CHRONOLOGY AND USE OF PUBLIC ARCHITECTURE AT THE MOUNDVILLE SITE: EXCAVATIONS IN MOUNDS R, F, G, AND E

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Description and Goals of the Project

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Since 1989 the Department of Anthropology of the University of Alabama, cooperating with the Alabama State Museum of Natural History, has undertaken a long-term archaeological project at the Mississippian civic-ceremonial center of Moundville. In 1992, National Science Foundation support was sought for a major expansion of the Moundville project. The present document is an initial statement of the results from 1993 and 1994 excavations in four mounds, Mounds R, E, F, and G.

Our long-range goals were as follows. (1) We wished to develop a mound chronology for the site. We particularly wanted to know the time at which the site assumed its formal configuration, within the larger history of labor investment in earthwork construction at the site. (2) We wanted to determine the range of purposes for which the site's earthworks were employed. At one level this has meant determining a primary use for each class of mound; at another, it has meant exploring specific patterns of activity associated with mound summit contexts. Since there was preliminary evidence to suggest that patterns of mound use changed during the center's life span, we wanted to situate these functional data within an overall chronology of mound use. (3) We wanted to develop an ethnohistorically informed interpretation of the significance of the spatial arrangement of mounds at the site. Our approach assumes that the formal arrangement of the majority of mounds at the site is in some sense diagrammatic of aspects of Moundville social organization. The principles of that organization were set forth in hypothetical form in a paper read at the annual meeting of the Society for American Archaeology in 1993 (Knight 1993).

In concerning ourselves with the chronology, function, and spatial significance of the mound group, we have operated on the assumption, based on analogy to other Mississippian centers and ethnohistorical evidence, that the mounds were employed for multiple purposes. Presumably some manifest elite domiciliary architecture, others mortuary temple architecture, and still others served special community functions. The earthworks themselves were presumably constructed by the followers of an hereditary elite, in ritual circumstances underlining the symbolic significance of mound architecture (Knight 1981, 1986, 1989b).

The Mounds at Moundville

Despite the shortage of research to date directed toward an understanding of the mounds at Moundville, there have been some statements made in regard to their spatial patterning and dating. Moreover, in the past decade there have been certain advances in understanding the general significance of Mississippian mound building as ritual, and in the variability in use of the summits of these mounds.

The arrangement of mounds at Moundville has long been recognized as being in some sense a planned order. While that order can conceivably bear more than one interpretation (cf. Morgan 1980), there appears to be a consensus in favor of a single central plaza of rectangular shape, bordered on the east, south, and west sides by rows of mounds, and bordered on the north by a series of ravines and the Black Warrior River. The two largest mounds, Mounds A and B, are central to the arrangement (Figure 1). The most explicit statement on this order is by Peebles, drawing on the mound burial data from Moore's early excavations.

> mounds containing burials are paired one with another across the plaza and are separated one from the other by mounds containing no burials. If a north-south line is drawn from Mound B through Mound A, and if a series of parallel lines are drawn from one mound to another across this north-south line and along the axis of the winter solstice, then the mounds along the east and west margins of the plaza can be paired up as follows: Mounds R and E, burials not present; Mounds Q and F, burials present; Mounds P and G; burials not present; Mounds O and H, burials present; Mounds N and I, burials not present. Mounds C and D, to the north of the main plaza, both have burials included in them... I suspect that if further excavations are conducted on these mounds the structures which would be found would mark the mounds without burials (which in general have the larger platforms) as "domiciliary" mounds and the mounds with burials as "temple" mounds [1971:82].

Along with the strong bilateral symmetry and the alternation of burial and non-burial mounds on the plaza periphery, Peebles (1971:83, 87) also noted a structured utilization of "status space" at Moundville, most notably in burials and structures located in certain areas, primarily near the plaza on the northern half of the site.

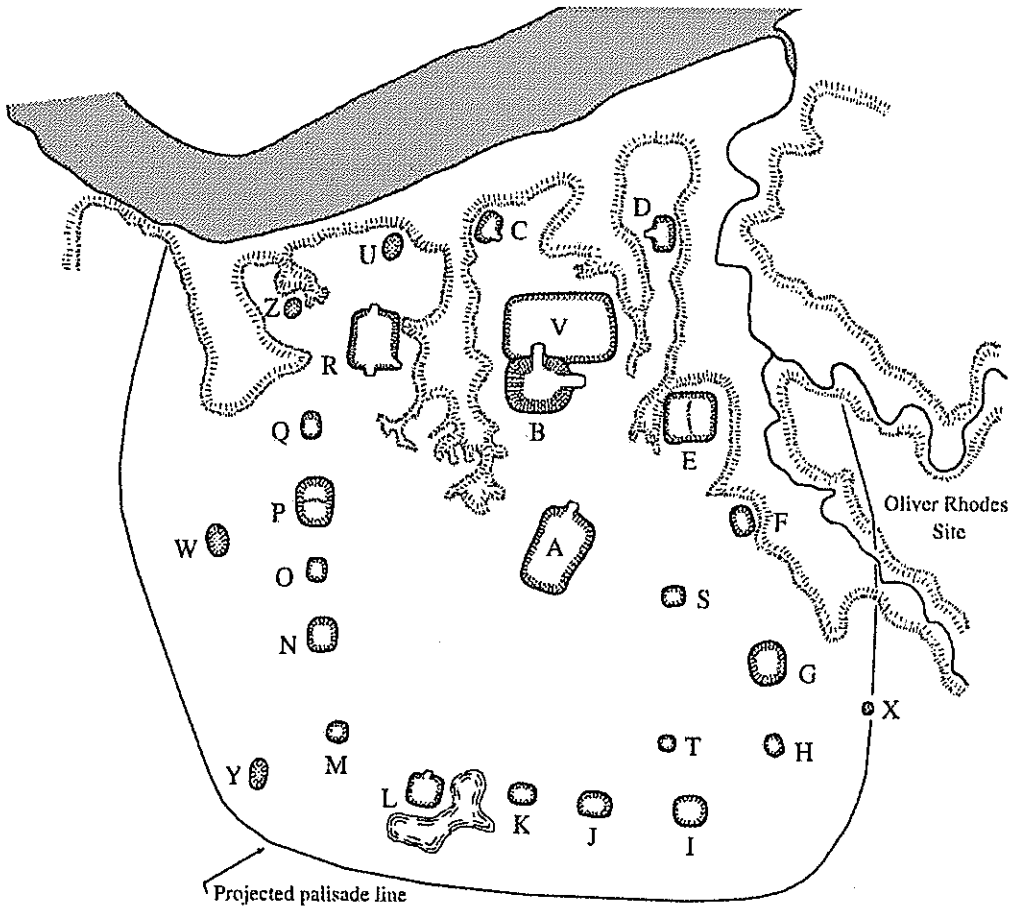

Figure 1. Map of the Moundville Site.

In support of the idea that there is an order to be seen in the mound arrangement, it is instructive to compare mound volumes as one progresses around the plaza (Figure 2). The volumes of the alternating mounds without burials decrease in perfect regularity as one moves around the plaza either clockwise or counterclockwise from center north (beginning with Mound B at center). Moreover the intermediate mounds with burials in every case have volumes smaller than either of the mounds bracketing them. If size equates in some way with importance, these observations sustain both the notion of bilateral symmetry and the independently confirmed position of the north end of the site as the high status pole in a ranked delineation of status space.

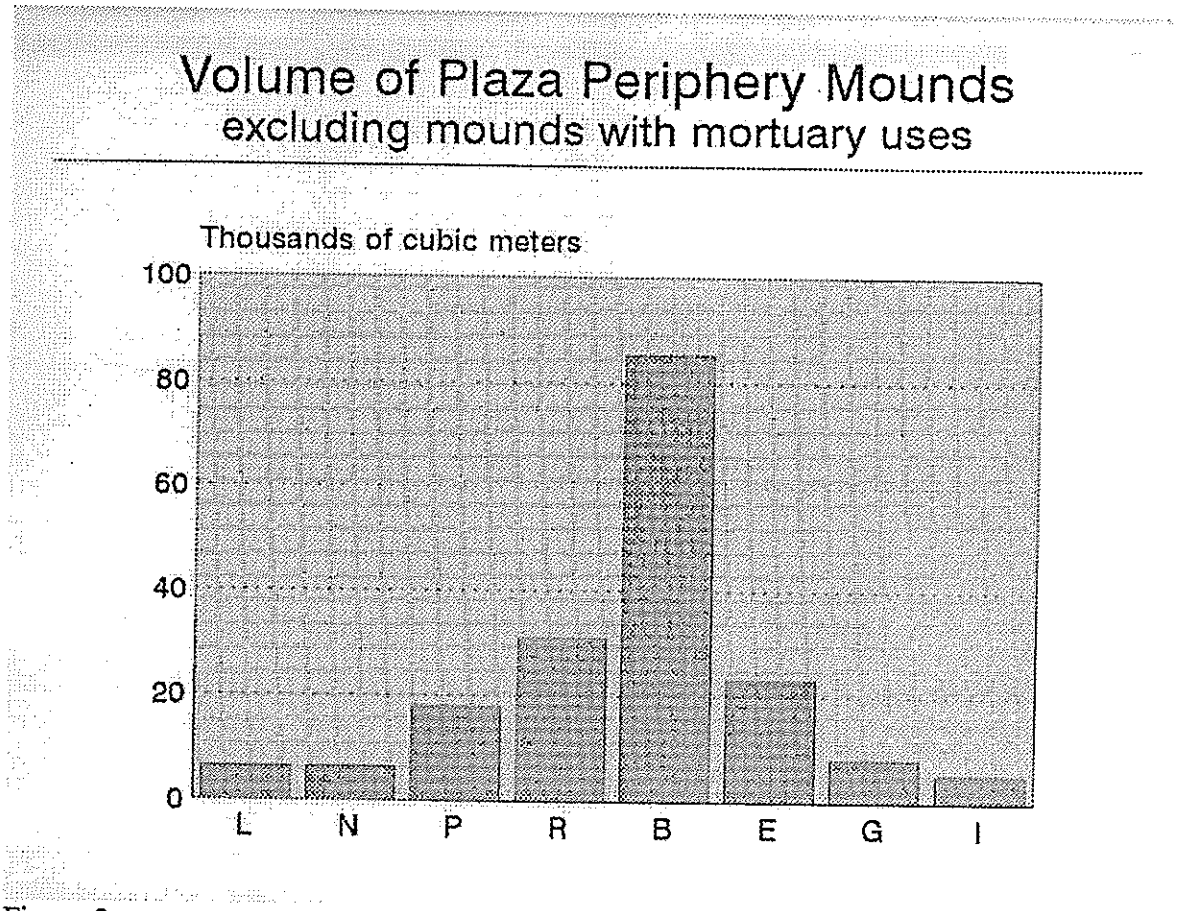

Figure 2.

As to when in the Moundville sequence this formal arrangement became established, Steponaitis has found reason to cast doubt on an earlier reconstruction (1983:152-156) which saw only one mound (Mound O) as being present early in the sequence and the remainder of the pattern filled in by increments later. Based on an analysis of the distribution of sheet midden at the site, Steponaitis concluded that,

> a major change in land use occurred at Moundville sometime during the 13th century A.D... The nature of this change was dramatic. It was almost as though a new 'zoning ordinance' took a large block of residential land and reserved it almost exclusively for civic-ceremonial use. A large plaza and adjacent ceremonial precincts were laid out, and many of the people who had lived in this area moved elsewhere [1986:6].

At the onset of the present project these statements regarding the paired orders of mounds and the timing of the formal structuring of space at Moundville were strongly suspected but were in need of further testing, confirmation, and refinement. Our work here is largely devoted to providing such evidence. The significance of this work as a case study depends, in part, on its connection to the current scholarly debate on the emergence of hereditary inequality and economic stratification in the Southeast.

Propositions on the Emergence of the Moundville Chiefdom

Since the classic formulations by Service and Fried, there have been a number of attempts at broad scale cross-cultural comparison of chiefdom-level societies (e.g., Drennan and Uribe 1987; Earle 1987, 1989, 1991). Other syntheses have looked more closely at the native chiefdoms of the Southeast, both ethnohistorically and archaeologically (e.g., Barker and Pauketat 1992). A degree of cultural uniformity is found among Southeastern chiefdoms which suggests a common developmental background (Knight 1990).

With this literature at our disposal, it seems admissible to assemble a list of factors that are potentially implicated in the emergence of a stratified social formation in the Black Warrior River Valley. These factors can be phrased, conventionally, in terms of a political dynamic between two interest groups: on the one hand, the common producers in a segmentary society, who surrender their liberties and increase their production as the price of achieving social stability, and on the other, the emerging elites, who demand the energies and loyalties of their followers by following a number of strategies.

As a foundation for interpreting much of the Moundville data, borrowing from the literature cited above, we propose the following: that the Moundville chiefdom arose and prospered when one high-ranking social segment, centering on a chief and his relatives, came to identify itself as a hereditary nobility (cf. Knight 1990), in circumstances where,

1. The chief and his subordinates provided effective means for internal conflict resolution in an increasingly sedentary domestic population.

2. Where they provided security and defense against outside aggression.

3. Where they provided a new focus for competitive aesthetic achievement and the satisfaction of intellectual, social, and artistic values.

4. Where, additionally, commoners underwrote these interests with their labor, secondarily in the form of surplus food and material goods offered as tribute to the nobility.

5. Where the leaders centralized food production by diverting labor into communally worked agricultural fields, owned by chiefs and subordinate nobles.

6. Where the nobles acquired wealth, through the manipulation of labor, disproportionately to the point of creating a de facto monopoly over prestige-laden goods, obtained primarily by long distance exchange; particularly those items valued as symbolic ties to a pan-regional, elite "superculture."

7. Where the emerged nobility perpetuated economic stratification by the regionally old strategy of inflicting debt through exorbitant feasting and gift giving.

8. Where the nobility legitimated its heritable perpetuation by invoking a divine ancestry for the chief; where this was enhanced by the co-opting of corporate religious symbols and by nobles who identified themselves with mythological powers and cosmogonic hero figures.

9. Where the nobility sought to sustain itself by imposing spatial orders on the landscape, centered on permanent monuments of large proportion; orders that tangibly reinforced and renewed, for new generations, basic social distinctions and hierarchies.

Once regional political control was established, Moundville's subsequent history, including its decline and fall, can be viewed theoretically as a partisan internal struggle, pitting the forces of centralized control against the centripetal forces of factional competition by various interest groups. The play of this struggle should have archaeological consequences in the history of public architecture at the site.

Rationale for the Mound Project

To accept this working list as a theoretical construct (whether or not one may happen to agree with each of its particulars), means that a comprehensive account of the rise of the Moundville chiefdom hinges upon developing archaeological data on the specific contribution of each point to the overall development. If we match these propositions to the cumulative data extant for Moundville, we find, naturally, different degrees of evidentiary support. Thanks to the diligence of our colleagues, some lines of inquiry are already well along. From the time that an acceptable internal chronology for Moundville culture was first published (Steponaitis 1980), our knowledge of some of these matters has been particularly enriched. For example, concerning the prestige goods economy (proposition no. 6), a chronology of Moundville grave lots has yielded a detailed history of the chiefdom's participation in long-distance exchange (Peebles 1987; Steponaitis 1992). The question of tribute flow (propositions no. 4 and 5) has been informed both by examining the evolution of the chiefdom's settlement hierarchy (Bozeman 1982; Peebles 1987), and the comparison of production at the primary center with that at satellite centers (Welch 1991).

Nevertheless, and to the extent that our perspective is a reasonable one, it is possible to perceive certain important gaps in the present data, which need to be addressed before we can make any claim to a comprehensive view. The mound project concentrates on a few such lacunae, which pertain to the propositions numbered 4, 6, 7, and 9 above. In particular, (*a*) we lacked a detailed history of corporate labor invested in public works at the primary center, (*b*) we lacked an

adequate account of the establishment and maintenance of a formal community plan at the primary center (to which we might add that there is no consensus about the significance of that formal plan), and (*c*) we lacked data on elite residential contexts at the primary center, and what these might yield on the questions of provisioning, prestige goods, and changing social relations with the rest of the chiefdom.

The mound project is, therefore, a fairly straightforward attempt to answer the following questions.

What is the chronology of mound construction at the Moundville site? In essence, what is the history of labor investment in earthwork construction? How does this history contribute to our understanding of elite control over labor during the life span of the chiefdom?

Assuming that the Moundville site plan is formally imposed and diagrammatic, what kinds of architectural contexts are involved in this structure? What can we tell about the range of activities associated with these architectural contexts?

At what point in the site's history was its formal architectural configuration imposed? How does this timing square with other evidence on the residential character of the site before and after this event?

If the site plan is diagrammatic of some aspects of Moundville's social organization at the time the order was imposed, can these aspects be identified? (Here we have in mind a potential ethnographic analogy to the diagrammatic use of social space documented for the more recent Chickasaw; cf. Speck 1907:53).

How did mound summit architecture, functions, and activities change during the life span of the chiefdom? What does this evidence contribute to our understanding of the beginnings, apex, and collapse of chiefly authority in this region? To what degree are changes in public architecture indicative of *resistance* to centralized control?

We have designed the mound project in such a way as to expect, as its outcome, data sets that allow us to make closely reasoned inferences on all of these questions.

Prior Results of the Mound Project

Adding to the previously published mound data by Clarence Moore are the results of laboratory and field investigations begun during the summer of 1989, which continue to the present. Initially, as background research for the mound project, a grant was obtained from the University of Alabama Research Grants Committee to study certain Depression-era collections and records. These collections and records pertained to the 1937 flank trenching of Mounds H, I, J, K, and L, done prior to their restoration. Unfortunately, this trenching was carried out without regard to mound stratigraphy, thereby mixing sequential contexts. Nonetheless, the collections and profile drawings made at the time are adequate to the task of making rough estimates of con-

struction dates. The study concluded that all the mounds on the southern tier of the site were probably initiated during the late Moundville I or Moundville II phase, whereas all but one were abandoned by the Moundville III phase (post-1400 A.D.)(Knight 1989a). The abandonment of mounds during the later history of the site was hinted at earlier during J.O. Vogel's eastern palisade excavations, where it was discovered that a small Moundville I phase mound in that area was "decommissioned" in order to extend the palisade line across it.

These preliminary data accord well with what is known of the chronological placement of burials in mounds excavated by Clarence B. Moore in 1905. These burials, seriated by grave lot by V.P. Steponaitis, are distributed by phase as follows:

Phase	No. of Grave Lots	Mound Proveniences
Moundville I	1	Mound O
Moundville I or II	2	Mounds C, F
Moundville II	4	Mounds C, F
Moundville II or III	12	Mounds C, D, O
Moundville III	2	Mounds D, O
Moundville III or IV	1	Mound D

Moundville I and Early Moundville II burials are underrepresented in the sample due to Moore's generally superficial digging. What is striking, however, is the relative absence of burials in the mounds that definitely postdate Moundville II. Evidently the main mortuary function of several of the smaller mounds at the site was abandoned or dramatically curtailed late in Moundville's history, with only occasional burials thereafter placed into Mounds D and O.

Excavations in Mound Q

University of Alabama field school excavations into Mound Q during 1989 through 1994 clarify this situation. Flank trenching and coordinated summit excavations in this mound reveal four construction stages in the upper 1.5 meters (Knight 1992).

The earliest and best preserved of these has a building floor (Stage II) that was subjected to detailed investigation. Although a careful analysis of the radiocarbon evidence has not been undertaken as yet, our preliminary notion is that this building floor was occupied ca. A.D. 1250, a date consistent with the pottery marker types, indicating that the bulk of Mound Q was constructed during the Moundville I phase. This was followed by two minor episodes of mound enlargement, each associated with a (now disturbed) summit structure and a thin flank deposit of primary debris. Preliminary radiocarbon evidence places both of these constructions in the late thirteenth century. These deposits are noteworthy for their evidence of elite craft production:

engraved paint palettes and assorted pigments, a microblade industry based on non-local chert, sheet copper and galena scrap, mica, drills, abraders, sandstone saws, and so forth, along with such unusual items as human figurines, exotic ceramics, and scraps of human bone. During these early stages of mound occupation, debris from summit activities was routinely placed in a dump or midden at the base of the north flank. Excavations of four 2-meter-square excavation units into this flank midden are the source of much of our faunal and ethnobotanical data. Mound Q was last occupied during the Early Moundville III phase in the first half of the fifteenth century. Again massive flank deposits bearing summit-related refuse appeared.

The work conducted on Mound Q prior to 1993 served as a pilot project demonstrating the effectiveness of a flank trenching strategy. It was followed up by summit excavations designed to gain information on architecture and mound use. The preliminary results, when combined with the completed study of the Depression-era materials from Mounds H-L, suggested the following hypothesis: The formal allocation of space for the full mound group as a planned order was in place early in the site's history, certainly by about A.D. 1250. This unitary formation, moreover, was relatively short-lived. By the Moundville III phase of circa A.D. 1400-1550, fewer mounds were in use, and some that were formerly used as elite mortuaries were abandoned for that purpose.

Plan of the Work and Data Requirements

A massive and expensive program of excavations into these often intractable mound deposits was not our intent, particularly because we had to balance preservationist concerns against our research interests. Instead, our experience with the mound project prior to 1993 suggested to us that satisfactory data on all of the issues presented above could be had by limited flank trenching combined with judicious and selective horizontal exposure of preserved summit contexts.

The need for new excavations was also lessened by our access to curated collections from CCC-era trenches into seven of the mounds. As noted, the analysis of these materials was reported in 1989 (Knight 1989). Additional CCC collections existed which derived from the Depression-era restoration of five additional mounds. These collections were studied and reported in 1984 (Knight 1994).

To achieve our goals it was desirable to develop new data on each class of mound. Given below is the overall project schedule up to the present time, beginning with the initial field work during the summer of 1989. The contributions of the National Science Foundation, reported in this document, are noted in the proper places beginning with the 1993-94 seasons.

First Season (1989-90). Background research, analysis and write-up of 1937 flank trenching of Mounds H, I, J, K, L. Initial flank trenching of Mound Q using Fall Semester field school.

Second Season (1990-91). Completion of flank trenching of Mound Q using Fall Semester field school; Development of Mound Q chronology; Initial summit testing of Mound Q based on trenching results.

Third Season (1991-92). Continued exposure of summit structure on Mound Q, using Fall Semester field school (Fall '91) and Museum Expedition (Summer '92).

Fourth Season (1992-93). Continuation of work on Mound Q summit, using Fall Semester field school.

Fifth Season (1993-94). Flank trenching of mounds R, E, F, and G (NSF grant). Development of chronological sequences for this group. Continuation of work on Mound Q summit, using Fall Semester field school.

Sixth Season (1994-95). Summit exposure of Mound E (NSF grant). Completion of summit excavations on Mound Q, using Fall Semester field school.

Seventh Season (1995-96). Excavation hiatus. Laboratory analysis, illustration, and photography. Preparation of report to the National Science Foundation. Preparation of a monograph for publication.

Eighth and Subsequent Seasons (1996-). The following tasks, performed in the order listed, will complete the program of investigations. Additional funding for these tasks (other than the first listed) will be sought at the appropriate time, with Fall Semester field schools used to supplement and complete the work. (*a*) Summit testing of Mound A; (*b*) Trenching of flank midden deposits on Mound P; (*c*) Testing of small peripheral mounds; (*d*) Testing of platform "V"; (*e*) Summit testing of Mounds C and D, to place Moore's burial data from these mounds in an architectural and chronological context; (*f*) completion of remaining analyses and preparation of a comprehensive monograph on the mound project.

No new excavations are envisioned for the interior plaza Mounds S and T, now largely destroyed and reconstructed. We do intend to restudy the collections from these mounds made during the Depression era.

The plan outlined above indicates how the phases of work sponsored by the National Science Foundation have been integrated into the wider project. University of Alabama Department of Anthropology undergraduate field schools, not supported by NSF, ran concurrently each Fall Semester during the project. These were taught by the Principal Investigator, and the work accomplished there was coordinated with that done by graduate students employing paid crews hired through external support. The Alabama State Museum of Natural History provided the majority of the field equipment for the project.

Field Work, Season 5 (1993-94)

Field work for the first NSF-supported season was conducted during a 15-week period from August through December, 1993. A corresponding term of laboratory research ran from January-May, 1994.

Field investigations for this season consisted of flank trenching certain well-preserved mounds on the margins of the Moundville site plaza. A crew of six persons was employed, including two graduate students serving full time as crew chiefs. The primary aims for the work were (*a*) to penetrate each mound flank to the extent practicable in each trench and to radiocarbon date each major construction episode encountered; and (*b*) to intercept and sample talus deposits representing off-mound debris from summit activity. These deposits are the focus of a number of complementary analyses.

Four trenches were excavated; one each into Mounds R, E, F, and G. Following the practice developed for Mound Q, each trench consisted of two parts: first, a *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 stratigraphic zones revealed in profile by the reference trench. The necessity of this approach is due to the requirement that primary refuse deposits on the flanks and toe of the mounds be recognized unambiguously and kept separate from potentially redeposited mound fill deposits. Soils from primary contexts (pit features, flank middens, etc.) were mechanically sifted through one-quarter-inch mesh screen except for standardized volume soil samples retained for special analyses.

