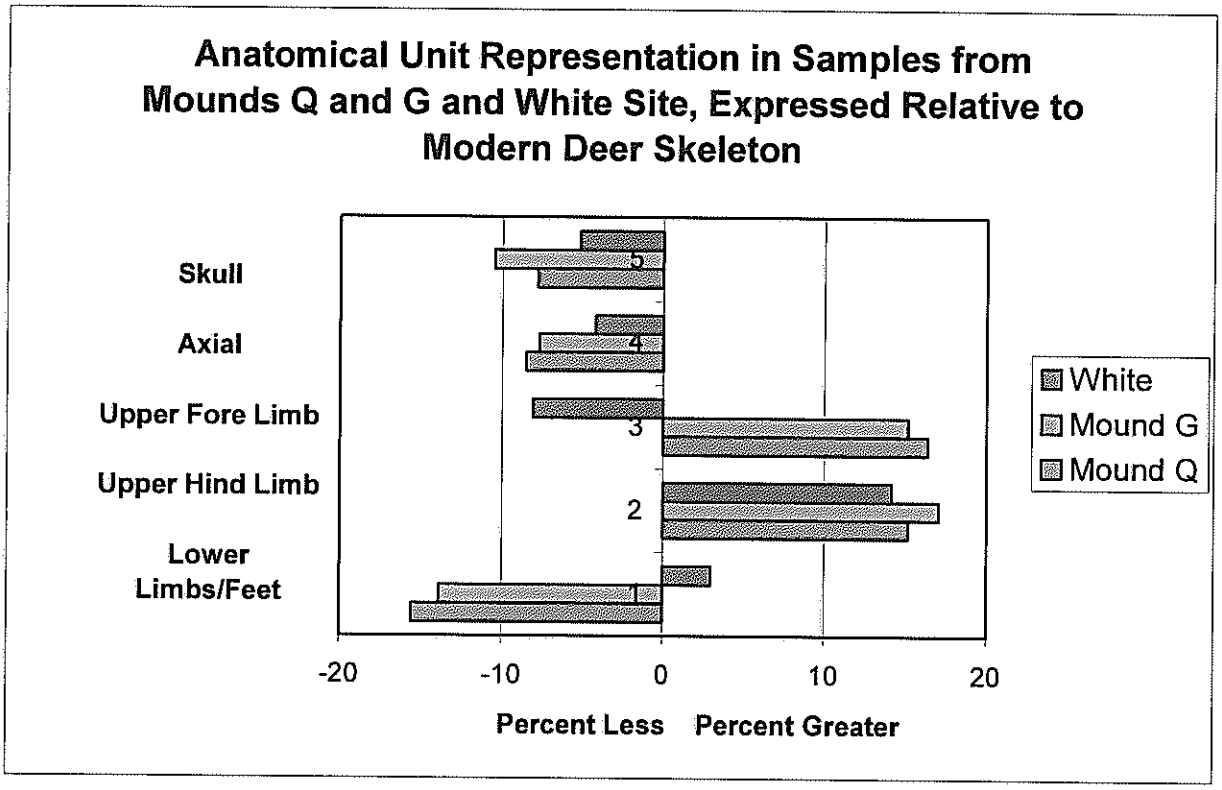

Figure E.21. Anatomical unit representation in samples from Mounds Q and G and the White site, expressed relative to modern deer skeleton.

One final but interesting observation about both of the Moundville samples is the paucity of commensal rodents in the mound samples examined. We have found in other elite samples an abundance of rats and mice which we have surmised were attracted to elite residential areas because of their proximity to large storage structures containing the plant foods received as tribute. A total 7 rodent bones, representing both mice and rats were identified in 1/4 inch samples and additional 26 in the flotation samples from Mound Q. Three additional rodent elements were identified in the Mound G quarter inch sample and none in the fine screen. By way of contrast, 227 rodent bones, nearly seven times as many, were identified from an elite house structure and associated midden at Crenshaw in southwest Arkansas (Scott and Jackson

1997), in a sample not quite twice the size as that recovered from Mound Q. The most reasonable explanation is that corn storage facilities must have been at an off-mound location, thus reducing the attractiveness of mound-top structures for these commensal taxa.

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