Field Work, Season 6 (1994-95)

The second NSF-supported season was similar in its scheduling to the first, with 15 weeks of field work in the fall of 1994 followed by a corresponding term of laboratory research in the spring of 1995. The field crew consisted of two full-time graduate student crew chiefs, working with eight archaeological aides. Field investigations for this season focused on the exposure and study of architecture and artifacts on the summit of Mound E on the northeast side of the plaza. Based on the absence of burials as reported by Clarence Moore, Mound E was believed to have been used as an *elite residence* mound, as opposed to Mounds Q and F which, based on Moore's data, we placed in a contrasting category, the hypothetical *mortuary temple*. The choice of Mound E for this operation was deferred until its upper stratigraphy was understood from the 1993-94 trenching.

These were block-type excavations designed to reveal broad horizontal contexts. Our primary aims for season 6 were (*a*) to locate and excavate a building floor on an elite residence mound to a degree sufficient to determine its size and manner of construction; (*b*) to excavate this floor in a manner conducive to recording patterning of floor debris, by piece-plotting; (*c*) to recover botanical and faunal samples from such contexts to the extent they were preserved; and (*d*) to radiocarbon date such contexts. From these operations we expected to recover data comparable in recovery methods and scale with that available from the "mortuary temple" floor

excavations in Mound Q (Seasons 2 - 6). Our goals were fulfilled with the exception of acquiring piece-plotted artifact data from building floor contexts. As will be seen, the contexts on the Stage II summit of Mound E, our target floor, were not amenable to such recovery.

Laboratory Research, Seasons 5 - 6

Laboratory work took place at in the Anthropology Department of the University of Alabama during January - May of 1994 and 1995, alternating with the fall sessions of fieldwork. A graduate student acted as laboratory supervisor, assisted by three hired laboratory workers.

Artifact analyses for the project have centered on the inference of activity and use of architecture in the different mound contexts. Since pottery is the most abundant category of artifact at the site, much of our attention has been devoted to examining how pottery can be used as an index of varieties of elite/ceremonial activity. Our ceramic analyses in this work have been oriented to shape classes and evidence of use, building on the work of Hally (1983, 1986) and Blitz (1991, 1993). In ongoing graduate student research we are determining for these contexts what Hally calls the "vessel assemblage," meaning the matrix of shape classes and standard sizes for each. In line with Blitz's research on the Moundville-related Lubbub site collections, we are interested in relative frequencies of vessel shapes in different contexts, ratios of cooking/storage versus service wares, ranges of vessel sizes, and the relative frequency of large vessels that might reflect either storage or large-group food consumption.

One outcome has been a revised classification protocol for Moundville pottery, suited for use with sherd collections and complementary to the typology now in use. The protocol is oriented to the quantification of (*a*) traditional types and varieties, (*b*) decorative modes crosscutting the traditional typology, (*c*) modes of vessel shape, and (*d*) rim diameter. Our exploration of functional modes in ceramics has been aimed at generating a "use profile" for different, independently identified contexts---mortuary, elite domiciliary, etc.---that can be meaningfully compared and contrasted with many other contexts at several levels within the chiefdom, based on collections which already exist. Our hypothesis has been that the kinds and proportions of service and utility ware discarded from the mound summits will contrast between mounds used for mortuary purposes and mounds not so used.

Nonceramic artifacts have been classified and described in terms permitting basic comparison with those of previously reported Mississippian contexts in the west Alabama region. Such artifacts include many of specialized use or exotic raw material that contribute to the characterization of elite activity on mound summits. At this point Ms. Julie G. Markin has completed an undergraduate honors thesis at the University of Alabama on the topic of elite stoneworking in mound contexts, based on comparison of contemporaneous samples from Mounds Q and G, and also of diachronic samples within Mound Q.

Botanical remains extracted by flotation from soil samples during each season of field work are being analyzed by Dr. Margaret Scarry of the University of North Carolina. Faunal samples from fine-screened and coarse-screened contexts are being studied by Ms. Susan Scott of

the University of Southern Mississippi. Participants Scarry and Scott served as project advisors regarding the recovery techniques used to sample these remains. Their work is oriented to the study of food consumption in various elite and ceremonial contexts within a complex chiefdom.

Additional Considerations

All research proposed here was conducted in accordance with University of Alabama policies as set forth in the document, "Management Policies Governing the Treatment of Archaeological Resources at Mound State Monument." The proposal and ongoing work were subject to the scrutiny of the Moundville Site Advisory Board, an advisory group to the Director of the Alabama State Museum of Natural History.

Collections resulting from the present project have been cataloged according to current procedures used by the Alabama State Museum of Natural History and will be curated in perpetuity at the Erskine Ramsay Archaeological Repository at Mound State Monument.

At the end of each excavation season, excavation units in the mounds were backfilled with clayey soil and stabilized using heavy equipment.

Excavations in Mound R

Mound R is the third largest of the mounds at Moundville. It has a squarish plan, measuring about 85 meters by 75 meters at the base, with a broad, flat summit rising 6 meters above the plaza, which it borders on the north side. Three earthen ramps, the most of any mound at the site, ascend from the north, south, and east flanks. This mound is most impressive in its lateral dimensions, particularly in the summit area which could have and probably did accommodate several buildings. It is relatively well preserved, with the exception of the summit and south ramp which had to be restored by the Civilian Conservation Corps in 1937, due to erosion caused by prior use of the summit as a cotton field.

The only previous excavations on record are those by Clarence B. Moore in 1905 (Moore 1905:220). Moore placed 27 of his trial holes across the summit, dug to a standard depth of four feet. He reported no burials nor any other finds of interest. The absence of burials is the basis for assigning this mound to our tentative *elite residence* category. Although a small collection labeled Mound R is found in the material gathered during the Depression years by the Alabama Museum of Natural History, there is no record of any formal excavations at that time. Conceivably this collection was made during clearing for the 1937 restoration of the summit, but that is not a completely satisfactory explanation. The restoration required filling, not cutting, and the artifacts themselves hint strongly at an origin in primary depositional contexts, with numerous large rim sherds, celt fragments, and items generally of a size and state of preservation not ordinarily encountered in mound fill or on the surface. Thus the origin of this material remains a minor mystery, although a preliminary study of it by the author in 1994 gave a preview of the mound's occupational history.

Mound R was selected for testing by us, first, because of its lack of burials, according to Moore, which we take to be the sign of a residential use. It was desirable to sample several mounds of this tentative category, to obtain assemblages that could be contrasted with those from mounds with known mortuary uses. Along with Mound E, Mound R was also of special interest because of its prominence among the mounds bordering the plaza. Judging from the public architecture, Moundville's northern side is the upper end of a gradient of "status space." Moreover, much excavation has taken place in off-mound areas just to the north and west of Mound R, first by Moore, then by the Alabama Museum of Natural History between 1930 and 1951, by David DeJarnette during 1971-74, by Margaret Scarry in 1978-79, and by Lauren Michals in 1984. It would be of interest to determine the relationships, if any, between these occupation areas and the mound itself.

The 1993 Excavations

Fieldwork was carried out on Mound R from August 24 to September 23, 1993. Excavations consisted of a test trench placed into the flank to obtain information on the mound's construction history, and to sample midden deposits associated with particular construction stages. In order to locate a productive place for the trench, the toe of the mound was systematically cored at 10-meter intervals using a manual post hole digger, passing the soil

through 1/4 inch screen. Twenty-three core tests were excavated around the mound in all areas except the northeast section of the flank, where a ravine encroaches up to the base of the mound. Artifacts bagged by core test number were washed in the field, sorted into categories, and weighed.

It was something of a disappointment to discover that there were no really dense deposits of refuse anywhere along the toe of this mound, much in contrast to our previous experience at Mound Q. Refuse disposal at Mound R was, evidently, a different sort of operation than at Mound Q, where in the latter case much debris was routinely tossed off the summit onto the north flank. This may have something to do with the different use of Mound R; one can envision elite mound residents accustomed to controlling the sanitation of their immediate environment to a greater degree than the hoi polloi. But it might just as easily be a simple matter of the proximity of Mound R to a steep ravine, where rain water could flush out garbage on a regular basis.

Plotting the weight of pottery by core test revealed two modest concentrations, one at the southwest corner of the mound and another midway along the west flank. Examination of the soil at these points revealed the existence of discrete patches of flank midden about 40 meters apart, perhaps associated with different buildings on the summit. It was decided to place the trench at one of these areas. Following previous practice at Moundville, a separate grid system was established for Mound R and a south baseline was permanently marked at both ends by driving three-foot sections of steel rod into the ground flush with the surface. Working from a west baseline, points for excavation units were surveyed in at the position shown in Figure 3.

This flank test, like the others excavated in the Fall season of 1993, followed the procedure first tried out at Mound Q, in which an initial one-meter-wide stepped trench, called the *reference trench*, was excavated by arbitrary levels below a datum. Reaching a depth judged sufficient for the situation, the profiles of this trench would be recorded and used as a reference to expand the trench laterally at key points. This lateral expansion, also one meter wide, is called the *control trench*, which is carefully excavated according to the visible stratigraphy . The idea, which comes from practical experience, is that such complex, sloping deposits cannot easily be excavated with good stratigraphic control from the top down without a profile reference. The reference trench serves this purpose, while the control trench becomes the source for stratigraphically unambiguous samples of artifacts from mound fill versus midden contexts, charred material for dating, flotation samples and so forth. Within the control trench, the humus and all midden contexts were routinely screened, while, with few exceptions, mound fill was not.

In this case, the reference trench took the form of two four-meter-long segments. The control trench, expanding to the south, consisted of two two-meter-long segments, one at the summit and one at the toe. The finished excavations had the appearance of two L-shaped units (Figures 4, 5).

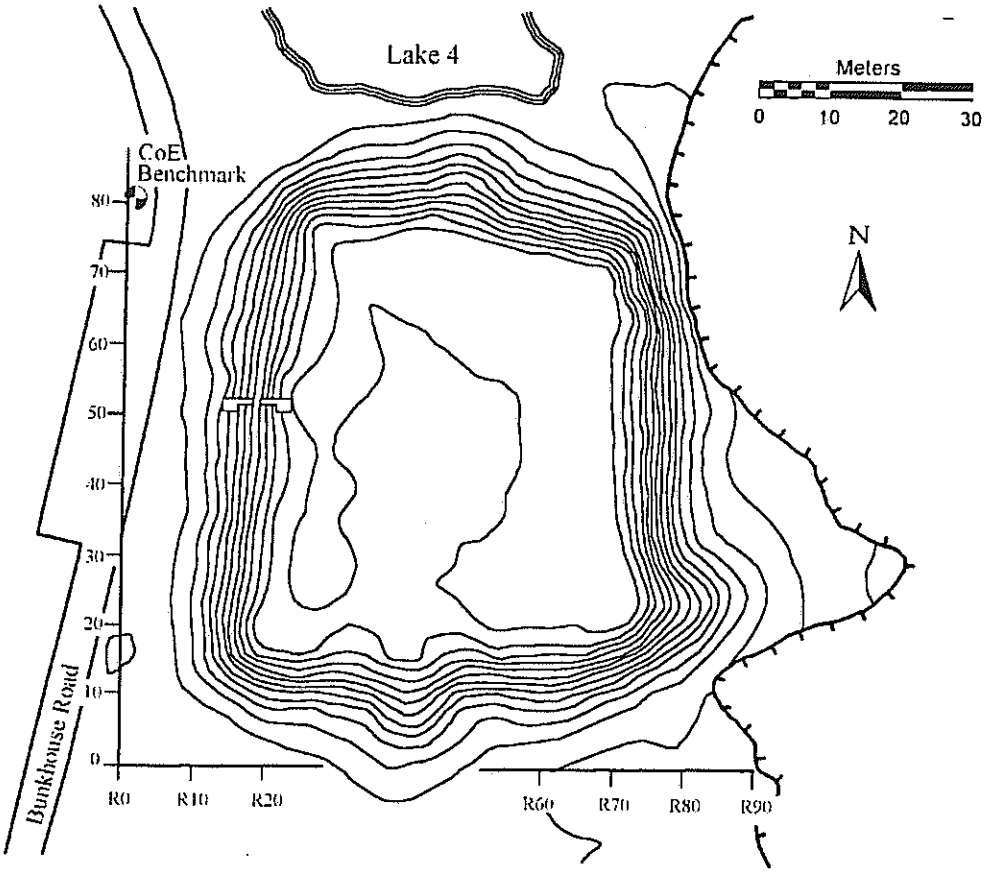

Figure 3. Contour map of Mound R. Showing Mound R grid baselines and location of 1993 excavation units into the west flank. Hachured line to the east is the crest of a steep ravine. The contour interval is 0.5 meters.

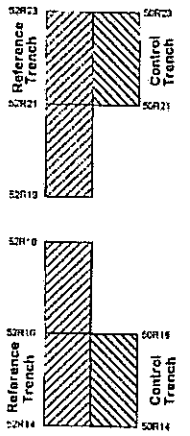

Figure 4. Plan of excavation units into the west flank of Mound R, 1993. Trench segments are two meters long. Excavations units are designated by the northeast corner grid point.

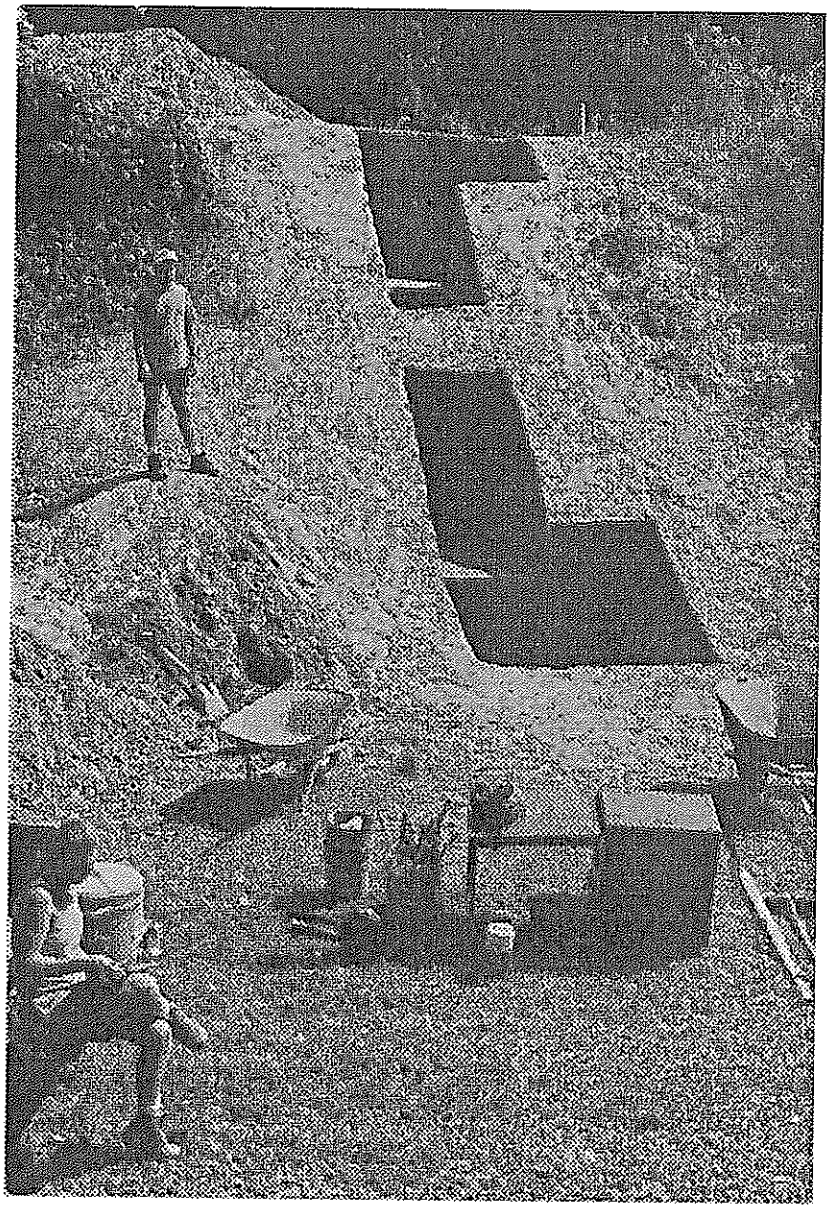

Figure 5 Completed excavations in Mound R. View is from the west.

Stratigraphy

The strategy outlined above revealed the existence of five, possibly six, construction stages within the uppermost one meter of the mound. Superimposed on this, at the summit but not on the flanks, was a thick layer of modern fill, undoubtedly added during the 1937 restoration project. Those more or less unambiguous aboriginal construction stages are labeled Stages I-V (Figure 6). We begin our nomenclature with Stage I knowing full well that we have merely penetrated one meter into the summit of a 6-meter-high construction. There are, without much

doubt, earlier constructions of unknown number and character. To their future discoverers, if any, who would curse us for the confusion of re-numbering mound stages, we off our apology in advance.

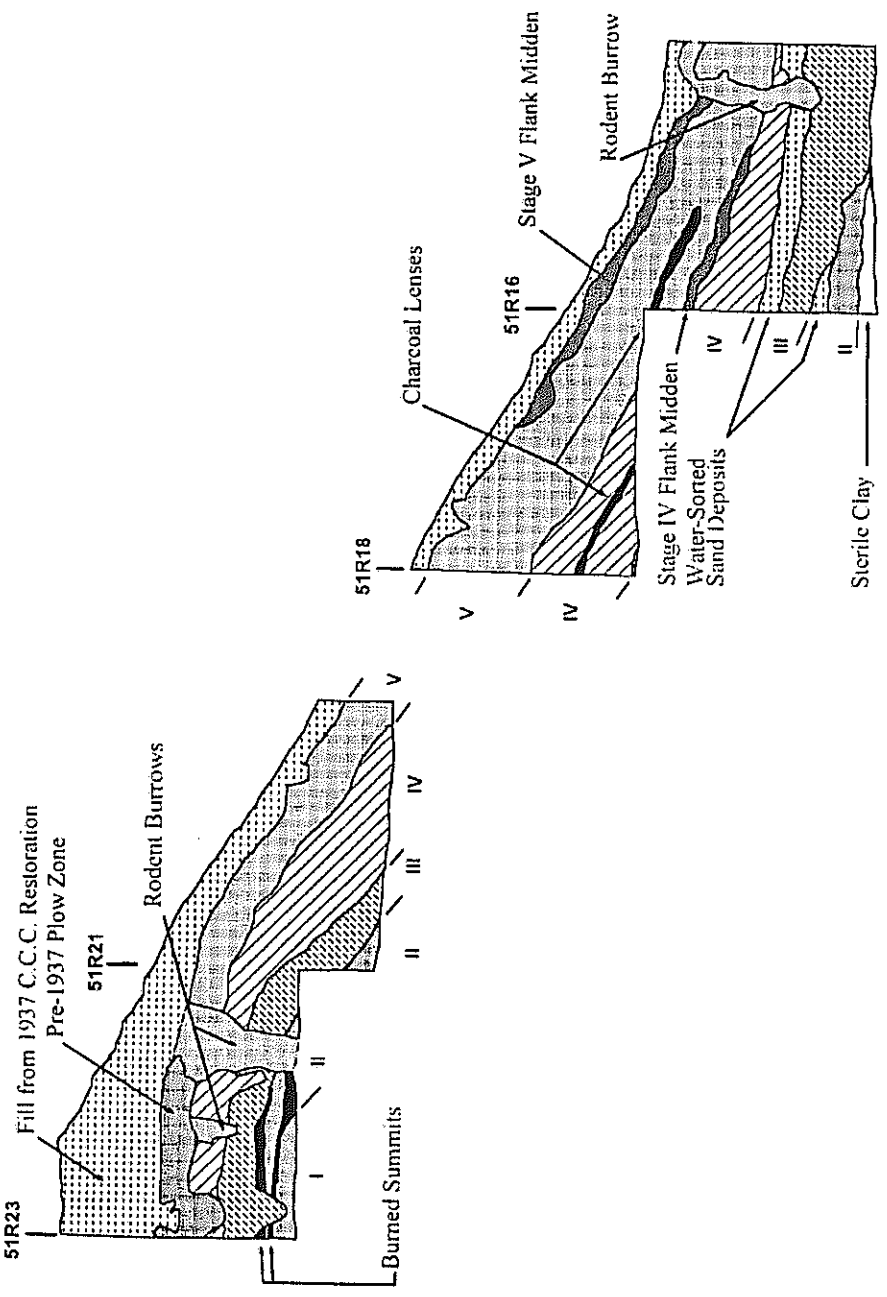

Figure 6. South profile of the reference trench, Mound R. The section is nine meters long. Slightly simplified for clarity.

Disturbances to the stratigraphy consisted of infrequent rodent burrows, and, of more consequence, a major truncation of the summit involving Stages IV and V. The culprit is plowing prior to the 1930s, based on the records at hand. There was, consequently, no remaining mound fill on the summit corresponding to Stage V. A former plow zone, now buried by restoration fill, directly overlay the truncated stage IV fill at the summit. Despite the plow disturbance to the summit, however, there was no evidence of post-occupational displacement of soils downslope. Given the documented disturbances upslope, this lack of downslope overburden came as something of a surprise. The flanks, at least in this part of Mound R, were in an excellent state of preservation.

Generally, the mound fills consisted of contrasting sandy clay soils, with thin pockets of lighter-colored clays. Excavations confirmed what had been anticipated from the core testing around the base, namely, that flank midden from summit activity was intermittent and sparse. Only two of the construction stages, Stages IV and V, showed thin midden patches overlying mound fill near the base of the mound, and the core testing indicated that these were spatially confined as well. Narrow bands of charred material were found in the fills of the later stages. In some places, both on the summit and at the mound base, there were laminated bands of water-sorted sand and silt, indicating episodes of erosion. Sterile subsoil was reached 2.3 meters below the grid reference point of our lowermost excavation unit. We turn our attention now to a description of each context in turn, beginning with the earliest.

Premound Features Beneath the Toe. A series of pits and a surface hearth, found at the base of the lowermost excavation unit, and not definitely attributable to any mound stage. The pit features (Features 12, 13, 15) were basin shaped and rounded-irregular in plan. They contained little, except for Feature 15 which had a large shattered Bell Plain sherd resting on the bottom. Shallow pit features of irregular form appear to be rather unusual at Moundville, although roughly comparable examples have been found in Moundville I phase domestic contexts at the Northwest Riverbank area of the site (Scarry 1995:121-136, 169-173). The surface hearth, Feature 4, overlay and therefore postdated one of the pits, Feature 15. This assortment of features, apparently not accompanied by any degree of midden development, indicates some sort of poorly definable premound activity in the Mound R area.

Stage I. Seen only at the base of the uppermost excavation unit. The Stage I fill consisted of uniform reddish-brown sandy clay. We have no information concerning its thickness. It was overlain on the summit by a burned surface coated with a thin, irregular layer of charred material. Although this may represent a burned building, such an interpretation has to be tempered by the fact that there was virtually no daub associated with the burned layer.

Stage II. An identical twin of Stage I. The fill was similar to that described for the previous stage. At the crest of the mound it was only about 15 centimeters thick. Like Stage I, the Summit of Stage II was burned and covered with charred material. Again this may signal a burned structure, but if so the episode seems to have generated little or no daub The earliest of the fill zones identified in the downslope units can be correlated with Stage II. There, at the toe, it was overlain by a thin lens of water-sorted sand and silt, which funneled into a pit-like depression

recorded as Feature 14. Apparently Feature 14 originated as an erosional washout that cut rather deeply into the premound level, and was eventually filled in by Stage III construction.

Stage III. Another minor episode of mound building, but one that provides at least a glimpse of summit architecture. The fill was made up of light colored sandy clay, accented by laminated sands and silts from erosional episodes. At the toe of the mound, the Stage III fill was covered by a substantial lens of water-sorted soils, the most extensive evidence of inter-stage erosion seen here or anywhere else during the project. On the summit, set back about 1.5 meters from the crest and running parallel to it was a wall trench filled with distinctive gray-mottled clay. This is a large wall trench which presumably forms the west wall of a correspondingly large building. Just exterior to the wall trench is a row of post holes also intruding from the Stage III summit, each about 18-20 centimeters in diameter and spaced 25-30 centimeters apart. The chronological relationship between this row of posts and the adjacent wall trench is unclear. No evidence of burning was present. One of the post holes in this row yielded a restorable pottery vessel, a thin, undecorated cylindrical bowl of the type Bell Plain.

Stage IV. Here we will have to be frank and admit that there might be *two* mound stages here suppressed under the same name. The upper and lower sections of this fill seemed in many places to be distinguishable, the boundary marked either by a thin lenses of charred material or by lensed clay. The problem is that this boundary also seemed to disappear in other places, particularly near the summit. So we opt for one stage with our fingers crossed. A very conspicuous charcoal lens on the flank does, at the very least, indicate some sort of interruption, within a fairly massive blanket of heavily mottled, yellow-brown mound fill. The charred material was not, however, burned in place. A thin patch of midden overlay the Stage IV fill near the toe of the mound, one of the few rewards in our quest for primary depositional contexts. Any architecture associated with the Stage IV summit has probably been destroyed by plowing during the last two centuries.

Stage V. The final construction stage on Mound R. Like Stage IV it was relatively massive in character, at least in comparison to Stages I-III, with about 70 cm of fill added to the flanks. The amount of fill on the summit was probably much thinner and was completely incorporated into the pre-1930 plow zone. Overall this construction resembles the previous one in several respects, including the character of the soils, heavily mottled and yellow-brown in color. The lower units revealed a thin lens of charred material on the lower slope, added during mid-construction, very much like the Stage IV charcoal lens. And, as was the case with Stage IV, a thin midden overlay the Stage V fill on the lower slope.

Radiocarbon Dates for Mound R

There is good news and bad news. First the good: ten radiocarbon dates were obtained for these contexts. Now the not-so-good: only a few of them are helpful in understanding the chronology of mound construction. In all, this is a disappointing series of dates, one that does not provide anywhere near the time control that was hoped for. Nonetheless they can be used to bracket the constructions in general terms.

Samples from each mound stage plus the premound features were submitted for dating, with the results shown in Table 1. Because of the common presence of corn, a C_4 plant, in Moundville samples of charred material, the raw dates were corrected for isotopic fractionation, a procedure that has the effect of producing slightly younger dates by a factor of about 40 years on average. The calibrations shown are based on Quaternary Isotope Lab's Radiocarbon Calibration Program, CALIB Revision 3.0.3 (Stuiver and Reimer 1993). For these dates we used the bidecadal calibration curve available to the program. The calibrated date column first gives the intercept or range of intercepts, followed by an age range at one standard deviation (in parenthesis) calculated from the standard age error and the calibration curve error.

Scanning the list, three of the assays are far from any reasonable conception of their true age, and others, although closer to the mark, are inconsistent with the stratigraphy. All of the wildly erroneous dates and also the internally inconsistent dates are inappropriately too early, and it is obvious what the problem is. The majority of these samples, six of ten, had final carbon weights of less than one gram, requiring extended counting. This was true, surprisingly, even of samples the excavators had believed were relatively clean and that had submitted weights of between 12 and 29 grams. Nonetheless *final* sample size is everything, and many of our samples in that respect simply do not measure up. Let us consider those that retain some measure of plausibility.

Premound Feature Complex. The calibrated date for the premound hearth, Feature 4, has an intercept of AD 1040 and a one-sigma range of calendar 898-1037. This is perhaps an acceptable date for an Early Moundville I phase context based on current estimates. Unfortunately the associated artifacts, to be discussed later, are too few to positively confirm that this is the appropriate time level.

Stage I. The one available date comes from an abundant charcoal sample from the burned summit of Stage 1, and it should be trustworthy. Because of a bend in the calibration curve, it has three intercepts, both early and late in the fourteenth century. For a better resolution we can use the facility provided by the calibration program that calculates the relative area under the probability distribution for specific date ranges in such cases, with the following result at one standard deviation.

Calendar AD Age Ranges	Relative Area Under Probability Distribution
cal AD 1295-1322	.32
1339-1393	.68

From this we can estimate that the true date is about twice as likely to belong *later* in the fourteenth century than earlier, and this is useful information.

Stage III. Of the two dates received from Stage III summit contexts, only one is in the right ballpark, a date which, because of a grand wiggle in the calibration curve, has no fewer than five intercepts ranging from AD 1052 to 1156. A finding that one of the latest construction stages

Table 1. Radiocarbon Dates, Mound R.

Context	Lab Number	^{14}C Age BP	^{13}C-adjusted Age BP	Uncalibrated Date	Calibrated Date (Age Range)	Sample Comment
Premound Hearth, Feature 4	Beta-71693	1080 ± 80	1040 ± 80	AD 910 ± 80	AD 1040 (898-1037)	<1 gram final carbon, extended counting
Stage I Summit	Beta-71685	680 ± 60	650 ± 60	AD 1300 ± 60	AD 1305-1373 (1290-1398)	
Stage II Summit	Beta-71686	1190 ± 90	1140 ± 90	AD 810 ± 90	AD 893 (786-1005)	<1 gram final carbon, extended counting
Stage III, Feature 1, Wall Trench	Beta-71687	970 ± 90	930 ± 90	AD 1020 ± 90	AD 1052-1156 (1016-1222)	<1 gram final carbon, extended counting, composite sample
Stage III Summit	Beta-71688	1990 ± 130	1920 ± 130	AD 30 ± 130	AD 84 (BC 41-AD 244)	<1 gram final carbon, extended counting
Stage IV Fill, Near Summit	Beta-71689	560 ± 70	510 ± 70	AD 1440 ± 70	AD 1426 (1400-1446)	<1 gram final carbon, extended counting
Stage IV Flank Midden	Beta-82815	580 ± 60	520 ± 60	AD 1430 ± 60	AD 1421 (1400-1441)	Composite sample
Stage IV Flank Midden	Beta-71690	1220 ± 130	1160 ± 120	AD 790 ± 120	AD 888 (719-1011)	<1 gram final carbon, extended counting
Stage V Fill, Charcoal Lens	Beta-71691	690 ± 60	640 ± 60	AD 1310 ± 60	AD 1307-1379 (1292-1400)	<1 gram final carbon, extended counting
Stage V Flank Midden	Beta-71692	570 ± 60	500 ± 60	AD 1450 ± 60	AD 1431 (1405-1446)	

in Mound R was actually this early, corresponding to the Early Moundville I phase, would be fascinating, but there is good reason to disregard the assay. It is, first of all, out of sequence with the date from Stage I, and, more importantly, the sample is one of those whose final carbon weighed less than a gram and required extended counting. Almost without exception, such samples in the Mound R series turn out to be implausibly early.

Stage IV. Two of the three Stage IV dates are consistent with each other, the only such case of agreement in the entire Mound R series. The one from the summit has an intercept of AD 1426 and the one from the midden on the lower flank has an intercept of AD 1421. The third date can be ignored for all the reasons we have mentioned.

Stage V. The two dates for Stage V do not overlap at one sigma. One from the charcoal lens within the Stage V fill has three intercepts in the fourteenth century. It is out of sequence with the two respectable-looking dates from Stage IV just discussed, and it is also one of the small-sample assays which have generally given us fits in this series. The other date, which had sufficient final charcoal for normal counting, comes from the Stage V midden and has a mean of 1431, which is reasonable in view of the two from Stage IV.

Summary. What seemed at first a bountiful harvest has left us with a lot of chaff and only a little wheat. Let us review just the wheat, as it pertains to the construction sequence.

Stage I	1290 (1305-1373) 1398
Stage IV	1400 (1421) 1441
	1400 (1426) 1446
Stage V	1405 (1431) 1446

It is fortunate that this short list includes the earliest and latest construction stages encountered, allowing us to bracket the stages in between. Recalling that the first of these dates has a greater likelihood of falling in the *late* fourteenth century, a general interpretation can be offered which claims that Stages I through V cover roughly a century of time, between about AD 1350 and 1450. This range would fall within the Late Moundville II through Early Moundville III phases as they are currently understood. The late end is the more firmly fixed. Stages IV and V would belong to the early 1400s, assignable to the Early Moundville III phase. And Mound R would seem to have been abandoned by about A.D. 1450. It remains to see whether temporally diagnostic artifacts uphold this picture.

Diagnostic Artifacts

Primary contexts, including flank middens, summit debris, and feature contents, yielded 851 sherds. Most are undecorated or otherwise unhelpful for chronological purposes. Noteworthy, though, is a Moundville Engraved *var. Hemphill* sherd from the Stage V midden, a classic winged serpent design from a bottle. To these data can be added the following information on potentially diagnostic modes: The premound features yielded two folded-flattened jar rims, and

the Stage V midden yielded one red on white painted rim sherd from a collared bowl and one beaded rim.

This is not much useful information, but one can at least conclude that the distribution does no great violence to the chronology suggested by the radiocarbon dates. The lone Moundville Incised sherd and the folded-flattened jar rims lend some support to the idea that the premound features belong to the Early Moundville I phase. A grog tempered sherd classified as Avoyelles Punctated, a Lower Mississippi Valley type, was found on the Stage II summit. The type is perhaps too early for the fourteenth century radiocarbon date, belonging on a Late Coles Creek-Early Plaquemine horizon, but this is not a cause for much concern. Finally the red on white painted collared bowl sherd, the beaded rim, and the *Hemphill* winged serpent are acceptable in the suggested Early Moundville III phase placement for Stage V.

Turning now to the sherd data from secondary and miscellaneous contexts, potentially diagnostic modes include the following: two folded jar rims from miscellaneous contexts, one beaded rim and one folded jar rim from the humus, and one folded jar rim and one scalloped bowl rim from mound fills.

Our previous study of the CCC collections from Mound R concluded, on the basis of diagnostic sherds from unknown contexts, that material dating to the following phases was present: Early Moundville I, Late Moundville I, *possibly* Moundville II, and Moundville III---in other words, virtually the entire span of occupation at the site. That summary could just as easily describe the 1993 collections.

Despite the absence of any mound stages in the flank trench that appear to date as early as Moundville I, there are plenty of diagnostics of that phase anyway, particularly in the redeposited mound fill levels. According to our model of diagnostics, the folded jar rims, the Moundville Incised sherds, particularly *var. Moundville*, and the *Moon Lake* sherd date largely or exclusively to the Moundville I phase. There is also evidence, more specifically, for *Early* Moundville I; materials that date prior to about AD 1150. These would include the folded-flattened jar rims mentioned previously as having come from the premound feature complex, and a Moundville Incised, *var. Oliver* sherd from the water-deposited zone on the Stage II flank.

As in the CCC collections from Mound R, evidence of a Moundville II presence is weak at best, despite our dating of Stage II to this phase. Some of the Moundville Incised, *var. Carrollton* sherds may fill this gap, and a *Prince Plantation* sherd from Stage V mound fill is a reasonable Moundville II phase diagnostic. As for Moundville III diagnostics there is nothing more to add to what has been already mentioned.

Discussion

In the 1993 trenching of Mound R we discovered evidence of five, or perhaps six, construction stages in the mound's later history. Despite getting a less than stellar series of radiocarbon dates from these contexts, these construction stages can be placed with a fair amount

of confidence in the time span AD 1350-1450. Diagnostic pottery from primary contexts, although meager, lends some support to such a chronological placement. All of these stages, taken individually, can probably be considered as minor episodes, involving only a small fraction of the total fill in Mound R.

Nonetheless this was a period in Moundville's history during which mound construction in general seems to have been on the wane, and during which some mounds, particularly those on the south side of the plaza, were abandoned entirely. It is, therefore, a finding of some importance that periodic earthwork construction continued with modest vigor during this time at one of the larger mounds on the northern margin of the plaza. Burned summits on Stages I and II and the post holes and wall trench of the Stage III summit hint at perishable architecture extending almost to the edge of the mound. Assuming symmetry, Mound R as early as Stage I was almost as spacious horizontally as it was in its final Stage V configuration. Using Mound E as a model, we can speculate that the Mound R summit was crowded with summit architecture during the Late Moundville II and Early Moundville III phases.

It is also significant that the final earth construction at Mound R is radiocarbon dated no later than AD 1450, since this is also true of Mounds Q, E, and G. The cessation of earthwork construction at Mound R and other large mounds on the northern end of the site in the mid-fifteenth century can perhaps be read as marking the end of the era when Moundville's leaders could command regional labor resources to any great degree.

Concerning construction stages in Mound R predating AD 1350, we can only speculate. The field crew unexpectedly had to excavate through almost a meter of CCC-era restoration fill on the Mound R summit before reaching intact aboriginal deposits, and because of time constraints they could excavate no deeper than about 90 centimeters below that. Thus our Mound R data are silent with respect to one of our central hypotheses---that the layout of public architectural space at Moundville was a specifiable event occurring about the middle of the Moundville I phase, ca. AD 1150 or shortly thereafter.

Although it is true that Moundville I phase diagnostic artifacts turned up repeatedly in the excavations, they were virtually all found in later, redeposited contexts, and cannot be considered reliable evidence of earlier mound constructions. Nonetheless, the anachronistic appearance of these artifacts does require explanation. The best we can do is to offer the suggestion that the sources of borrow dirt for construction included areas that had seen a great deal of Moundville I phase habitation. Indeed, we know independently that the midden deposits on the river bank just to the north of Mound R, which are the deepest deposits yet discovered at the site, are mostly attributable to Moundville I phase use (Scarry 1981; Steponaitis 1983:94-106). Moreover it has been argued that these river bank deposits north of Mound R are more specifically the products of *elite* Moundville I phase activity (Scarry 1995:243-245; Welch and Scarry 1995:404). This in itself might signal the presence elite Moundville I phase architecture nearby, perhaps including the Mound R locality.

We interpret the premound features uncovered beneath the western flank of Mound R as possible evidence of Early Moundville I phase (ca. AD 1000-1150) domestic activity. This included irregular pits, a surface hearth, and a post hole. The hearth yielded an eleventh century radiocarbon date compatible with an Early Moundville I phase attribution. The only temporally diagnostic artifacts in association with these features were two folded-flattened jar rims. Other potential Early Moundville I phase diagnostic artifacts have also turned up in redeposited mound fill contexts. Our present conception of settlement at Moundville during the Early Moundville I phase is one of scattered houses and house clusters spread generally along the riverbank and the bank of Carthage Branch, without the obvious formality of settlement found later as the site became a primary center. The evidence at Mound R, if correctly interpreted, is consistent with this impression.

Excavations in Mound F

Mound F is a mound of unassuming proportions, at least in comparison to its neighbors. It is located on the east margin of Moundville's plaza, which it helps to define along with Mounds G and H (see Figure 1). Presently it is about half encroached by the tree line marking the forested northern rim of Moundville Archaeological Park. Like Mounds R and E, Mound F is nestled up against one of the steep ravines that cut through the terrace on the northern side of the site. The ravine comes closest at the northwest corner of the mound, but lateral erosion appears not to have cut into the mound itself. Mound F was built on the sloping ground surrounding the head of this ravine. As it appears at present the mound is rectangular in plan, with well preserved corners and a flat, well defined summit (Figure 7). The basal area is about 45 meters by 30 meters, and the summit rises approximately five meters above the plaza. Because of the sloping ground the height above the surface is somewhat greater to the east and southeast. There is no outward indication of a ramp.

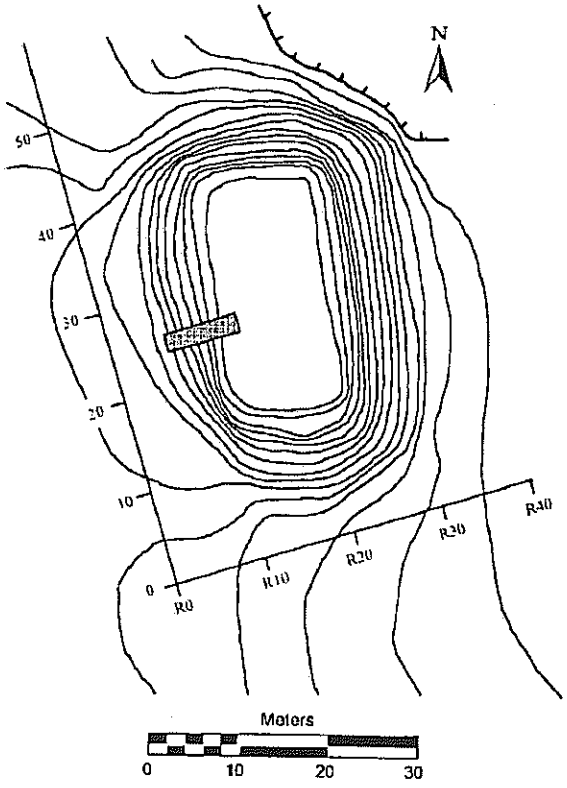

Figure 7. Contour map of Mound F. Showing Mound F grid system and the location of the 1993 excavation units on the western flank. Hachured line to the northeast is the crest of a steep ravine. Contour interval is 0.5 meters.

Clarence Moore, who in 1905 made the only known previous excavations into Mound F, describes the mound as heavily gullied on the flanks and as deflated across much of the summit by erosion resulting from cultivation (1905:188). While Moore's statement regarding its cultivation

is not to be doubted, it is difficult now to imagine why anyone would bother to clear and plant the top of such a small and steep-sided mound. Moreover Moore's characterization of Mound F as gullied and eroded on top is a picture greatly in contrast with its present, quite regular appearance. This suggests that some repair work may have been done on the mound in the late 1930s by the CCC, although, as we shall see, little evidence of flank erosion and none of repair work was found in the small part of the mound excavated by us.

Moore excavated 11 trial holes in the summit. Subsequently, having observed evidence of burials in the northeast section of the summit, he trenched the summit lengthwise with two parallel trenches. The trenching revealed additional burials in the northeast summit, leading Moore next to define an excavation block 38 by 28 feet in that area, comprising about one-quarter of the summit. He excavated this block completely to a depth of four feet. He found nineteen burials, all confined to the northeastern edge of the mound summit. This pattern of finding burials in marginal summit areas is repeated in Moore's description of other mortuary mounds, allowing us to speculate that such interments were made *exterior* to any centrally located building, or perhaps within a marginal room or outbuilding. Pottery vessels generally accompanied the human remains, along with such items as a six-inch pottery disk made from a vessel fragment and a knobbed smoking pipe of soapstone. Additional finds included small stone and pottery disks, a pottery figurine of an owl, and another pottery figurine of crude human form, of the kind we have recognized elsewhere in several places and have come to call "caspers" (Moore 1905:188-194).

It is perhaps a safe conclusion that all of the interments found by Moore in Mound F belong to the final construction stage of this mound, and are contemporary with any summit architecture present at that time. Steponaitis (1983:140) seriates those interments with temporally diagnostic pottery to the Moundville II phase, a placement which, as we shall see, is entirely consistent with our own results from the 1993 excavations.

Mound F was selected for investigation primarily because of its documented use for mortuary purposes. Like Mound Q, previously chosen for examination by us for much the same reasons, Mound F is one of the smaller mounds belonging to a hypothesized "mortuary temple" category, which appear to alternate around the plaza margin with larger mounds lacking burials. It was desirable to acquire information on at least two mounds of this category, to permit comparisons with our findings from Mounds R, E, and G, all of the larger, non-mortuary variety. Also, it was observed that Mound F occupies a position on the eastern plaza margin identical to that occupied by Mound Q on the western side. Peebles (1971:82), in a discussion of the bilateral symmetry exhibited by the mounds, first called attention to this possible relationship. Given our relatively intensive effort in Mound Q, it was decided that a test in Mound F might shed light on this question of bilateral symmetry across the plaza from west to east.

The 1993 Excavations

Fieldwork on Mound F was undertaken between October 11 through November 15, 1993. The objectives of the work were to excavate a trench into one of the flanks to a depth sufficient to gain some understanding of the mound's construction history, and to obtained controlled samples

of artifacts and biocultural remains from midden deposits we expected to find, based on our prior experience elsewhere, overlying various construction stages. Two years previously, during the Fall of 1991, a crew from a University of Alabama field school has excavated a series of core tests around the toe of mound F in anticipation of the work described here. In an attempt to locate flank midden deposits or artifact concentrations, a manual post hole digger was used to core the base of the mound in 13 places, the earth being screened through quarter-inch mesh. Although this effort did yield a few potsherds, small bits of daub, and stone, no obvious concentrations were seen anywhere near the base of the mound. This being the case, the 1993 trench was placed near the center of the west flank---not an entirely arbitrary decision, since this location was clear of trees and afforded easy access from the Park roadway.

The absence of an obvious midden dump on the flank of Mound F is a curiosity in view of the fact that such a dump is a highly conspicuous feature of Mound Q, its presumptive twin across the plaza. If a functional difference in summit uses can be ruled out, it would seem that our second alternative mentioned with regard to Mound R---location convenient to a ravine---might be the deciding factor. If so, debris from summit use of Mound F was routinely thrown into the ravine on the northeast side, where it would have been flushed out periodically by rainwater.

Figure 7 shows the location of the 1993 trench and the grid system established for Mound F. In surveying in the grid, both ends of the south baseline were permanently marked, as was our custom, by driving three-foot sections of steel rod into the ground flush with the surface at these points. The excavations took the form of a stepped trench eight meters in length and two meters wide (Figure 8). Following the procedure we have discussed at length elsewhere, the first one-meter-wide section of the trench was excavated in arbitrary levels below a datum and was called the *reference trench.* Subsequently the adjacent one-meter-wide segment was excavated stratigraphically by reference to the first segment and was called the *control trench.* From the latter come the controlled samples that carry weight in key issues, the first of which is construction chronology. Although heavy rains plagued the excavators and caused periodic profile slumps that marred field photography, the crew still managed to excavate the entire eight meter length of the control trench.

Stratigraphy

The 1993 trench into the west flank of Mound F produced a series of profiles that are susceptible, we have to admit, of more than one interpretation. The obvious part is that the bulk of Mound F was built up in major construction stages rather than by small increments. Most of the mound fill revealed in profile belongs to a single construction stage which we shall call Stage I, which reaches a minimum depth of two meters below the summit. The profiles appear to show a dissimilar fill thinly covering Stage I, and we will call this Stage II. The relatively simple construction history of Mound F is thus very different from Mounds Q and R, both of which show evidence of multiple incremental additions within the final one meter of fill. Counting the volume of earth on the flanks, the massive Stage I accounts for at least half of the volume of Mound F. We have no way of knowing how much deeper the summit of the next previous stage, if any exists, may lie. Mound F's stratigraphic simplicity was the first of two surprises. The second was

the discovery of an episode of plaza filling and leveling that underlay and therefore predated at least the final construction episode of the mound, and perhaps the entire mound.

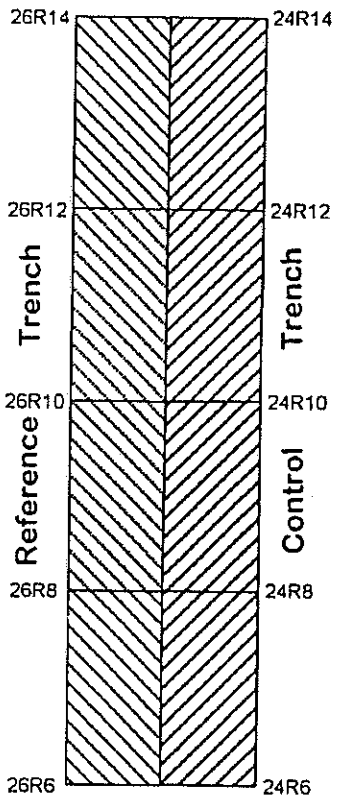

Figure 8. Plan of excavation, Mound F, showing relative placement of the reference trench and the control trench. Trench segments are two meters long, for a total length of eight meters. Individual excavation units carry the grid designation of the northeast corner point.

The south profile of the control trench (Figure 9) shows the basic stratigraphy, revealing a single major construction stage followed by a minor construction stage, both superimposed on layered plaza fill.

Aside from a few root disturbances, there were no significant disruptions to this straightforward stratigraphy. The thin, sandy blanket of Stage II fill was not continuous but rather interrupted, probably due to flank erosion, but the erosion could not have been very extensive, because sections of a thin midden overlying the Stage II fill was preserved in several places. Moreover, no evidence of either colluvial slump or water-deposited soils was noted at the base of

the mound. The following sections describe in greater detail the plaza fill and the overlying construction stage.

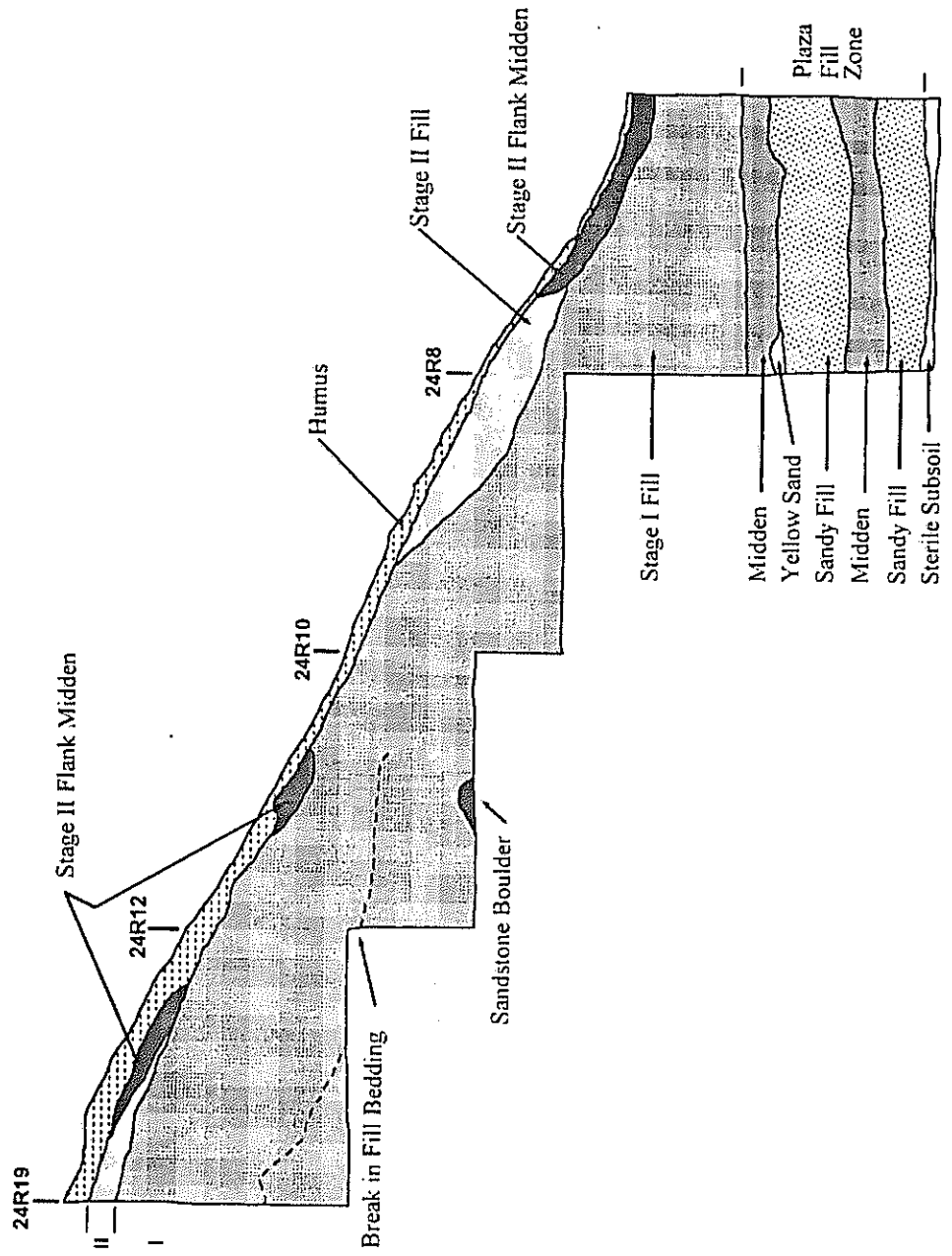

Figure 10. South profile of the control trench, Mound F. The section is eight meters long. Slightly simplified for clarity.

Plaza Fill. As the work on the east side of the plaza progressed at Mounds F and G, the more it became apparent that the original topography in this area of the site was that of a gently sloping basin that drained into the head of a major ravine. The original slope became vividly apparent with the excavation of the lowermost excavation unit in the Mound F trench, Unit 26R8. In that unit the excavators finally reached sterile subsoil at an unexpected depth of 2.1 meters below the surface, turning that unit into the proverbial "telephone booth." The lowermost meter of fill was different in character than the compacted, clayey mound fill above. This was a horizontally layered, sandy fill of relatively variable consistency.

Within this fill, sandwiched between relatively sterile strata, were two layers that were distinctive in several ways. These layers, shown with dark shading in Figure 10, generally were sandier, more mottled, looser in consistency, and they had a much higher humic component than the remainder. They also yielded unexpectedly substantial quantities of occupational debris, including sherds, charcoal, small bits of daub, animal bone, and some shell. It is difficult to say whether this debris accumulated basically in place, on the one hand, or whether, on the other hand, it mostly reflects refuse dumping from nearby occupied areas while the plaza filling project was in progress. Contributing to this ambiguity is the impression that the debris layers did not show the characteristics of occupational *surfaces*. An additional datum, perhaps supporting an argument for in-place dumping, is was the discovery of a surface hearth within the lowermost midden-like stratum. This hearth, designated Feature 1, consisted of an irregular fired clay surface and associated concentration of charcoal.

If our interpretation is right, the premound fill encountered beneath the toe of Mound F was placed there as part of a construction project, impressive in its conception, to level the plaza in the direction of Mound F. If so, the fill must form a wedge in cross section, feathering out toward the plaza perhaps some 50 meters away from the mound. Its greatest thickness is perhaps one meter, directly beneath Mound F. Judging from the terrain north and south of Mound F, this wedge of fill is not extensive laterally but forms a lobe reaching directly to this mound. The existence of plaza filling and leveling prior to mound construction underscores the extent to which the overall plan of the center was imposed upon the preexisting landscape. The land modification also suggests the importance of having all of the mounds on the plaza periphery visually at the same base level.

Stage I. The major construction stage encountered in the Mound F excavations directly overlay the plaza fill at the base of the mound. Fill characteristics were uniform throughout this massive construction. This fill consisted of compact, highly mottled, light colored clay, practically devoid of artifacts. In random places the fill also incorporated rather large ferruginous sandstone rocks. Most of this fill, including the sandstone rocks, resembled deposits that can be found along the lower banks of nearby Carthage Branch, suggesting that the fill was borrowed from such a setting.

Horizontal bedding of basket loads could be seen in profile extending out to the margins of the mound, showing that height was added in a controlled manner during construction. In two of the east-facing profiles of the stepped excavation, curious bedding breaks were noticed at

angles of about 30 to 45 degrees on a north-sloping plane, indicating interruptions during construction. Field observations interpreted these obvious breaks as indicative of more than one construction stage, although it was difficult to tell how bedding planes rotated 90 degrees from the final mound flank in this portion of the mound should be interpreted. The best guess at the time was that the side of a west-facing ramp had been intercepted, and that what we are here calling Stage I was really two constructions, the latter having both truncated and covered the earlier ramp. However, a careful examination of all of the relevant profiles and field photographs allow us to throw out the ramp hypothesis as impossible to reconcile with the geometry of the various bedding breaks. By default, all we can say is that construction of the Stage I was interrupted at intervals that left steep north-facing slopes in odd places.

Stage II. The status of Stage II as an independent construction is frankly uncertain. This was a thin layer of sandy fill which contrasted with the underlying Stage I fill. It was most obvious at the summit, where it could be seen as a distinct fill layer between the humus and the Stage I fill. Downslope, this fill was interrupted, probably due to erosion.

Fortunately for our purposes, remnants of a thin midden deposit were found on the outer flank in a few places just below the humus, stratigraphically overlying Stage II. The fact that the Stage II fill is missing in some places where this midden occurs, suggests that the fill was already eroded--perhaps having been unstable because of its sandy nature--when the midden was laid down. Sherds, animal bone, flecks of charcoal, and small fragments of daub were scattered through these lenses of debris, the daub indicating that a building on the summit had burned. This debris can be attributed to the final use of the summit, no doubt contemporaneous with the summit burials recovered from Mound F by Clarence Moore in 1905. We associate the midden with Stage II.

Radiocarbon Dates for Mound F

Charcoal in suitable quantities for radiocarbon dating was not plentiful anywhere in the Mound F excavations, except in the two humic zones of the plaza fill where it was recovered in abundance. Five samples were selected for dating by Beta Analytic, Inc., four of which were from the plaza fill, given its potential for securely dating initial mound construction in the Mound F area. The other was a composite of two field samples collected from the flank midden overlying the final construction stage. Our hope was therefore to bracket the earliest and latest evidences of use. The results are given in Table 2.

Let us first consider the dates for the premound plaza fill. One could not ask for better internal consistency among these four assays, despite the fact that one of the samples contracted that malady common to the Mound R series, namely, final carbon less than one gram requiring extended counting. (We are once again at a loss to explain this tiny sample size, since the submitted weight of that sample, after preliminary cleaning in the lab, was 34.7 grams, equivalent in weight to some of our very best.) At any rate there is no harm done, because all four samples overlap nicely at one standard deviation. It is particularly noteworthy that the two samples collected from the midden-like zone near the base of the plaza fill yielded essentially the same

Table 2. Radiocarbon Dates, Mound F.

Context	Lab Number	^{14}C Age BP	^{13}C-adjusted Age BP	Uncalibrated Date	Calibrated Date (Age Range)	Sample Comment
Plaza-Leveling Fill, Lower Humic Zone	B-71698	780 ± 70	750 ± 70	AD 1200 ± 70	AD 1282 (1229-1298)	Subdivided with B-71699
Plaza-Leveling Fill, Lower Humic Zone	B-71699	840 ± 60	780 ± 60	AD 1170 ± 60	AD 1275 (1221-1288)	<1 gram final carbon, extended counting
Plaza-Leveling Fill, Upper Humic Zone	B-71700	850 ± 70	800 ± 70	AD 1150 ± 70	AD 1253 (1192-1286)	
Plaza-Leveling Fill, Upper Humic Zone	B-71701	740 ± 80	700 ± 80	AD 1250 ± 80	AD 1293 (1273-1391)	
Flank Midden, Unit 26R8, Control Tr.	B-71702 CAMS-12967	900 ± 60	880 ± 60	AD 1070 ± 60	AD 1176 (1046-1098)	AMS technique. Composite sample. Too small for conventional dating.

result as the two from the uppermost humic zone within this fill. Evidently, in spite of the even layering of the fill, it was all put in place in a short span of time. There is some empirical support, then, for referring to the plaza fill as an *episode* or a single project rather than as an incremental process. And this episode can be placed firmly in time between about AD 1250 and AD 1300, corresponding to the beginning of the Moundville II phase as our chronology is presently understood. If the plaza fill continues *entirely* underneath Mound F--and we have no firm knowledge of that--then the entire mound, and not just the final construction stage, postdates AD 1250.

The final date, from the Stage II flank midden, resulted from a sample that was relatively small to begin with, put together from flecks of charred material collected at two different times. Not too surprisingly, this sample was reported back as too small for conventional dating. Because of the importance of dating the final occupation of Mound F, we requested that the sample be dated using the AMS technique, which can accommodate very small organic samples. This yielded an assay with a calibrated intercept of 1176, implausibly earlier than the four plaza fill dates and incompatible with diagnostic artifacts recovered by Moore from summit contexts, which, as we have said, fall in the Moundville II phase. Thus, despite our efforts to shoehorn this sample into the scheme of things, the date should be ignored. Small charcoal samples were not kind to us in this project.

Diagnostic Artifacts

Primary refuse deposits in Mound F were limited, as we have said, to small remnants of flank midden overlying the final construction stage. In addition to these were two superimposed refuse zones within the underlying plaza fill. Potentially diagnostic modes from these contexts include the following. From the humic zones in the plaza fill came one folded-flattened jar rim and one cutout rim from a terraced rectangular bowl. The latter, a Moundville Engraved sherd uniquely decorated with rectangular panels and bold cross-hatching, lends weight to the idea that the refuse layers and hearth in the plaza fill may be connected with special, possibly ritual activity. In this connection we can also make note of the high ratio of service pottery to utility pottery in the same zones (33:67), although the sample sizes are quite small. Next, from the flank midden and humus, came two folded jar rims and one beaded bowl rim. Painted sherds from the flank midden include one red-on-white, one white-on-red, and one polychrome sherd.

From the plaza fill refuse zones the chronologically latest diagnostic is a single sherd classified as Moundville Engraved *var. Tuscaloosa*. Steponaitis (1983:332) places this type no earlier than Late Moundville II, but our conflation of *var. Northport* (Steponaitis 1983:318-319) with *var. Tuscaloosa*, for the purpose of classifying sherds in this project, erases any conflict with our radiocarbon dates.

The latest sherd material from the Stage II flank midden, which should conform to the terminal occupation of Mound F, includes a large number of sherds (31) classified as Moundville Engraved *var. Hemphill*, to which we must add the lone beaded rim sherd and painted sherds mentioned previously. The red and white painted sherds might be considered troublesome in view

of Steponaitis's seriation of red-and-white painting to Late Moundville III (1983:129). Given the presence of polychrome (red, white, and black) pottery in the same contexts, however, we are inclined to regard these sherds as potentially deriving from larger polychrome designs. According to our chronological model *var. Hemphill* makes its debut in the Early Moundville II phase and beaded bowl rims first appear in Late Moundville II. Specific designs identifiable on the Hemphill sherds include at least two instances of the winged serpent theme, two instances of crested birds, one of (severed?) bird tails, and one sherd with the "windmill" design. This material is consistent with a Moundville II phase dating for the terminal flank midden, in agreement with Steponaitis's dating of the summit burials recovered by Moore. Also worthy of mention from the flank midden are three nonlocal sherds of probable Lower Mississippi Valley origin, including two classified as Barton Incised *var. Barton*, and one as Parkin Punctated. These are not of much use for fine-scale chronological purposes.

Adding in the sherd material from plaza fill, Stage I mound fill and miscellaneous (principally reference trench) contexts, we find additional support for our chronological placement of the plaza fill and terminal mound contexts. The absence of Moundville Engraved *var. Hemphill* in the plaza fill is noteworthy in view of its strong showing in the Stage II flank midden, and other types dating to Late Moundville II or later are absent as well. Of the most recent material in other contexts, we note the presence of two additional beaded bowl rims in mound fill and reference trench contexts, plus a sherd from a Moundville Engraved *var. Tuscaloosa* indented bottle from the mound fill, the latter dating, according to our model, no earlier than Late Moundville II.

Additional sherds deriving from bowls with lowered lips and terraced rims occurred in the Mound F excavations. These uncommon, special purpose vessels were perhaps designed to display their contents--whatever that might have been--in ritual contexts, judging from what little we know about their distribution. Sherds from three such vessels include a Bell Plain sherd from a bowl with a lowered lip, a Moundville Engraved *var. Unspecified* terraced rectangular bowl, and several sherds from another terraced rectangular bowl bearing polychrome decoration. All were found in reference trench contexts, meaning that we cannot be sure about their stratigraphic position, but we feel justified in the conjecture that their presence here is related to activities taking place on the mound summit. The polychrome sherds are unusual in their thickness and boldness of design, which probably means that they came from a larger terraced bowl than any of the whole specimens we have examined. The painting technique is also unusual. Whereas most polychrome sherds at Moundville are negative painted black and red on white, this vessel is negative painted black and white on red, which gives a quite different effect. The design is concentric bulls-eyes, also found on one of the whole terraced bowls in the AMNH collection and on a terraced rim sherd from Mound Q.

Somewhat more difficult to explain is the ubiquitous presence of types and diagnostic modes that clearly predate the depositional contexts in which they were found. This includes a few sherds of Woodland types, and highly visible quantities of diagnostics associated with the Moundville I phase. Scanning the tables we find Moundville Incised *vars. Moundville*, *Snows Bend*, and *Oliver*, Carthage Incised *vars. Moon Lake* and *Summerville*, and Moundville Engraved *vars. Elliots Creek* and *Stewart* among the types, and such diagnostic modes as folded and folded-

flattened jar rims, gadrooning, and hemagraving. Some of the diagnostics, in particular the Moundville Incised *var. Oliver* and the folded-flattened rims, are most prevalent during the Early Moundville I phase and some are perhaps later, but all probably had gone out of use prior to the plaza filling episodes and certainly prior to the mound contexts judging from our radiocarbon dates. Lacking alternatives, we are left with the slightly uneasy supposition that *all* of this material came in with redeposited mound and plaza fill.

Discussion

The stratigraphy of Mound F, insofar as we could tell from a trench into the west flank, was simplicity itself: a massive stage of light-colored, mottled clay followed by a minor construction of sandier fill. It is possible that one or more smaller constructions underlie our Stage I, but it is equally conceivable that a five meter tall mound was erected in one stage. Although the flanks were free of any substantial accumulations of debris, suggesting that most refuse from summit activity went directly into the adjacent ravine, the crew was fortunate enough to discover a thin midden in places just under the humus and overlying the Stage II fill, allowing us to conclude at least a few things about what went on at the top, and when.

For one, the presence of bits of daub throughout this midden indicates the presence of one or more burned buildings on the summit, probably contemporary with the cluster of nineteen burials that Moore excavated on the northeast summit margin. Unfortunately the only radiocarbon assay obtained from the flank midden is a spurious one, but the diagnostic pottery from the mound fill and flank midden is adequate to provide a reliable age estimate. The sherd data are in agreement with the diagnostic vessels from summit burials in their indication of a Late Moundville II context for the terminal occupation of Mound F.

Thus Mound F was abandoned prior to about AD 1400. This finding has a twofold significance. First, it allows us to group Mound F with the other mounds at Moundville which, on the basis of sherd data, appear to have been abandoned by the end of the Moundville II phase. These are Mounds H, I, J, K, and M, on the southern margin of the site (Knight 1989a; Astin 1995). Second, the timing tends to confirm an observation concerning the use of smaller mounds at the site as elite mortuaries, namely, that the practice was, as a rule, discontinued by about AD 1400.

The existence of a wedge of plaza-leveling fill beneath Mound F has additional chronological implications, particularly if one can infer that it runs entirely under the mound. This fill zone is securely dated by four radiocarbon assays to ca. AD 1250-1300, roughly at the beginning of the Moundville II phase. Therefore, Mound F may date *entirely*, start to finish, to the Moundville II phase, in construction and use for a period of less than 150 years. Such a conclusion would run counter to one of our primary working hypotheses concerning the initial layout of public architecture at Moundville, which specifies that this event took place as much as a century earlier than the Mound F plaza fill. But what is most intriguing about the plaza fill is that it represents the use of communal labor to flatten the natural terrace and in so doing to regularize the appearance of the mound and plaza arrangement. Here community leaders poured significant

labor into an earth-moving effort to improve upon the aesthetics of the situation, quite apart from the symbolism of building pyramidal mounds. Such an action suggests the primacy of the initial layout in dictating the location of things. Mound F otherwise would have been constructed just slightly downslope from the central mounds of the group.

Concerning the two midden-like zones sandwiched within the plaza-leveling fill, our ambivalence no doubt shows. On the one hand the context is a seemingly mundane filling enterprise which radiocarbon evidence demonstrates was of fairly short duration. One can thus envision the fill being used as an occasional dumping ground for occupational refuse being generated nearby. But on the other hand there is a surface hearth in the lower level marking some sort of activity upon the fill itself, in mid-construction. One cannot dismiss, then, the possibility that at least a portion of the refuse was generated in place. Moreover, standing out as exceptional among the artifacts found in this refuse-laden zone a rim sherd from an engraved terraced bowl, not the sort of thing one would expect in ordinary domestic debris. It is perhaps conceivable, to go one step further, that public architecture stood at ground level in the Mound F locality at this time and is responsible for the debris zones. This is where we must leave the question, with the plaza-leveling fill being perhaps the most firmly dated Early Moundville II phase context yet excavated, and still having failed to yield firm answers concerning the functional context of the debris zones it contains.

Excavations in Mound G

Mound G is the largest of the row of mounds defining the east side of the plaza at Moundville. It is a graceful looking mound, an impression conveyed by its tall proportions and gently rounded contours (Figure 11). Its basal dimensions are about 60 meters on the north-south axis and about 48 meters at its widest point on an east-west axis. Although the overall plan is rectangular, Mound G is slightly broader on the north side than on the south, and the entire north flank has a distinctively rounded appearance. The height is 6.5 meters above the level of the plaza.

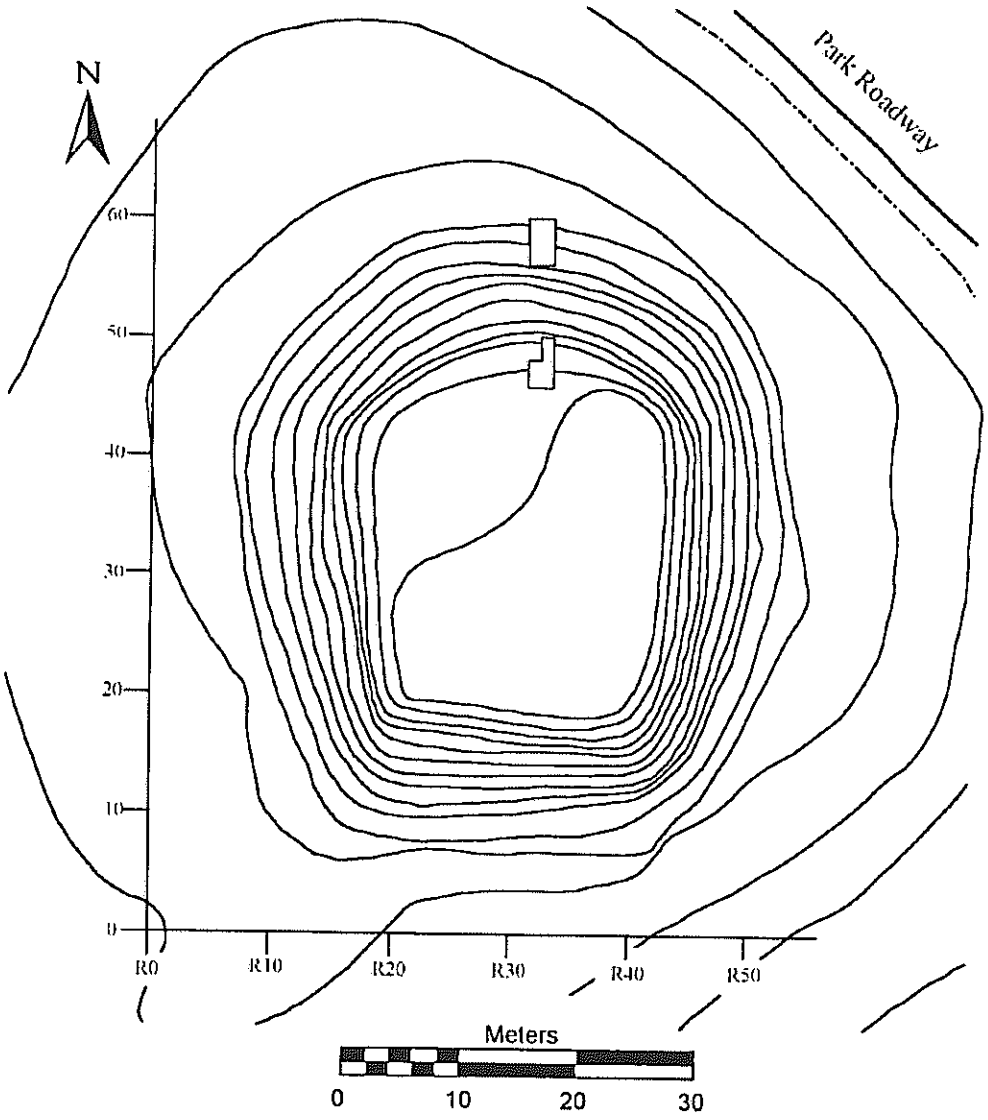

Figure 11. Contour map of Mound G, showing location of 1993 excavations units into the north flank. Contour interval is 0.5 meters.

Clarence Moore (1905:194) described the sides of Mound G as being "much washed by rain," although the summit had apparently escaped cultivation. Moore found an "unimportant" earlier trench dug into the east side by parties unknown, and showed it on his published site map. But if the dimensions shown on the map are even roughly correct, it must have been a somewhat larger operation than Moore judged it to be. This gash, still visible in the 1930s, seems to have been repaired by the Civilian Conservation Corps. Moore's site map shows other features of interest. He indicates two earthen ramps, one on the north flank and a second one on the northwest corner. No ramps are visible today, although Mound G does bulge outward somewhat in the places indicated. Our excavations into the north flank revealed no indication of a ramp being present during the mound's final construction episodes, although, as we shall see, there is certain equivocal evidence for a *buried* ramp in this location dating to the earliest mound stage encountered by us. It is possible that the contours in 1905 were roughly the same as today and that both of Moore's ramps were no more obvious then than now. Moore's excavations into Mound G consisted of placing 25 "trial holes" into the summit, producing "no indication of pit, of burial, or of artifact."

Our interest in Mound G arose primarily from Moore's negative evidence concerning burials in the summit, which was just about our sole criterion for assigning mounds at Moundville to our hypothesized elite residence category. We wanted to find deposits of flank debris discarded from the summit of mounds of this category in order to contrast it with similar evidence from Mounds Q and F, both of which had mortuary uses.

The 1993 Excavations

Fieldwork at Mound G was conducted from November 10 through December 9, 1993. It commenced in our usual manner with the excavation of core tests, 16 in number, placed at 10-meter intervals around the toe of the mound in search of flank middens. The core tests, as before, were excavated with a manual post hole digger and the soil was screened through 1/4-inch mesh. Artifacts were washed, categorized, and weighed in the field, and the densities were plotted on a sketch map. This effort was rewarded with the discovery of abundant midden deposits wrapping generally around the northern half of the mound, the richest part at about the center of the north flank. It is a depositional pattern identical to that found on Mound Q, which reinforces our notion that the relative *lack* of flank deposits on Mounds R, E, and G is merely due to their proximity to deep ravines which would have attracted most of the refuse generated on their summits.

Employing a transit, we established a grid system conforming to the orientation of Mound G, separate from the main site grid, permanently marking either end of the south baseline with three-foot sections of steel bar driven in flush with the ground surface. Using this grid, reference and control trenches were shot in near the center of the north flank in the area yielding the densest midden based on the core tests. One set of excavation units was placed near the crest of the mound and another set at the toe (Figure 12). These units were farther apart than on any of the other mounds tested because of the greater height and relatively gentle slope, and because we

lacked the time to bridge them with intermediate units. This made for a more difficult, but not impossible problem in correlating the upper mound and lower mound stratigraphy. The reference trench thus took the form of two four-meter-long disconnected segments, six meters apart (Figure 13). The control trench, placed to the right of the reference trench facing upslope, was excavated in three two-meter sections (Figure 14).

Figure 12. Plan of excavation units into the north flank of Mound G, 1993. Trench segments are two meters long. Excavation units are designated by the northeast corner grid point.

Stratigraphy

With this effort we were able to define four construction stages in the later history of Mound G, and, in addition to these, an earlier horizontal fill zone at the toe of the mound (Figures 15, 16). The latter appears to be a construction whose purpose, like that of the wedge of

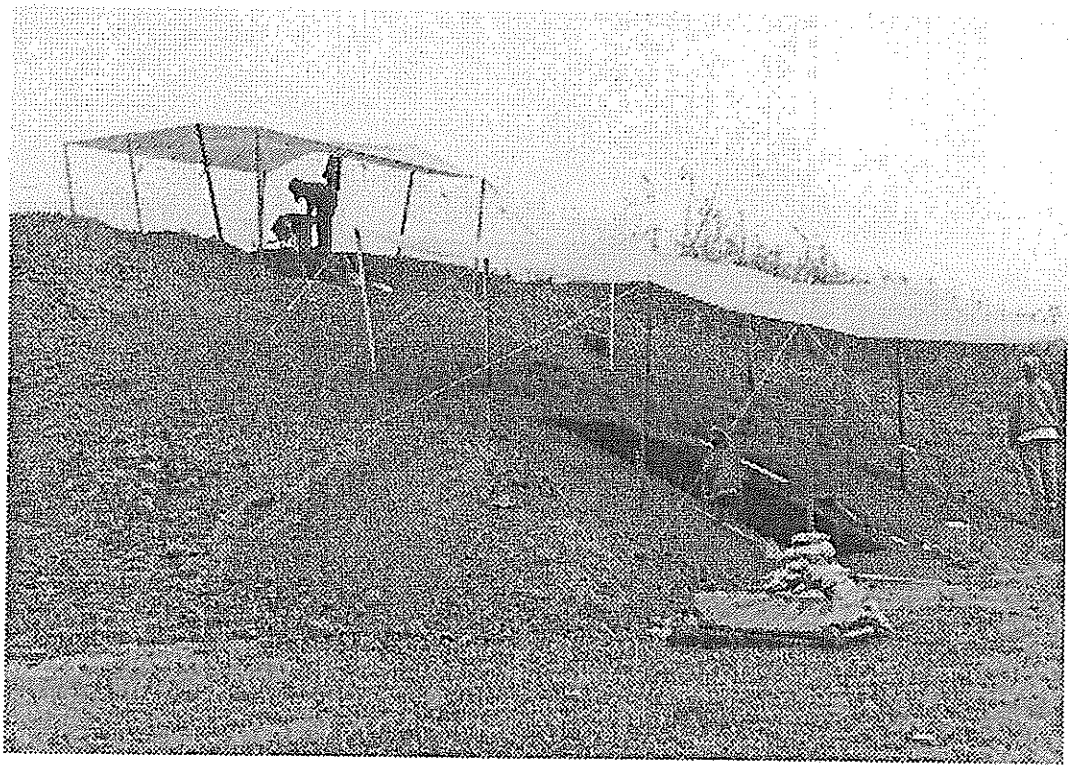

Figure 13. Excavation of the reference trench into the north flank of Mound G, 1993.

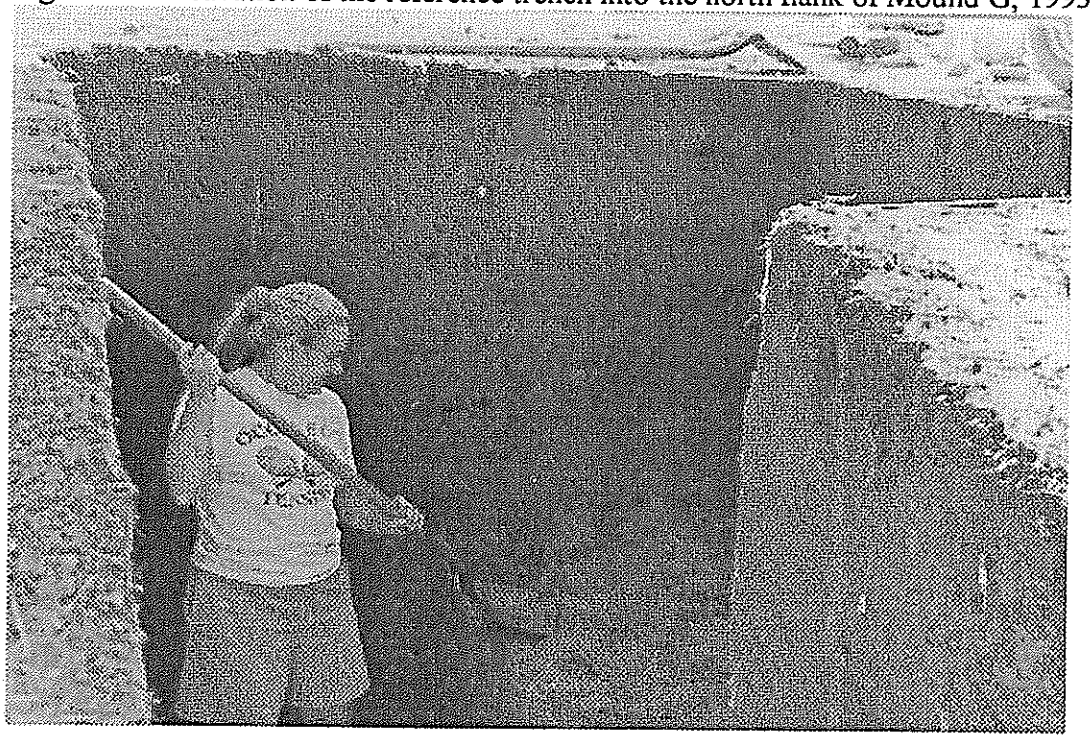

Figure 14. Excavation of the control trench using the reference trench profile as a guide. Unit 48R33, summit of Mound G.

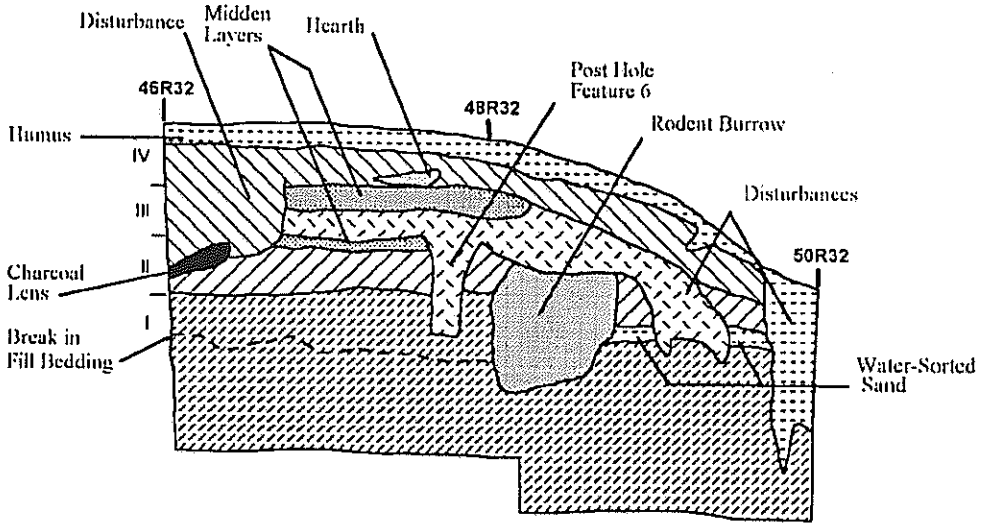

Figure 15. West profile of the reference trench, Mound G, at the mound summit. The section is four meters long.

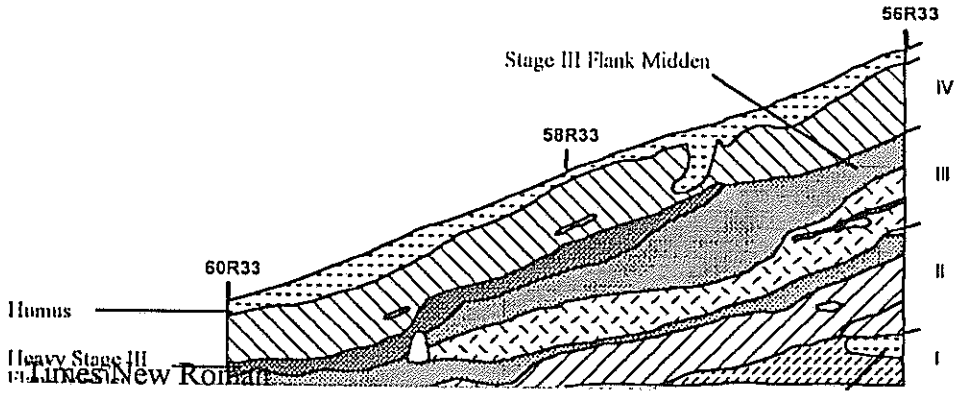

Figure 16. East profile of the reference trench, Mound G, at the mound toe. The section is four meters long.

fill beneath Mound F, was to level the plaza in the direction of Mound G, either prior to the initial mound construction or contemporaneous with its earliest stages. Under this fill zone we encountered evidence of wall trench structures at the level of the original ground surface.

Generally the construction fills in Mound G consisted of one of two kinds, (*a*) heavily mottled sandy clay, becoming somewhat sandier and less crisply defined downslope, or (*b*) homogeneous dark, midden-like soils interspersed with charcoal flecks. The former was essentially free of artifacts, except where mixed due to erosion or other disturbance, but the latter type was mixed with modest quantities of sherds, daub, and other artifacts, most probably redeposited from an earlier context elsewhere. On the flank near the toe, construction fills were overlain by midden deposits consisting of debris cast off from the summit. Some of these midden zones were quite thick, containing ample quantities of sherds, daub fragments, rock, well-preserved animal bone, and shell (Figures 16). This, of course, was precisely what we were looking for. The discovery, coming at the end of the 1993 field season, in some ways assuaged our mild discouragement in not finding substantial flank middens in the three successive mounds previously tested, R, E, and F.

There were, however, certain interruptions to the stratigraphy of Mound G. In the excavation units near the summit, the upper mound stages were riddled with disturbed areas, some of which we were able to specifically attribute to animal burrowing, tree roots, and fire ant nests. Some pit-like disturbances in this area may have been of intentional origin, but these were poorly defined. They were unlike the trial holes of Clarence Moore that we have found so clearly delineated in Mounds Q and E. In the downslope excavation units the main problem seems to have been erosion. A major erosional episode, marked by water-deposited sand and silt, was associated with Stage I construction fill in the control trench. Less conspicuous slope erosion in the later part of the sequence may account in part for an apparent mixing of midden and construction fill in places near the toe of the mound, making it difficult to mark the limits of particular construction stages.

Next we will discuss each stratigraphic episode in chronological order. In doing so, I am compelled to admit that some of the details may be on rather precarious ground, resting, as they do, upon an interpretive joining of profiles six meters apart. In the excavation units at the toe of the mound, correlations with the construction stages at the mound summit were made initially by simply counting constructions downward from the top, trusting that the break points between stages were more or less correctly identified. Fortunately there were four such stages by our count, the same number identified in the upslope excavation units. These correlations were checked by comparing radiocarbon dates from the two areas and by considering the distributions of diagnostic sherds. This is the result. Without additional excavation, it is the best sense we can make of the evidence as it stands. Before describing the sequence, it is perhaps worth repeating that our stage numbering only reflects the constructions we encountered, which are, of course, the later ones in the mound's history. No testimony can be given on the number, or even the existence, of any earlier stages, although I strongly suspect they are there.

Premound Structures. At the level of the original ground surface in the 2 x 2-meter window provided by Unit 60R33 at the northern toe of Mound G, lay a very thin humus layer. After removing this humus layer the yellow-brown subsoil became apparent, whereon, standing in contrast to this subsoil, several features were revealed. They included three wall trenches, several

post holes, part of a shallow pit, and an irregular depression filled with humic soil. These were not excavated except as necessary to record a cross section of one of the wall trenches.

Although the area opened is quite small, there can be no doubt that the wall trenches signal the presence of superimposed house patterns predating both the mound and the plaza fill underlying the mound. The open corner of one house is readily apparent, which had an east wall trench 36 centimeters deep below the point of discovery. The evidence is consistent with most of the domestic architecture recorded at Moundville, which consists of small, squarish, flexed-pole dwellings with poles set in narrow wall trenches with open corners (McKenzie 1964:220-254; Scarry 1995: 238-239). Most houses of this form at Moundville are currently believed to date between approximately AD 1150-1300.

Plaza Fill. At the toe of Mound G, overlying the old humus to a depth of approximately one meter, and underlying Stages I through IV, was a thick blanket of fill. This fill varied in appearance, but was primarily made up of dark sandy loam soils, interlayered with erratic lenses of sandy clay. Artifacts were few. The essential thing in interpreting this fill zone is that it was not strongly wedge-shaped, following the dip of the mound slope like the mound fills above it, but was instead horizontal. Thus it did not appear to be connected with an early stage of mound construction.

Our experience with the fill below Mound F prepared us to recognize this Mound G phenomenon as essentially the same thing. A careful field inspection of the surrounding terrain showed that Mound G had been built on the edge of a shallow natural basin, draining northward into a ravine head. Instead of erecting Mound G on sloping ground, at a base level slightly below the plaza terrace, its builders first put down a lobe-shaped pad of fill, a little larger than the base of the mound, to build up the surface. This fill is apparently feathered in to the natural surface on the plaza side, creating level ground toward Mound G as seen from the plaza. As with Mound F, this aesthetic was evidently the desired effect.

Once it was recognized in profile, the horizontal limits of this lobe of premound fill could be made out by examining the base of the mound from ground level at various angles. An edge, marked by a break in terrain, is plainly recognizable, particularly from the east and southeast sides of the mound. From this vantage point one can also perceive how, in the process of building up the plaza in the areas of Mounds F and G, the configuration of the drainage was altered. Construction of the two lobes of fill reaching in the direction of these two mounds disrupted the original slope. In the process, the natural drainage appears to have been artificially diverted to the east and even partially dammed up. Aboriginal land leveling may thus have created the swampy depression between Mounds H and I called Lake #1, interpreted during the 1930s park restoration as a borrow pit.

Stage I. This was the first and most massive of the construction stages we encountered in Mound G. The top of the fill appeared at 1.04 meters below the present summit. In our uppermost excavation unit, 48R33, Stage I fill continued to the base of our excavation at two meters below surface. From that point we used a 1-inch split core soil sampler to probe more deeply, looking

for a consistent break in soils that might indicate the surface of an underlying stage. No such break was found, from which we conclude that Stage I fill is perhaps a minimum of two meters thick. Soils consisted of heavily mottled strong brown sandy clay, showing typical features of basket-loading. There was no overlying midden on the summit in the upslope excavation units.

Aware that we were working in precisely the area of Mound G where Clarence Moore's published map depicts a ramp, the excavators kept an eye out for any such indication. The south profile of downslope unit 58R33 shows the only evidence that might be so construed, and the association is with Stage I. This profile is parallel to the mound flank near the toe, so we would expect the evidence for a buried ramp to take the form of a pyramidal cross-section. And this is indeed what it seems to show. However, the lesson to be learned from our false ramp in Mound F is not to put too much interpretive stock in sloping deposits seen from the peephole of a small trench in a large mound. So we are forced to leave the question unanswered. There *may* be a Stage I ramp in this location that was covered over by thick blankets of fill and midden in later stages, perhaps accounting for the bulge in the north flank of Mound G. But we could very easily be fooled, too, and only additional field evidence can verify it.

At the mound toe, the construction layer correlated with Stage I at the mound summit was characterized by soils that had a more loamy appearance than their counterparts upslope. Here there was evidence of considerable erosion, in the form of pockets of horizontally banded silt and sand. An overlying flank midden was associated with the Stage I summit but was not uniformly distributed horizontally. Instead it was confined to the west side of the of the control trench, where it seemed to occupy a gully or washout. Interestingly, if our hypothetical ramp is real, the gully containing this isolated midden lies *on top of* the ramp. I cannot bring myself to speculate on the likelihood of that scenario.

The only cultural feature we can attribute to Stage I summit activity was a basin-shaped hearth, bisected in the south profile of Unit 48R33.

Stage II. Here is a relatively minor construction, and it is one with problems. The fill, both in the upslope and downslope excavation units, was a uniform sandy soil with a dark, loamy appearance. Flecks of charcoal and some artifacts were scattered throughout. In fact, the fill was so midden-like in places that the excavators, aware of the necessity of distinguishing mound fills from flank middens, were unsure of what to call it. In the upslope control trench the excavators had the stratum screened, following the routine for midden deposits. So it is only in hindsight, working with profiles and field photographs, that I have settled on identifying this as a separate construction. The only other plausible interpretation, somewhat less to be preferred, is that the Stage I fill is covered not by one midden layer, but by a series of them, including the strata discussed in this section.

A layer of somewhat less equivocal midden covered the zone just described, both on the summit and mound flank. However, the field records leave interpretive problems here too. In the downslope control trench, over the Stage I feature that is our hypothetical ramp, the Stage II deposits thinned out, to the extent that the excavators were at a loss to distinguish fill from

midden. The relevant field drawing simply records the entire Stage II zone as "midden." In the opposite profile of the reference trench in the same excavation units (Figure 15), the situation is a great deal clearer owing to the greater thickness of the Stage II deposits. Here mound fill and midden are sufficiently distinct, showing the flank midden deepening slightly toward the toe. A third profile, which we have not reproduced, shows the same midden grading into water-deposited soils at the base of the mound.

Eight post holes and a surface hearth were interpreted as originating at the Stage II summit. Six of the post holes formed an alignment parallel to the crest of the mound, giving us a passing glimpse of summit architecture featuring individually set post construction.

Stage III. Granting the hypothesis that Stage II can stand on its own as a valid construction stage, this is its identical twin. The Stage III construction fill, as before, was dark brown in color and almost midden-like in appearance in the upslope units, so much so that the slightly puzzled excavators--from whose number I will certainly not excuse myself--screened the fill soils in the control trench. Here, however, there is virtually no question that we are dealing with a new construction. Apparently in the case of Stages II and III, the builders made use of earlier midden soils from somewhere in the vicinity as construction fill instead of more pristine clays, which is not too surprising but is something, nonetheless, that can cause fits in trying to understand the evidence from trenches. In the downslope units the corresponding fill is a little less problematical, and the excavators had no trouble distinguishing it from the overlying flank midden.

Middens associated with Stage III were the trashiest, and therefore the most informative, deposits encountered anywhere outside of Mound Q. Stage III middens were found both at the summit in the upslope units and as flank midden downslope, where the midden reached a maximum thickness of 42 centimeters. These were dense deposits, yielding a wealth of summit-related artifacts and biocultural samples. The only summit feature attributed to Stage III was a single post hole (seen in profile in Figure 14). The fact that no more than this was recorded is perhaps due to the high degree of disturbance in the upper portion of Unit 48R33.

Stage IV. The final construction stage consisted of a uniform brown sandy fill about 40 centimeters in thickness, reduced somewhat at the mound summit. Despite considerable disturbance of the upslope excavation units, three possible post holes and a hearth were recorded as Stage IV summit associations. Overlying the fill in both the upslope and downslope units was a thin midden that had been completely incorporated into the modern humus.

Radiocarbon Dates for Mound G

Nine samples of wood charcoal selected to date the stratigraphic sequence at Mound G were submitted to Beta Analytic for radiocarbon dating. One sample was returned after initial laboratory processing as too small for conventional dating. Table 3 show the results of the other eight. Looking at the dates as a set, it is probably as close as we are going to come to an internally consistent series of the kind we had hoped for in all of our mound tests.

Table 3. Radiocarbon Dates, Mound G.

Context	Lab Number	^{14}C Age BP	^{13}C-adjusted Age BP	Uncalibrated Date	Calibrated Date (Age Range)	Sample Comment
Old Humus, Under Plaza Fill Zone	B-71708	1080 ± 90	1010 ± 80	AD 940 ± 80	AD 1020 (978-1156)	Composite sample. < 1 gram final carbon,extended counting.
Stage I Midden, Lower Flank	B-71709	810 ± 50	740 ± 50	AD 1210 ± 50	AD 1284 (1261-1295)	
Stage II Fill, Summit	B-71703	690 ± 50	640 ± 50	AD 1310 ± 50	AD 1307-1379 (1295-1398)	Scattered charcoal from dry-screening midden-like fill
Stage II Midden, Summit	B-71704	690 ± 70	640 ± 70	AD 1310 ± 70	AD 1307-1379 (1290-1403)	
Stage II Midden, Lower Flank	B-71710	820 ± 50	780 ± 50	AD 1170 ± 50	AD 1275 (1225-1286)	
Stage III Fill, Summit	B-71705	700 ± 60	660 ± 60	AD 1290 ± 60	AD 1302 (1288-1396)	Scattered charcoal from dry-screening midden-like fill
Stage III Midden, Lower Flank	B-71711	640 ± 50	580 ± 50	AD 1370 ± 50	AD 1400 (1310-1416)	
Stage IV Fill, Summit	B-71706	530 ± 60	510 ± 60	AD 1440 ± 60	AD 1426 (1402-1444)	Scattered charcoal from dry-screened fill

The earliest contexts in the Mound G tests were the partial house patterns and associated features found at the level of the old humus underlying the plaza fill. Because only a small section of one wall trench was excavated, we had only one shot at a direct date, and this turned out to be the only sample returned to us as too small to use. The next best thing was to date the old humus layer itself, and for that purpose a sample was put together consisting of flecks of charred wood collected while trowelling two separate areas of that thin layer. The laboratory report for the latter sample says that it was on the small side as well, having less than one gram of final carbon and thus requiring extended counting. And that annotation raises a red flag, given our experience with dates on similarly small samples from Mounds R and F, which were consistently disappointing, almost invariably tending to be implausible on the early side. The old humus assay, with its calibrated intercept of AD 1020, is itself not entirely implausible as a date for the structures, but seems a little too early nonetheless. The date falls in the Early Moundville I phase, and as we have learned from the Northwest Riverbank excavations at Moundville (Scarry 1995:236-239), the architectural type seen below Mound G did not become standard until Middle to Late Moundville I (III). But this is perhaps a quibble, considering that the sample did not come directly from the structures anyway.

The question of the age of the plaza fill zone, as was the case with Mound F, is of exceptional interest. This is particularly true if the surmise is correct that the plaza fill completely underlies and therefore predates the earliest construction of Mound G. Unfortunately, however, we are unable to report a direct radiocarbon date of the plaza fill. Because it was made up of relatively clean fill, the excavators could not locate any suitable samples.

The downslope midden overlying Stage I yielded a calibrated assay of AD 1284, which would fall in the Early Moundville II phase. For our problematic Stage II, we have three dates, one from the midden-like fill at the summit, another from the midden overlying this, and a third from the downslope flank midden. The two from the Stage II summit are virtually identical, having calibrated intercept ranges from AD 1307-1379. The wide range of intercepts results from an S-curve in the calibration that affects virtually all fourteenth century dates. The assay from the lower flank is somewhat earlier at AD 1275. The latter is very close to the Stage I result, which might be construed as support for the idea that our attempt to trace Stage II in the downslope units is a fabrication. But I nonetheless hold to my preference for the theory that Stage II is valid as a separate construction stage. The CALIB program allows us to add together the probability distributions of all three Stage II dates at one standard deviation, which is one way of dealing with the multiple intercept problem. Here is the result.

Calendar AD Age Ranges	Relative Area Under Probability Distribution
cal AD 1260 - 1260	.01
1266 - 1328	.47
1333 - 1395	.53

These figures suggest that there is a higher probability that the true age of Stage II falls in Middle to Late Moundville II than in Early Moundville II, but higher only by the slimmest of margins.

Stage III has two assays, one from midden-like fill at the summit, and the other from the massive downslope midden associated with this stage. The former date has a calibrated intercept of AD 1302 and the latter of AD 1400. Simply in terms of security of the context, the downslope midden date, which would fall at the terminus of the Moundville II phase, is much to be preferred over the somewhat earlier assay from mound fill. To look at it from another angle, we can again add together the probability distributions at one standard deviation as follows.

Calendar AD Age Ranges	Relative Area Under Probability Distribution
cal AD 1299 - 1323	.29
1338 - 1394	.71

This exercise tends to confirm that we are probably dealing here with a Middle to Late Moundville II phase context rather than an Early Moundville II context.

We have, finally, a single date from a Stage IV context. Recalling that the flank midden associated with this stage had been incorporated into the humus, we must resort to an alternate, in this case another sample from mound fill. Nonetheless the assay, with a calibrated intercept of AD 1426, seems perfectly acceptable as a date for Stage IV. An early fifteenth century placement of Stage IV would put it in the Early Moundville III phase. A study of the temporally diagnostic artifacts will help us to fine tune this sequence.

Discussion

The upper portion of Mound G presents us with four stages of construction, starting with one massive stage a minimum of two meters thick, followed by three relatively minor constructions, each contributing no more than 40 centimeters to the mound's height. There may be additional stages underlying these. Below all this is a one-meter-thick horizontal fill overlying the original ground surface. I have interpreted this as a land-leveling enterprise, undertaken prior to any mound construction, done for the aesthetic purpose of bringing the base of public architecture on the east side of the plaza up to the common level of the natural terrace that forms the center of the site. That is perhaps not the only possible interpretation, but it is consistent with a growing body of evidence that Moundville's planners went to great lengths to impose a fixed arrangement of public architecture on the natural landscape, an arrangement that included an aesthetic component.

Superimposed wall trench structures at the level of the old humus, below the pad of fill, date to some time during the Moundville I phase (AD 1000-1250). They show that this portion of the site, near the margin of a shallow drainage, was occupied prior to earthwork construction. The exact nature of the occupation is not known. The limited evidence does not tell us, for example, whether these structures were ordinary residences, or, perhaps, the initial public buildings in the Mound G locality.

The four construction stages for which we have evidence were built during the Moundville II and Early Moundville III phases. According to the radiocarbon evidence they span about 140

years, or about 35 years per stage on the average. The first of the known constructions, Stage I, dates to the Early Moundville II phase, in the late thirteenth century. This, of course, gives us a terminus ante quem for the underlying plaza fill zone. Stage I is in turn followed by two fourteenth century constructions, Stages II and III. I would estimate that Stage II is Middle Moundville II while Stage III is Late Moundville II in age. Stage IV, the final construction, dates to the early fifteenth century, falling in the Early Moundville III phase. During all four mound stages, debris from summit activity was consistently cast off the northern side of the mound and allowed to accumulate to a certain degree on the flank near the mound toe.

There are important contrasts between Stage I and the three stages that followed it in time. The first and most obvious is the scale of construction, much greater for Stage I than for Stages II through IV. The character of the fill marks another contrast. Whereas Stage I fill consists of sterile, heavily mottled clay soils, those of Stages II though IV are more loamy in appearance and incorporate quantities of redeposited refuse. Finally, if a ramp did exist on the north side of Mound G during Stage I, this feature of mound design was abandoned in the later constructions.

Mound G appears to have been abandoned by about the mid-fifteenth century, and this abandonment is no doubt significant. The timing corresponds well with the abandonment of other of the more northerly mounds at Moundville, notably Mounds Q and R. It is beginning to appear that the middle 1400s was a particularly unsettled time in Moundville's political history, during which formerly important mounds were abandoned and elite art styles forsaken, among the more obvious symptoms.

Excavations in Mound E

Mound E, a broad rectangular structure, lies on the northeast side of the plaza. For a long time the forested section of Moundville Archaeological Park has slowly encroached upon it from the west, north, and east, to the effect that the mound's rather impressive dimensions could not be readily appreciated from a plaza viewpoint. That circumstance was remedied somewhat during our investigations in the fall of 1994, when Park personnel thinned out some of the trees on the east and west, improving the view and making its proportions less deceptive. Mound E in fact ranks fourth in size among Moundville's mounds, behind Mounds B, A, and R. It rises to a maximum height of 4.7 meters above the plaza level, and has base dimensions of about 60 by 68 meters. Notes made by Walter B. Jones in the 1930s calculate the volume of earth as 23,409 cubic meters. The summit is terraced, with the east side about one meter higher than the west. Mound E's symmetrical relationship to Mound R in the overall site plan has been commented on by Peebles (1971:82).

A new contour map of Mound E (Figure 17) reveals its situation, surrounded by ravines on three sides, with the fourth side open to the plaza on the south. The mound is nestled snugly up into the thumb of level ground formed by these ravines, so that only a small shelf of original terrace remains between the base of the mound and the ravine crest to the north and east. Lateral erosion of the ravine lying to the west, between Mounds B and E, has taken a rather messy looking bite out of the northwest corner of Mound E. This was accompanied by a gully reaching about 15 meters into the summit plateau, shown on the map published by Clarence Moore and described by him as a place where "repeated wash of rain has eaten deeply into the mound." Gullying had been exacerbated by repeated cultivation of the summit (Moore 1905:188). The large gully was patched in a 1937 restoration project by the Civilian Conservation Corps, who also, from present appearances, placed a low berm along the northwest summit crest to prevent subsequent erosion. As can be seen on our map, Mound E has a bulge on the west end of the south flank with a relatively shallow incline, which is used as an access ramp for the Park tractors that mow the summit. This ramp is not shown on the map prepared by Moore's assistant Dr. Miller, nor is it shown on the 1930 survey by the engineering firm of G.W. Jones and Co. I suspect that the ramp was added for ease of summit access during the 1930s restoration, and is not of aboriginal origin. Dr. Miller's map (Moore 1905:124) does show a ramp on Mound E, but it is on the eroded northwest corner. This "ramp" can be matched with an erosional feature that is still apparent, in regard to which we can say with assurance that it is not an intentional feature. With the exception of these disturbances and modifications the summit and flanks are in good condition.

Moore dug 33 trial holes in the summit of Mound E (1905:188), of which we relocated eight in 1994. (These trial holes are to be discussed at greater length in a separate section pertaining to the 1994 excavations.) In Moore's test pits, dug to a depth of four feet, he found no burials, and although he does not explicitly say so in this case, one can infer that he judged the mound to be of domiciliary character. To Moore this lack of burials was a reason to move on to other areas, whereas, instead, to us it was an attraction; we wanted to see what excavations in an

"elite residence" mound at Moundville would reveal in contrast to our excavations at hypothetical "mortuary temple" mounds Q and F.

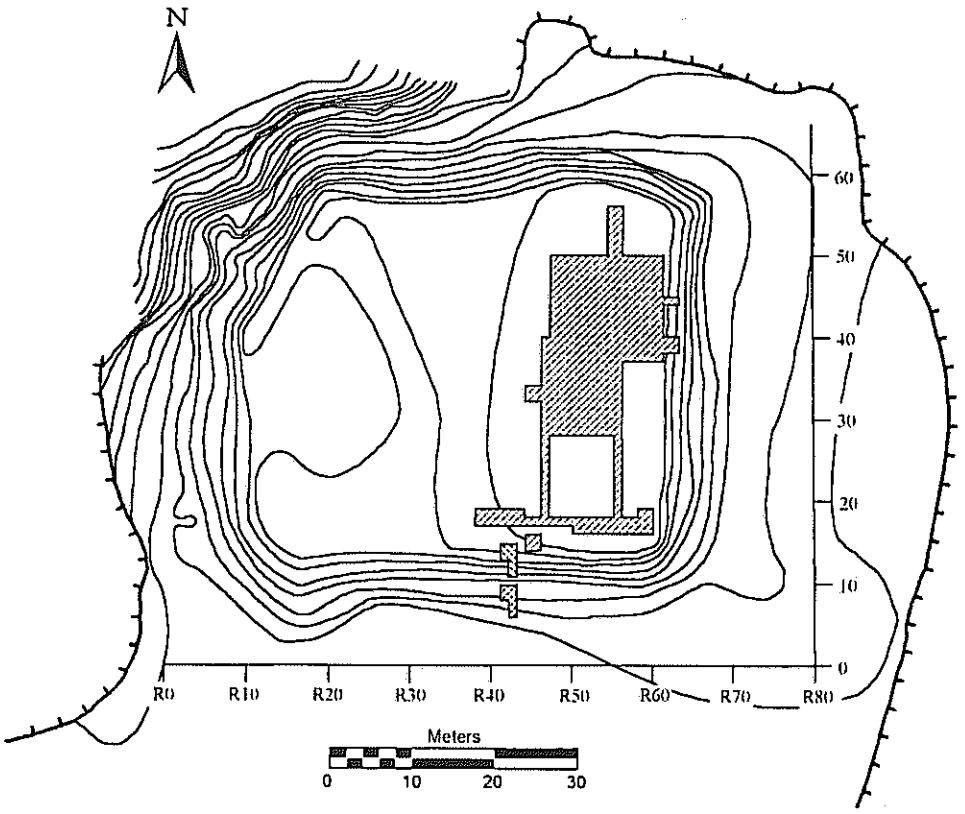

Figure 17. Contour map of Mound E, showing the grid system, the location of 1993 test trenches on the south flank, and larger scale summit excavations from 1994. The hachured lines mark the crests of ravines. Contour interval is 0.5 meters.

Moore's excavations into Mound E are the only ones on record. Also, a tiny and uninformative collection from Mound E dating from the 1930s is curated by the Alabama Museum of Natural History. There is no further provenience or documentation, and it seems doubtful that this material came from a controlled Depression-era excavation. Instead it is perhaps the case that it was incidentally collected during the restoration of the northwest side of the mound. Depression-era excavations by the Alabama Museum of Natural History were, however, conducted very close by, focused on the shelf of land surrounding the toe of Mound E. Here they encountered cemeteries containing at least some elite individuals, to judge from the grave goods. Steponaitis (1983:156-160) places these cemeteries in the Moundville II and III phases.

The 1993 Excavations

Our initial flank testing of Mound E was conducted from September 23 through October 12, 1993. Following our usual procedure, we initially placed a series of core tests, 15 in number,

around the toe, looking for concentrations of flank midden. These core tests were put in at ten-meter intervals in all areas of the mound except the west and northwest sides, where a distinct toe was difficult to distinguish due to the proximity of a ravine. The soil from all core tests was screened through 1/4-inch mesh and artifacts were washed, sorted, and weighed in the field, allowing us to plot densities on a sketch map of the mound. The procedure netted mostly unpromising results. Mound E was apparently as clean of flank refuse as Mound R had been. We did find what appeared to be a small area near the center of the south flank that yielded more than the average amount of pottery by weight, and this is where we decided to place our test trench. But the contrast with those mounds that did possess relatively massive flank middens is remarkable. For example, an identical core test into the north flank of Mound G yielded more than four times the pottery by weight of the most productive test in Mound E.

After establishing a grid system for Mound E and marking both ends of its south baseline with steel rods driven permanently into the ground, control and reference trenches were shot in with a transit on the south flank. Figure 17 shows their location. As in Mounds R and G, the reference trench consisted of two discontinuous segments (Figures 18, 19), one cutting into the crest of the mound and one near the toe. In this case the trench segments were one meter apart. After excavating the reference trench by arbitrary levels below a vertical datum, control trench units were extended to the west, forming excavations having the appearance, when viewed from the plaza side, of inverted Ls. As usual, the reference trench was excavated by arbitrary levels below a datum, and the control trench by observed stratigraphy in the reference trench profile.

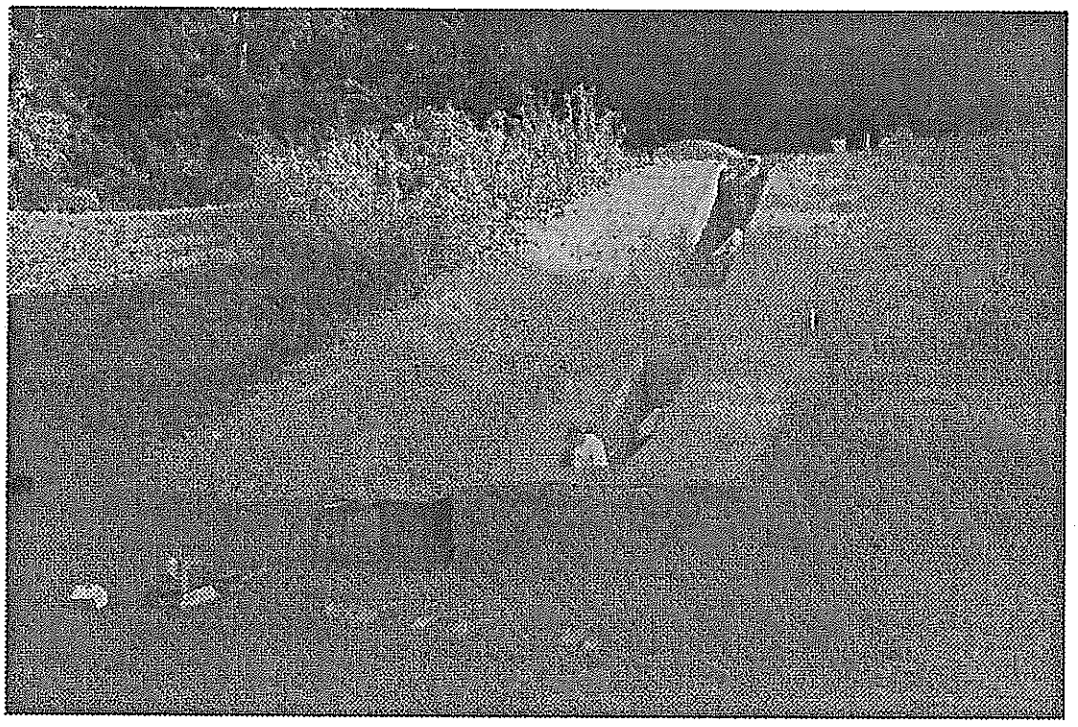

Figure 18. Excavation of the reference trench, south flank of Mound E, 1993.

add north arrow

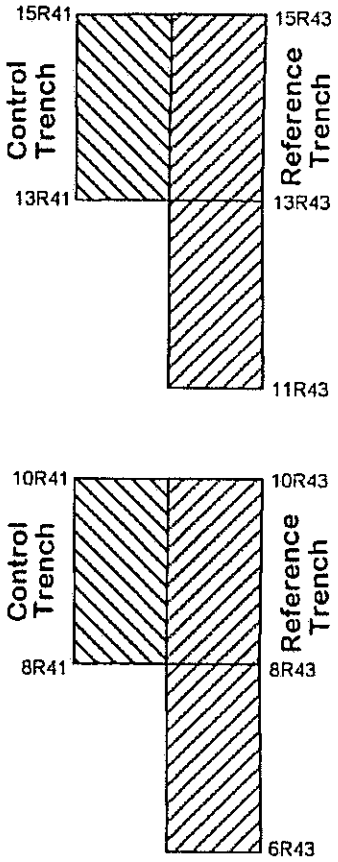

Figure 19. Plan of excavation units into the south flank of Mound E, 1993. Trench segments are two meters long. Excavation units are designated by the northeast corner grid point.

Stratigraphy of the Flank Test

Profiles from the trenching operation (Figure 20) revealed what I interpret as a sequence of three mound stages overlying a premound occupation of the original ground surface. There was no indication here of modifications to the terrace by cutting or filling, of the sort we were shortly to observe beneath nearby Mounds F and G. The details are as follows.

Premound Occupation. An old humus level overlay a light colored, sandy subsoil below the mound fills. Removal of the humus revealed the outlines of numerous features, primarily post holes, intruding the sterile matrix from the old humus level (Figure 21). Also present, fortuitously, was the corner of a house basin.

The position of the east wall of the house basin is, unfortunately, an approximation only, based on field notes and profiles. The feature was recognized in the reference trench only after cutting through the basin fill down to the house floor, below the base of the old humus in the adjacent excavation units to the north. The excavators' belated recognition of this feature as a

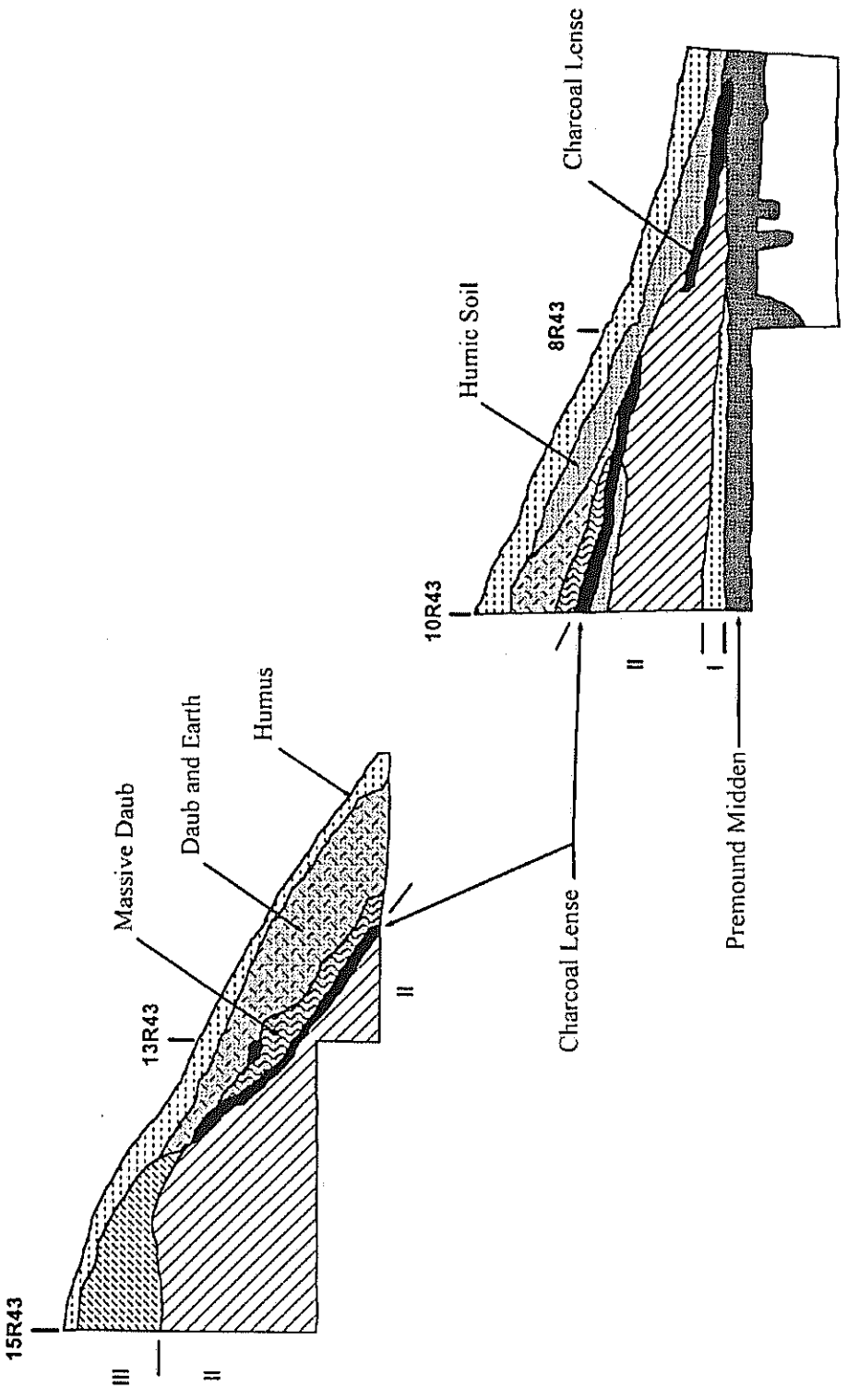

Figure 20. East profile of the reference trench, south flank of Mound E. The length of the entire section is nine meters.

house pit is a bit of bad luck, because it negated the possibility of segregating the fill and screening it separately. As it was, only the tiny fraction of the basin lying in Units 10R42-44 was separately removed and screened.

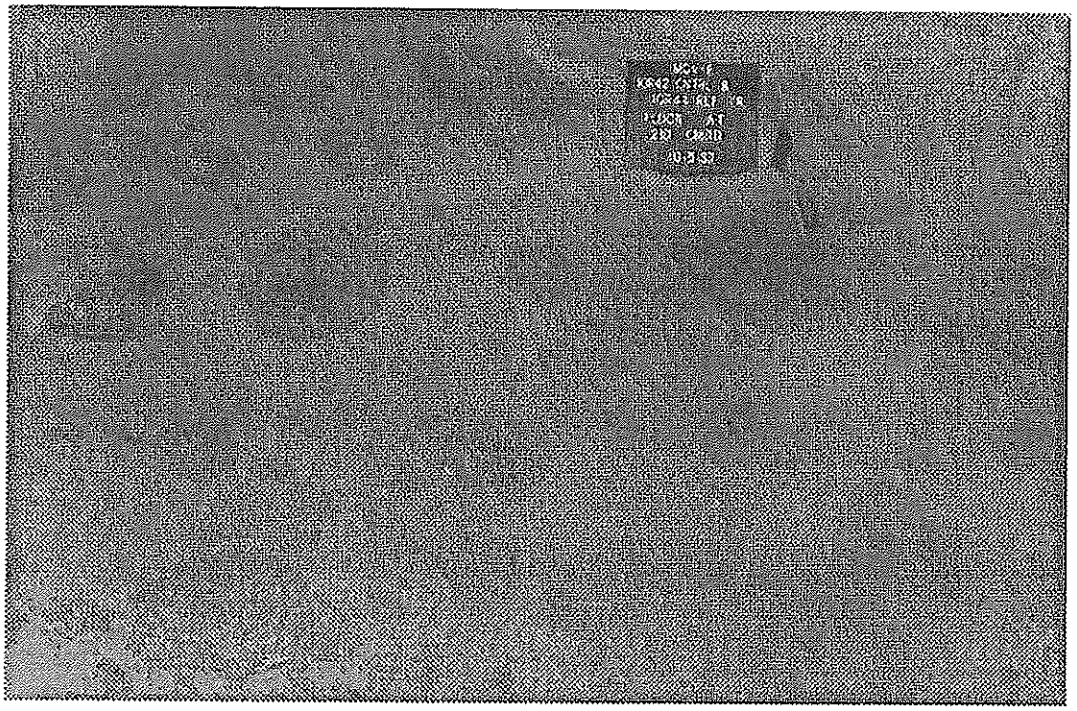

Figure 21. Post holes originating in the old humus level below Mound E, Unit 10R42-44. Note the row of post holes to the left of the sign board. Behind the sign board may be seen water-deposited sandy soils filling a small cavity cut through the old humus during Stage I of mound construction.

The reason for this fussy lament is that the house form is a rare and important one at Moundville. Only two other pit-floor houses are known from the site, one from excavations north of Mound R (Scarry 1981:87) and the other from excavations at the northwest riverbank (Scarry 1995:113). Comparable examples are known from the Big Sandy Farms site, a small excavated settlement 3 kilometers to the north (Ensor 1993:32-36). Going slightly farther afield, these Black Warrior Valley pit-floor structures find cognates in Terminal Woodland (Late Miller III phase) structures in the Tombigbee Valley to the west (Jenkins 1982:109). Craig Sheldon (personal communication) recently reports two additional examples from the Tallapoosa River in east-central Alabama, associated there with terminal Woodland Autauga phase material culture. Such spotty occurrences in the middle Southeast represent an innovation in domestic architecture belonging to a time horizon of ca. AD 950 - 1100. I believe that such occurrences indicate diffusion from a material culture complex that is also bound up in an important way with initial Mississippian in the central Mississippi Valley, as at Hoecake and Cahokia, where the same architectural ideas rise to prominence in connection with far-reaching political developments at a

slightly earlier time. Because the rare Moundville pit-floor houses are testament to a formula for domestic architecture that came into circulation during a key period of long-distance interaction--interaction which led to the emergence of recognizable Mississippian societies in the South--I think they are of more than passing interest. This is, parenthetically, is another strand of evidence in the highly contestable problem of "Cahokian connections" to the Southeast.

The floor of the premound house at Mound E was set in a rectangular pit 63 centimeters deep, labeled Feature 2, with very slightly out-slanting pit walls. Wall posts were set into the floor of the pit, in a combination of individually set post holes and wall trenches. Probably this house had wall trenches along the east and west sides, and individually set posts along the two remaining sides. In these respects it was comparable to the house described by Margaret Scarry as Structure 3 from the northwest riverbank at Moundville (1995:113-115), and to Structure 1 at the Big Sandy Farms site (Ensor 1993:32).

North of the pit-floor structure was a scatter of post holes of variable size. There was one orderly alignment of small post holes running in an east-west direction near the northern margin of our excavation. This is probably the wall of another rectilinear premound house, of individually set post construction and lacking a house basin. The rough contemporaneity of such houses with the small pit-floor form during the Early Moundville I phase was demonstrated in the northwest riverbank excavations at Moundville (Scarry 1995:238).

Stage I. There is only indirect evidence for Stage I, consisting of a laminated wash of sand and silt in a wedge-like configuration, overlying the old humus. The thickest part of the wedge, as seen in our excavation unit at the toe of Mound E, is to the north. If my guess is right, the wash must have come from the south flank of a core construction, the toe of which was not quite reached by our trench. The episode--or episodes--of erosion were vigorous enough to have cut through the old humus locally in a manner very reminiscent of the Stage II wash at the toe of Mound R, resulting in a pocket of sand and silt intrusive into the subsoil in one part of our excavation unit. Needless to say, our wedge of water-deposited soil is scanty evidence upon which to hang an entire construction stage, but I cannot think of any better way to explain its existence.

Stage II. Stage II was a massive construction of heavily mottled, light-colored clay, showing in its cross-section the lensed laminations that are characteristic of basket loading. In our summit units this fill first appeared at a depth of 65 centimeters below the surface, and continued down to the base of our excavation for a total thickness of just over one meter. Using a one-inch split core soil probe, the excavators cored the floor of this upper excavation unit in several places to a depth of 60-80 centimeters below this, looking for a consistent interruption that would mark the top of the next construction stage below. The light-colored clay fill continued as far as the probe could be forced. From this procedure it is possible to infer that Stage II, when completed, had, at minimum, doubled the height of the mound from any previous construction. And because of the added lateral expansion connected with constructing an earth mantle, this is perhaps enough evidence to conclude that--if we can assume symmetry--the Stage II construction is the largest single component of Mound E.

Intruding from the top of the Stage II fill at the crest of the mound were two unusually large, clay filled post holes, aligned with the summit crest. They were about 80 centimeters wide at the top and about 95 centimeters deep. These evidently had replaced earlier posts in roughly the same spot, which appeared below them and extended even more deeply into the floor of the excavation unit. The earlier post holes were over one meter deep, with straight sides and a diameter of about 40 centimeters. My initial interpretation was that these large posts were part of a fence or stockade wall around the crest of the mound. The work of the following season would prove this to be an error. They were instead the wall posts from an extraordinary building, presently to be described.

Overlying much of the flank of Stage II was a thin lens of charcoal. There was no reddening of the soil just below this lens, from which I infer that the charcoal was deposited from the summit and did not represent burning in place. There was no midden accumulation whatever on the Stage II flank, which adds to our initial impression from the core testing of a relatively clean situation all the way around.

Stage III. The dominant issue in interpreting the profiles from the 1993 testing was trying to account for a thick daub-laden zone that directly overlay the band of charcoal that, as we have said, rested on the flank of the Stage II fill. As our representative profile shows (Figure 20), this daub zone presented itself as two distinct layers. The lower later consisted almost entirely of daub rubble, some of it in rather large chunks. The daub was poorly fired and was of a very sandy consistency. Overlying the rubble was another layer, in this case consisting mainly of soil matrix intermixed with somewhat smaller bits of daub than in the layer below. Our initial impression, understandably, was that this daub on the flank must have been cast off from a burned building on the summit, which would of necessity belong to Stage II. Further investigating, however, revealed clues sufficiently convincing to discard this hypothesis in favor of another interpretation as follows. The daub, rather than deriving from a Stage II building, instead was incorporated as construction material in the next mound-building episode, Stage III.

Evidence supporting the latter interpretation comes from profiles of the control trench. In the downslope excavation unit, the upper section of the profile, which could only be interpreted as Stage III fill, consisted of soils that were thoroughly intermixed with small daub fragments, which graded without interruption into the denser daub layers upslope. In the upper control trench, there was a clean, *horizontal* break between massive daub downslope and Stage III fill upslope. The latter configuration appears to show that burned daub was used as construction fill up to a certain point, beyond which it was replaced by more normal-looking fill. Stated another way, it is difficult to envision how a cast off Stage II daub layer subsequently covered by Stage III fill could result in a profile that looks quite like this. The clincher to this case is the fact, not discovered until the Mound E summit excavations of 1994, that neither of the Stage II summit buildings had burned, and therefore they could not have been the source of the daub.

Unfortunately, this still leaves hanging the question of where all this daub *did* come from. And any comment on that, at this point, would constitute pure speculation.

The 1994 Excavations

An important part of the strategy of our 1993 trenching operations was to identify among those mounds reportedly without summit burials one that would be conducive to a horizontal peeling technique. We planned to use the intelligence gathered from the 1993 upslope flank units to make this choice. The next objective was to use large-area excavations during the following season to expose summit architecture that could be compared with "mortuary temple" architecture being exposed concurrently in excavations on the summit of Mound Q. The previously nominated candidates for such excavations were mounds R, E, and G. Our selection criteria, in no particular order, were (*a*) relative lack of disturbance in the upper one meter of deposits; (*b*) relative simplicity of the upper stratigraphy; (*c*) the existence of an accessible, clear-cut "target" floor; (*d*) preliminary evidence of summit architecture at the level of the target floor; (*e*) favorable contrast between the soils of the target floor and those just above it; and (*f*) rough contemporaneity between the target floor and Stage II of Mound Q, the excavation of the latter being already underway at that point.

The Stage II summit of Mound E admirably fit the bill, on nearly all accounts. I was impressed with the mottled coloration of the Stage II fill, which would be unmistakable and therefore easy for the excavators to follow. We could expect to find it no more than 70 centimeters below the present summit, with only one intervening construction stage through which to dig in order to arrive. Moreover we already had indications of substantial summit architecture on this floor, and a radiocarbon date from the charcoal lens on the flank which put the summit at about 1300 AD, within the Early Moundville II phase. For these reasons I settled on Stage II of Mound E as our target floor for the 1994 season, hoping to locate and expose at least one-half of a summit structure. In the end the excavators somewhat exceeded this goal, uncovering most of one structure and part of another. Fieldwork on this phase of the project was initiated on August 29, 1994 and was prosecuted for 15 weeks, through December 15, 1994.

After re-establishing the grid system and placing vertical datum reference stakes on the Mound E summit, the work commenced by digging a series of perpendicular, one-meter-wide exploratory trenches down to the Stage II surface on the upper terrace or east side of the mound (Figure 22). These trenches had a dual purpose. The first was to locate a Stage II summit building suitable for excavation. The second was to forewarn us of any subtleties or complications that might be encountered in excavating through the overlying Stage III fill. We were, of course, aware of the high probability of finding evidence of one or more disturbed buildings on the Stage III summit as well, and we would have to accommodate our approach accordingly to record such evidence before removing the Stage III fill.

The configuration of Stage II summit architecture in the area of the initial exploratory trenches, where we expected to find a building straight-away, was not immediately decipherable. Consequently the excavators expanded the operations to the north, where, in time, they encountered the wall trenches and central post pits of Structure 3, a well preserved Stage II summit building. From this point the trenching strategy shifted to one of horizontal peeling,

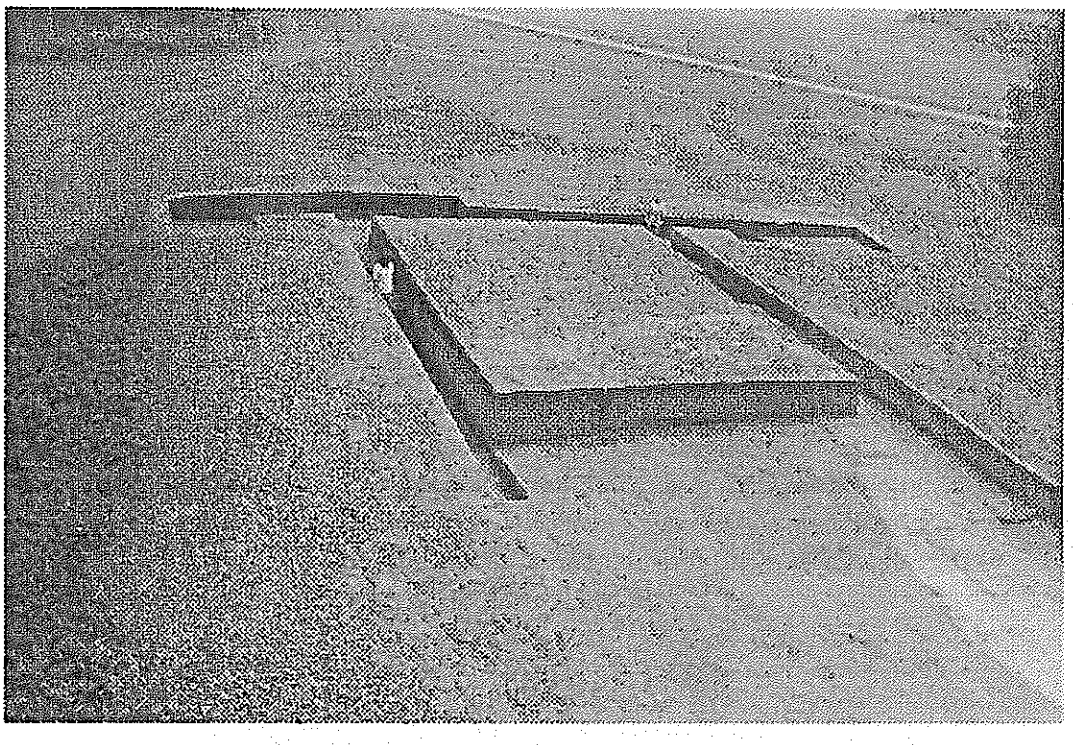

Figure 22. View of exploratory trenches on the upper terrace of Mound E. The crew member at left is standing near the base of the Stage II "ditch" encountered in this trench and the one parallel to it. The humic zone covering the Stage II surface cane be seen at the base of the near profile wall. View from the northeast.

removing sections of Stage III fill in a large block, two meters at a time, working south to north between two previously excavated exploratory trenches. The basic recording unit was a 2-meter square, and the excavators recorded standardized plan and profile views for all such units as they were excavated down to the Stage II floor. After exposing a broad area of the Stage II summit in this manner, the stains representing post holes, wall trenches, and pits belonging to this surface were re-mapped and excavated. Finally, certain lateral extensions of the main excavation unit, plus one isolated 2-meter square unit, were excavated in key places to follow out and to better define certain aspects of the Stage II summit architecture. The final outline of 1994 excavation units is shown in Figure 17 along with the location of the 1993 trench units on the south flank.

An explanation of our approach to excavating the Stage III fill will be better deferred until after we discuss the upper stratigraphy found on the mound's summit.

Upper Stratigraphy of Mound E

On the summit, what we had expected--or more realistically, hoped--to be an essentially uniform fill overlying Stage II turned out to be somewhat more complicated, involving a sequence of events that we will take a stab at interpreting here. It is not the physical elements of the stratigraphy that are at issue. These were recognized by the excavators within a few days of

Now, as we move on to consider the final construction, Stage III, we are compelled by our scenario to envision a revival of interest by the builders in a long abandoned and overgrown mound, one whose summit platform was by that time cratered by rows of depressions marking the locations of former buildings. The initial recognizable activity following the period of abandonment was the formation of three oddly shaped hearths or burned areas to be described in a subsequent section. It is perhaps not too far-fetched to attribute these features to a rededicatory ritual of some sort. Next, the Stage III earth-moving work began with the local addition of a cap of bright yellow clay to the eastern summit of the mound, filling in the depressions and adding 50 to 60 centimeters to the height of the mound in that area (Figure 24). The cap covered all of the former area of Structure 3 and about half of the area of Structure 2 of the previous stage. It was this cap that gave Mound E its terraced appearance; the underlying buildings were apparently built at the same level as the western half of the summit. The clay cap stopped short of the south crest of the mound by a distance of about 8 meters.

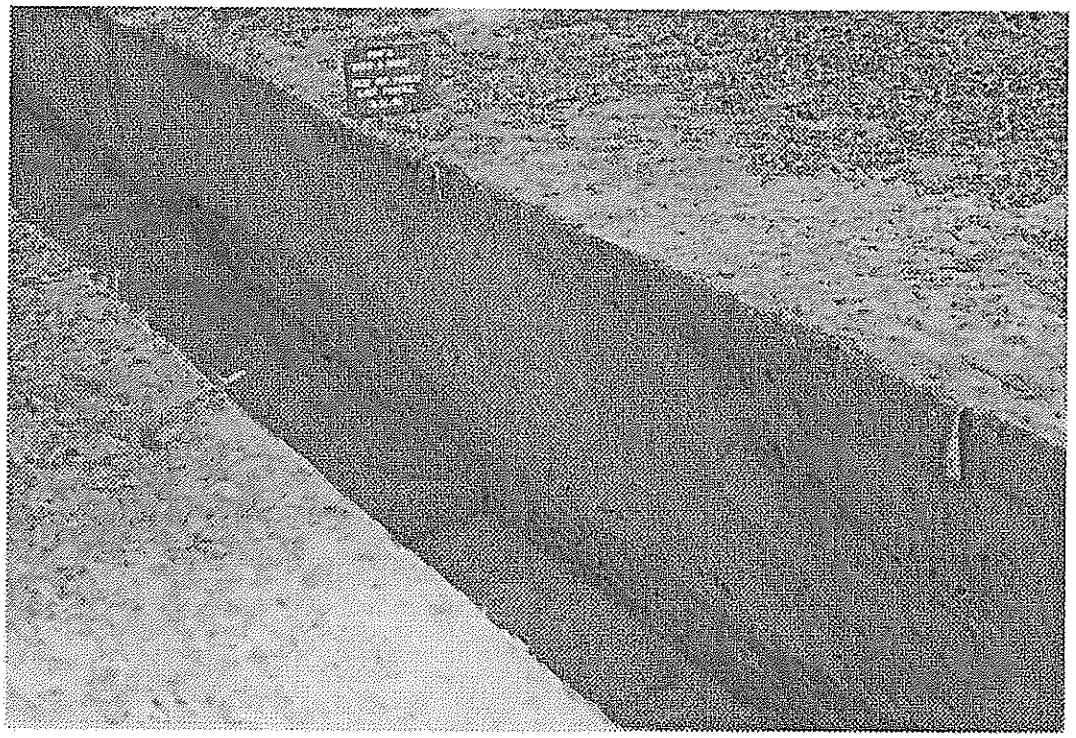

Figure 24. West exploratory trench showing the relationship of the ditch-like feature, the humic zone, the Stage III yellow clay cap, and the Stage III midden. The photograph shows the southern truncation of the clay cap. The area to the right of the truncation is filled in with homogeneous midden.

With the yellow clay cap in place, we next have to account for the formation of a thick midden that developed on its southern edge, roughly filling the saddle created between the clay cap and the south crest of the mound. This midden is confined to the summit, and, as we have seen from the previous years' testing, there is no sign of any spillover of refuse onto the nearby

south flank of the mound. The midden is certainly a Stage III phenomenon, but some aspects of it are not as clear as they could be. There is, for one thing, the question of its origin. The most obvious solution is that it represents debris from a Stage III building on top of the clay cap. The excavators did find evidence of such a building, located very close to the midden at the south crest of the clay cap. This building will be discussed later as Structure 1. Unfortunately, however, there is no conclusive stratigraphic evidence that Structure 1 is contemporary with the midden--it might in fact postdate it. Given the scale of the yellow clay cap, the excavators expected to find evidence of another, more centrally located final structure on its top. Any post holes from such a building would have shown with good contrast against the yellow clay just below the modern humus. No evidence of a second Stage III structure was found. Another possibility, seriously considered during the time of the field work, was that the entire midden did not develop in place, but was instead redeposited from elsewhere, having been used as construction fill in much the same way that daub from an unknown building was apparently used on the south flank. In that case one could not consider anything found in the midden as mound-related debris. But if that were true, one would expect the redeposited debris to show at least some of the mottling associated with fill. Instead, the midden soil appeared quite homogeneous, in no obvious way different from middens developed in place on the flanks of other mounds. We are left with the somewhat unsatisfactory position that this debris did develop in place due to Stage III activity on top of the yellow clay cap, *possibly* related to Structure 1.

Yet another issue is the uncertain stratigraphic relationship between the clay cap, the midden, and the Stage III flank deposits. Our profiles show that the clay cap is coextensive with Stage III fill on the east flank of Mound E, presumably meaning that the mound was expanded laterally at roughly the same time as the clay cap locally elevated the summit on the east side. The midden on the southeastern summit presumably postdates all of this construction activity, and yet it clearly rests directly on the old Stage II surface south of the clay cap. Unfortunately we lack connecting profiles that show precisely how this midden relates to the Stage III fill on the south flank, yet our southernmost exploratory trench profiles seem to show part of the midden resting irregularly upon thin Stage III fill soils. Our basic problem here is in not knowing what the formal contours of Stage III looked like at the time the midden accumulated. The only palatable scenario seems to violate the idea, which we think was symbolically important, that a mound construction, however thin, is designed to completely blanket a former construction before the summit is used again (cf. Schnell et al. 1981:132-135). Whether this instance is indeed a violation of that principle, or just a stratigraphic misinterpretation on our part, does not appear to resolvable based on the evidence at hand. For the present we will have to fall back on the more elementary notion that the artifacts from this midden are indeed mound-related, and do represent Stage III summit activity.

Several features originated just below the modern humus, intrusive into the clay cap, the Stage III midden, or both. Some are attributable to the explorations of Clarence B. Moore in 1905. Others, including the daub fall from a burned house wall and three pits, represent the terminal Stage III aboriginal occupation or occupations of the Mound E summit. We will return to both of these feature groups later, under separate headings, after we discuss the Stage II buildings.

Now that the basic stratigraphic makeup of the Mound E summit has been set forth, we can return to our description of how these deposits were excavated. The three exploratory trenches were excavated entirely by arbitrary 20 centimeter levels measured below the surface, using the northeast grid corner of each 2-meter excavation unit as a local vertical datum. In each unit the procedure was stopped as soon as the excavators recognized the soil coloration of the target floor--the top of the Stage II fill. Since the target floor lay an average of about 70 centimeters below the surface, the procedure generally took four cuts per excavation unit. Absolute elevations below a vertical datum established for the mound summit were recorded at the base of each cut. Soils from the exploratory trenches were not screened, except for selected cuts within the Stage III midden that were screened for comparative purposes. From the latter were also taken standard soil samples for flotation. Any other correlations between specific cuts and units of stratigraphic interest, such as the Stage III midden, are necessarily post hoc, and are based on field notes and profile drawings. Profiles were recorded for the exploratory trenches before progressing to the area excavation.

The larger block excavation, as we have already indicated, was accomplished by peeling successive ranges of 2-meter-square excavation units down to the Stage II floor, maintaining a running east-west profile and progressing to the north. These excavations generally took place in the area of the Stage III yellow clay cap. In order to keep matters as simple as possible, each 2-meter square was taken down to the Stage II floor in three cuts, according to the following procedure. The first cut was the humus. Once that was removed, exposing the top of the yellow clay, the excavation unit was troweled in a search for any intrusive features, looking particularly for signs of Stage III architecture. Cut 2 consisted of the upper portion of the clay cap. An arbitrary stopping point was selected for each unit about midway down through the yellow clay. Again the floor of the excavation unit was troweled as a backup measure, in search of any intrusive features that might have escaped notice at the base of Cut 1. Finally, Cut 3 took the excavation unit down to our target level, the Stage II floor, stopping when the distinctive mottled clay of the Stage II fill was recognized. At this point the unit floor was carefully troweled and measured drawings were made of all soil stains visible at that point. At the same time, a cross-section was recorded along the current running profile. These plan and profile drawings, made at a uniform scale of 1:20 using the 2-meter square as the standard recording unit, were meant to be pieced together as needed to gain a larger perspective. Elevations below datum were taken at the surface and at the base of each cut, and any features originating above the Stage II floor were excavated and recorded as they were encountered.

The nature of Cut 3 in these units requires special discussion, because it normally incorporated three different components. These were, in order, (*a*) the lower part of the yellow clay cap; (*b*) the humic zone underneath it; and (*c*) at least a few centimeters of the Stage II fill. The last was because of the fuzzy boundary between the humic zone and Stage II fill, which necessitated cutting approximately five centimeters into Stage II fill, in order to get a uniform soil coloration against which intrusions could be recognized with clarity. As noted earlier, this did not require cutting through the actual structure floors, because they were already destroyed. In effect, all of our recording of Stage II architecture took place at a level just below where the actual

floors would have been, had they been preserved. With the benefit of hindsight, our inclusive procedure in regard to Cut 3 was not at all the best way to go. Had we recognized during the field strategy sessions--and we didn't--that the humic zone represented a major discontinuity in the history of Mound E, we would have made a careful effort to separate it from the overlying Stage III fill. The mistake is particularly depressing when we realize that any artifacts originally associated with the Stage II structure floors would have been incorporated into the humic zone, and we have mixed this critical context with Stage III fill. The one mitigating factor in our favor is the virtual sterility of the yellow clay. Very few artifacts were found in excavating through it, and we can be sure that the *majority* of artifacts recovered in Cut 3 of these excavation units came from the humic zone. It is only a slight consolation to note that the Stage II structure floors were heavily disturbed anyway. We now return to a discussion of the summit architecture of that stage.

Stage II Architecture

During Stage II, Mound E stood approximately four meters high with a level summit, and its lateral dimensions were only marginally smaller than at present. At this time the eastern summit was occupied by two large rectangular buildings (Figure 25). These two buildings, Structures 2 and 3, will be the subject of our discussion. We have to point out that the entire western half of the Stage II summit was not tested by us, and it would be quite surprising if this side also did not accommodate one or more additional buildings. There is certainly plenty of room for it. If we are right about this, we can think of the broad Mound E summit as designed to house an entire compound of closely packed public buildings, used, one might suppose, for different purposes.

Structure 2. This building was the first to be encountered and the last to be recognized on the Mound E summit. It was located in the area of the initial exploratory trenches of the 1994 field season, but was bypassed in favor of Structure 3 because the excavators only belatedly came to realize that its component parts--some of which were known early on--actually formed a large enclosed building. For the record, the prevailing theory up until that point was that the three east-west trending walls plus the parallel ditch crossed by the exploratory trenches constituted a series of points of access control on the plaza side of Structure 3. The obstacle theory would have made for an extraordinary arrangement and I am relieved to report that it isn't so. It is, however, perhaps worthwhile to recount the steps leading to the recognition of Structure 2. They were (*a*) discovering that its northern wall line was identical to the line of posts discovered at the southern crest of the mound during the previous field season; (*b*) perceiving that our mysterious ditch feature was parallel to both of these wall lines and exactly midway between them; and (*c*) discovering the depressed surfaces around the central roof supports of Structure 3, which gave us a plausible explanation of the ditch feature to the south. The final confirmation (*d*) was obtained by extending our initial east-west exploratory trench to the southeast corner of the summit, where, as predicted, the eastern wall of Structure 2 turned up in the right place. Despite the false start, we now have enough data on Structure 2 to say a fair amount about it.

One missing piece, though, is the location of the building's west wall. Probably it would not have been too difficult to find, but by the appropriate point in the 1994 field season, the full

attention of the crew had to be directed to the priority of completing the excavation of features within Structure 3. The field season thus expired before the search could be made.

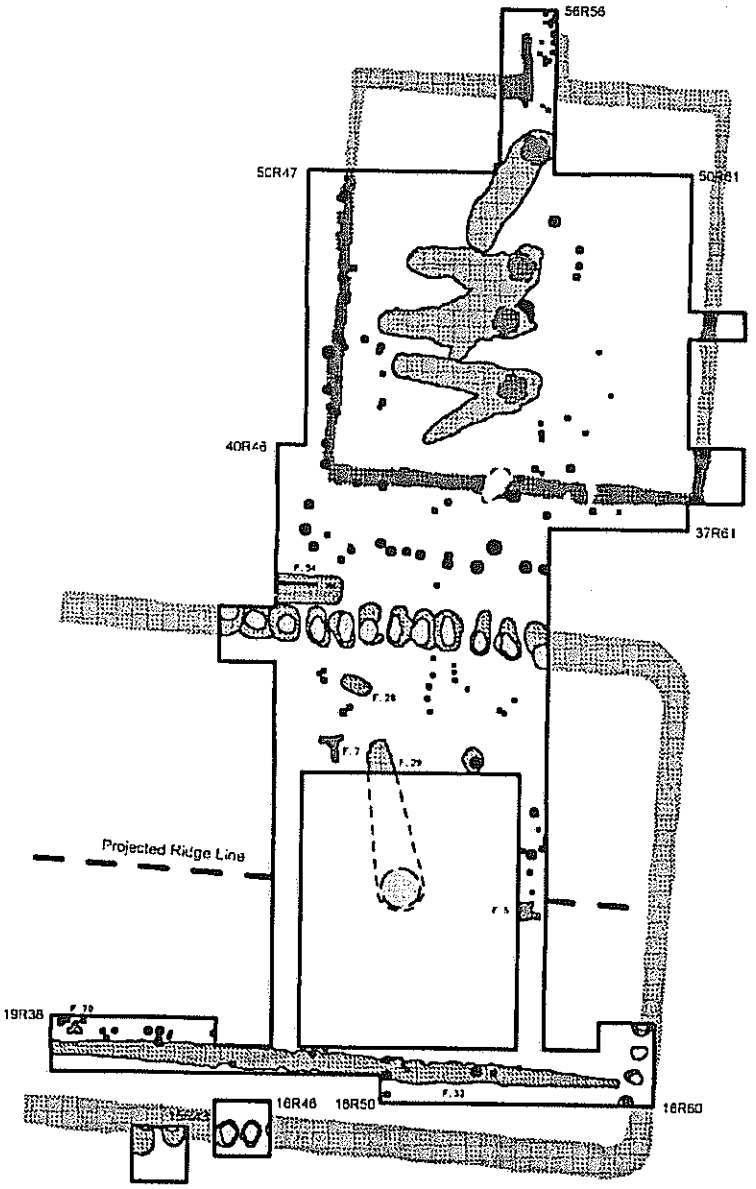

Figure 25. Plan of Stage II architecture on the east half of Mound E.

The shaded outline in Figures 25 and 26 approximates the wall line of Structure 2 based upon known sections of the north, south, and east walls. Data on the north wall line were gathered by first recording the horizontal stains and then cross-sectioning the wall longitudinally, by means of a special trench sunk into the Stage II floor. This trench is also, incidentally, the source of data on the minimum depth of Stage II fill and the angular loading lines discussed previously. Two of the post holes in the south wall line were discovered and cross-sectioned in

the 1993 trenching operation. An additional 2-meter-square unit was excavated during the 1994 season just to the east of the earlier trench, placed there to confirm the existence of a wall line.

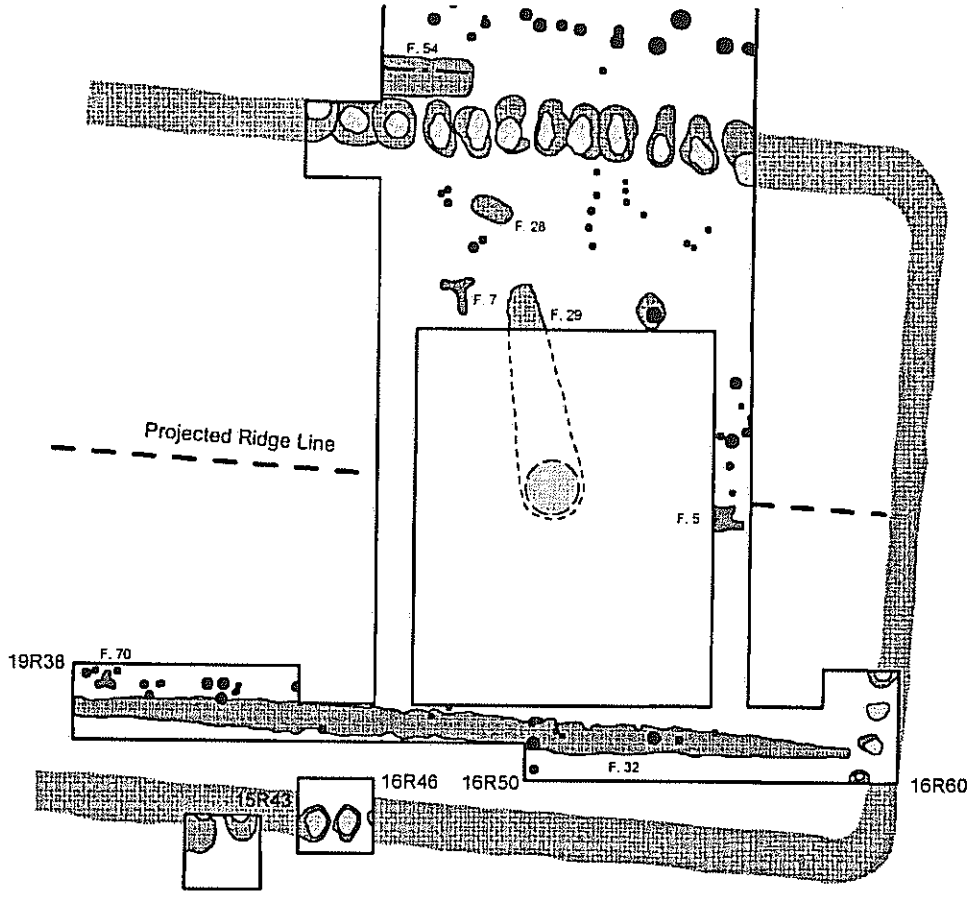

Figure 26. Plan of Structure 2, Mound E. The base dimensions are 19 meters wide by 22+ meters long.

Both the north and south walls were marked by exceptionally large and deep post holes, set an average of 1.2 meters apart, center to center. There was evidently no wall trench. Individual posts (Figure 27) typically showed a slightly tapered oval or irregular post pit backfilled with dark-stained clay, within which was a post mold filled with lighter-colored silt and clay. Judging from the molds, the wall posts averaged about 40 centimeters in diameter. These posts were set into the ground to a depth of approximately 1.2 meters. Despite some evidence of fire-reddened soils along the northern margin of the north wall, the walls themselves had not burned; the posts had been pulled as the structure was dismantled. Few signs of daub were encountered, leading us to strongly suspect that the walls were not plastered.

These walls had been rebuilt at least once. Below the north and south wall lines were deeper post holes, slightly offset from replacement posts that intruded them. The earlier post holes

were about 40 centimeters in diameter near the base, and these posts had been set into the ground to a quite impressive depth of about 1.5 meters.

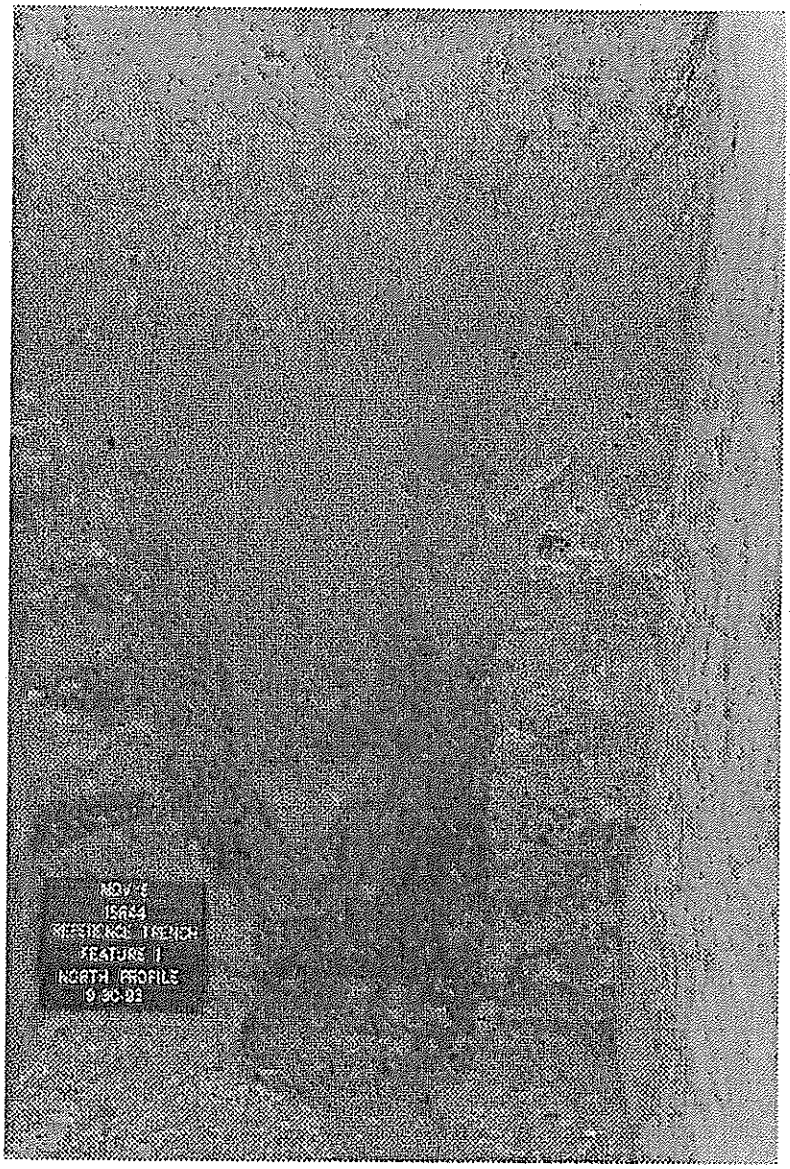

Figure 27. Cross-section of one of the post holes in the south wall of Structure 2, Mound E. This intrudes an earlier post hole, seen at bottom.

The east wall of Structure 2 was marked by somewhat smaller posts, set at approximately the same spacing as those of the north and south walls. The post holes were approximately 90 centimeters in diameter and 95-100 centimeters deep. Post molds indicate a diameter for these east wall posts of about 20-25 centimeters.

Base dimensions can now be given: 19 meters wide by a minimum of 22 meters on the long axis, for a minimum floor area of 418 square meters. Too little of the wall line was excavated to ascertain the location of a door, except to say that the door was almost certainly *not* on the south side facing the plaza. This is because the south wall of Structure 2 was precisely at the crest of the summit, without even a small ledge between it and the rather steep south flank of the mound, which was not equipped with a ramp.

We have already given our reasons for interpreting the ditch-like phenomenon in the center of this building as the former location of a row of large central roof supports running east and west down the longitudinal axis of the building, as marked by a dashed line in Figure 26. These would have supported the ridge pole, in what we envision as a hipped roof design similar to that of the better-documented Structure 3, but with the ridge pole turned 90 degrees from that of that adjacent building. The head of a post insertion ramp, Feature 29, was found at one edge of the excavated portion of the structure floor, sloping southward. It contained three shallow post holes, the significance of which will be discussed later as we describe comparable examples from Structure 3. The orientation of this post insertion ramp has been used to estimate the position of one of one of the central supports in Figure 26, again employing Structure 3 as an analogy.

Prominent among the interior features was a wall trench, Feature 32, apparently running the full length of the building. It was set parallel to the south wall at a distance of about 2.5 meters from the inside. This might have been a partition wall, but if so the room it demarcated would have been extraordinarily narrow and tunnel-like. Alternatively it might have supported a row of beds or seats along the interior of the south wall. Cross-sections of this wall trench showed a double profile 70-80 centimeters deep, indicating that it, like the exterior walls, had been rebuilt at some point. The depth is more conducive to the notion of a wall as opposed to that of beds or benches.

Other interior features are few and not very remarkable. Near the north wall was a small oval pit with a flat bottom (Feature 28), containing little. Infrequent scatterings of post holes were recorded in various places. One particular cluster of small post holes in the northeast quadrant of Structure 2 hints vaguely at an interior facility of some kind near the north wall, but we can offer no confirmation of this possibility.

Just outside the north wall the excavators found a wall trench (Feature 54), or more precisely, a double wall trench, since in cross-section it had the appearance of two adjacent trench stains merged at the top. One is perhaps a rebuilding of the other. It is a small section that begins abruptly and runs immediately into an unexcavated area. Its original depth, approximately one meter, suggests a very substantial wall of whose relationship to Structure 2 cannot be ascertained. If, however, a guess is permissible, it might be the head of a covered entrance along the north wall.

Structure 3. Structure 3 was the smaller of the two buildings on the east summit of Stage II, occupying the northeast quadrant. About two-thirds of its floor area was exposed in an effort to excavate as much of such a building as possible under the constraints of the project. This was a

symmetrical, rectangular building with walls set in trenches with closed corners. Figure 28 shows the excavated and projected portions of the wall line. Base dimensions were 13.8 by 15.5 meters, incorporating a floor area of approximately 214 square meters. The building was positioned hard against the eastern crest of the summit, at a distance of 5 meters from the north wall of Structure 2.

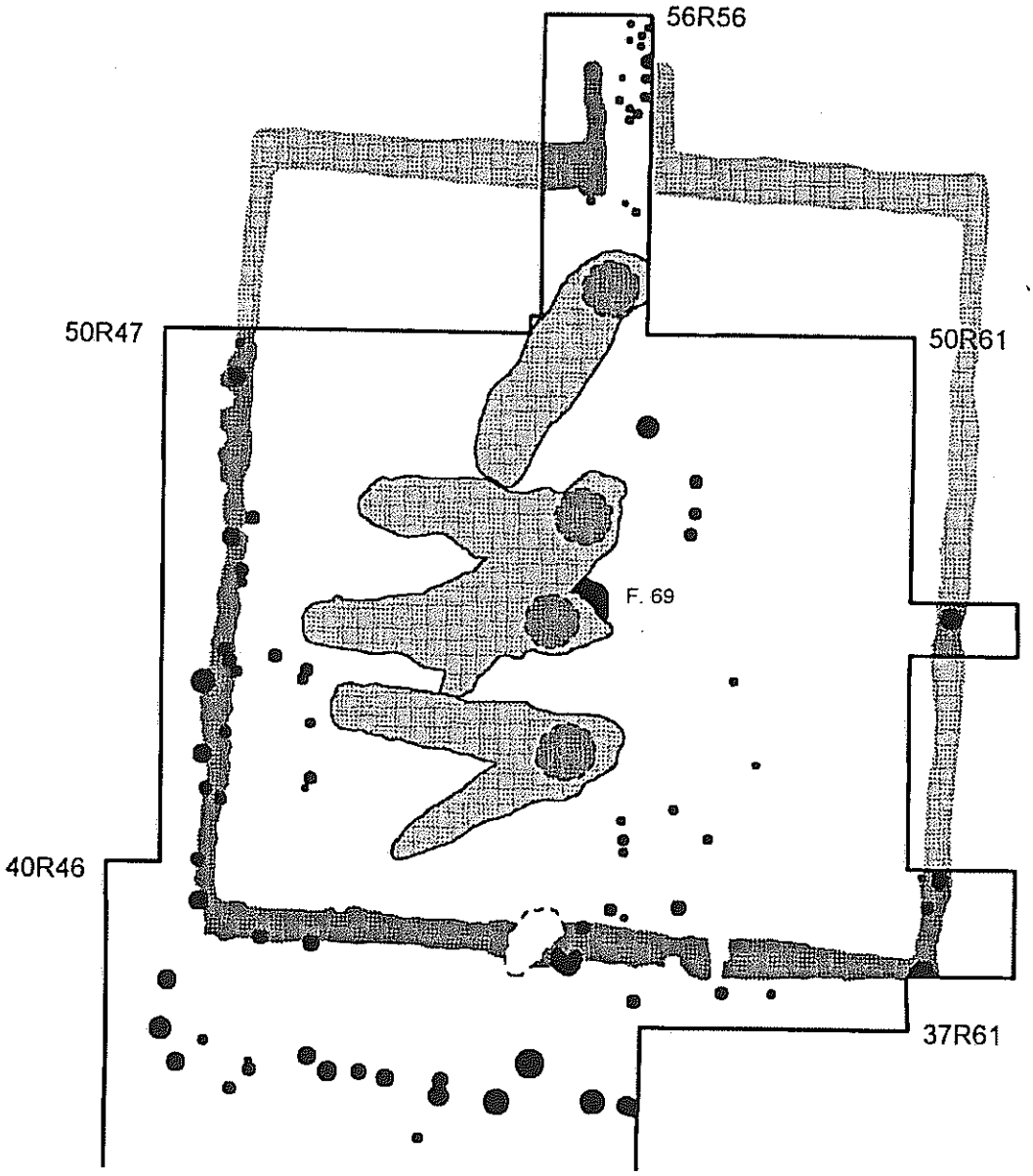

Figure 28. Plan of Structure 3, Mound E. The base dimensions are 13.8 by 15.5 meters, not including the north entranceway.

Wall posts were set in a trench approximately 50 centimeters deep and 50-70 centimeters wide. The trench was slightly wider than average along the south wall, where excavation of the fill showed definite evidence of a rebuilding. Post holes identified in the wall trench were mostly 20-25 centimeters in diameter, with somewhat larger members spaced at intervals of two to three meters. Assuming symmetry, there was a covered entrance at the middle of the north wall, projecting outward a short distance toward the summit crest. In the south wall there was a small but definite gap in the wall trench, offset to the east, presumably indicating a second, less elaborate doorway.

As we reconstruct it, a ridge pole, running north and south and supporting a hipped roof, was held aloft by four very large vertical supports, all possessing post insertion ramps trailing to the west and southwest (Figure 29). Logs of approximately 80-90 centimeters diameter were set into holes dug to a depth of 2.3 to 2.4 meters. The doubling of post insertion ramps on two of the four posts adds to the indication from the outer wall trench that the structure was rebuilt once. For the posts with double ramps, then, one was to insert the post, and the second was to remove it and insert its replacement. Post insertion ramps of this type, while known elsewhere in the Mississippian architectural world, are not previously reported for Moundville.

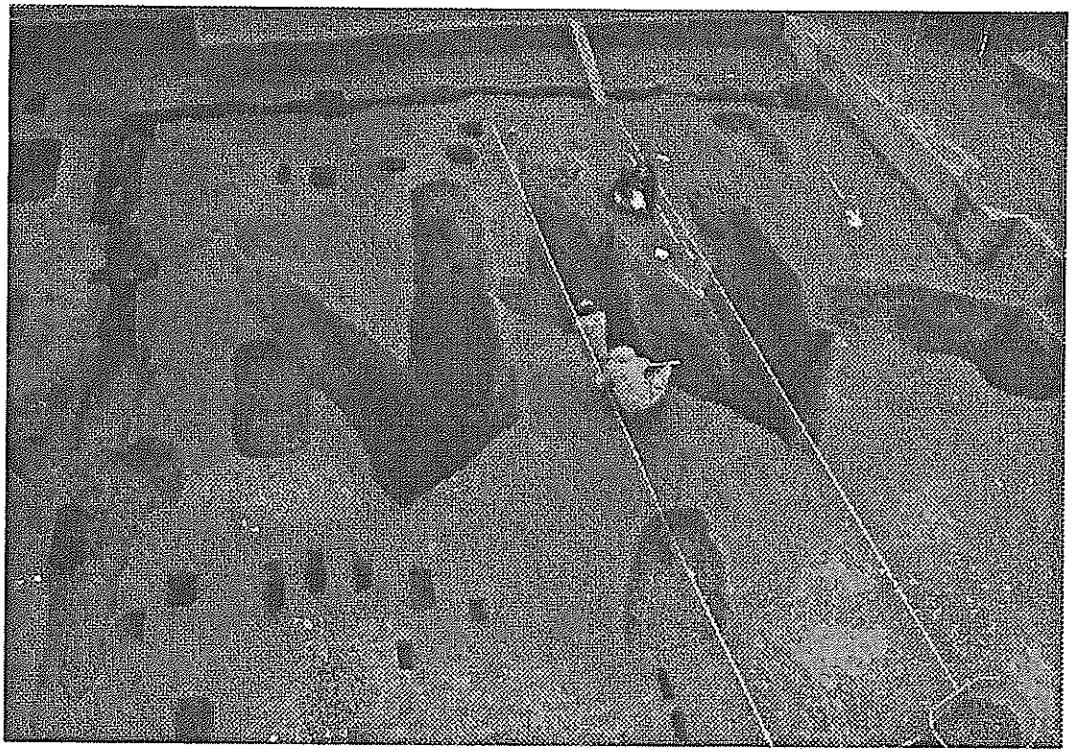

Figure 29. View of Structure 3, Mound E, showing cross-sectioned central post pits and post insertion ramps.

Even though the backfilled soils of the overlapping post insertion ramps were generally too homogeneous to detect an intrusion sequence among them (Figure 30), there is other

evidence that allows us to assert a sequence. The first clue is that the second post, counting from south to north, does not seem to be part of the original design. Without it, we have three center posts perfectly aligned and equally spaced; with it, both the alignment and the spacing are disrupted. Moreover, the second post is the only one that lacks a southwest-trending post insertion ramp. Because the fourth (northernmost) post is essential to the arrangement by any account, and because it has *only* a southwest-trending ramp, we can safely assume that the southwest ramps are the originals and the west-trending ones are the removal/replacement ramps. By this logic the second post, with its west-trending ramp, was a feature only of the second incarnation of Structure 3. A centrally located pit, Feature 69, also bears on this case. This basin-shaped pit, 45 centimeters deep, is positioned exactly on the center axis of the building, and is the only pit of any kind originating on the Structure 3 floor. Because of the intrusions shown in Figure 28, if Feature 69 is contemporaneous with Structure 3 at all, it must be contemporaneous with its first incarnation only.

The post pits and their insertion ramps show several properties of interest. For one thing, the bases of the post insertion ramps tended to show an intentional flattening, though for what purpose it is difficult to imagine. The posts themselves were round in cross section, judging from the post molds within the pits. Another characteristic of the post insertion ramps is that their upper ends tended to possess one or more small, shallow post holes located within. A possible interpretation of these post holes is that they were bases for poles used as props, to maneuver the large upright logs in or out of the post pit, or to hold the support posts in place while the post pits and insertion ramps were backfilled. Finally, cross sections of the post pits show molds of the posts, demonstrating that the butts of the posts were not dug out, but rather were left in place to rot after the structure was abandoned. Fire-reddened soils near the top of the post pits may signify that the upper parts of the posts were removed by burning the bases in place. The slow rotting of these post butts resulted the gradual infiltration of eroded soils from above. As the great mass of these logs was replaced by silt washed from the abandoned surface above, the surface area in time assumed a cratered appearance. The cavities were later filled in by Stage III construction. Here, then, is the evidence and reconstruction of events that we applied to the riddle of the Structure 2 "ditch" encountered in the initial exploratory trenches.

Regarding a hearth, which we might expect to be present in such a building, we have no way of knowing whether one or more of them existed, nor where. Any surface features of the floor were destroyed either by erosion or by bioturbation associated with the development of the humic zone on the post-abandonment Stage II surface. There were only two artifact finds during the field work in this area that the excavators felt might be attributable to an original floor context. One was a large bead of quartz crystal, broken during manufacture. This was found in the northern half of Structure 3 while troweling through the humic zone in order to reach the Stage II fill. The other was a sherd cluster (F.S. 5) found at roughly the same level, just outside the south wall.

Interior furnishings, judging from the post holes, were few. Scatters of small post holes in the southwest and southeast quadrants may mark minor interior partitions. There was, however, an exterior line of post holes approximately three meters south of the south wall and parallel to it,

that appears to be an add-on construction, perhaps a screen enclosing an extramural space, access to which might have been through the narrow doorway in the Structure 3"s south wall. Another scatter of external posts lay within the area on the north side of the building we have identified as an enclosed doorway. The purpose of these small posts is not immediately apparent.

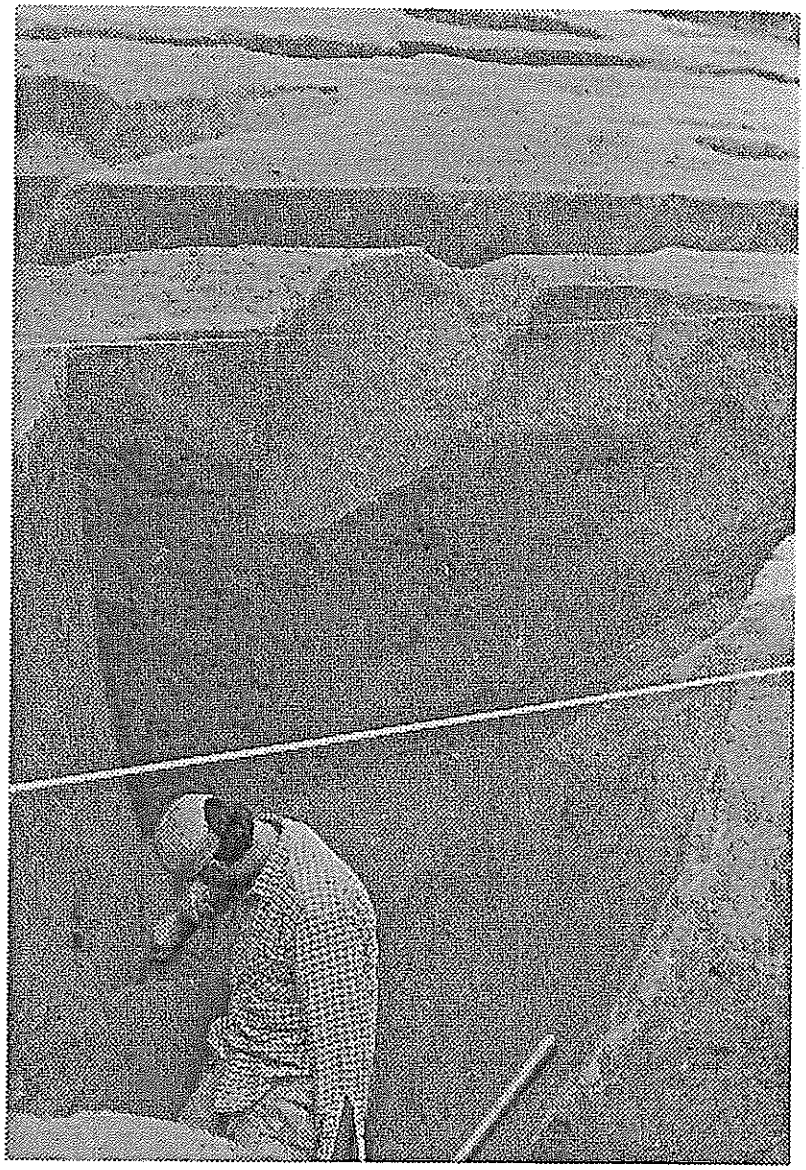

Figure 30. Excavating within an assortment of overlapping post insertion ramps, Structure 3, Mound E. The post pit to the left is being cross-sectioned.

Features Associated with Stage III

Figure 31 gives the location of the features we assign to Stage III, in their relationship to the limits of the yellow clay cap and the Stage III midden.

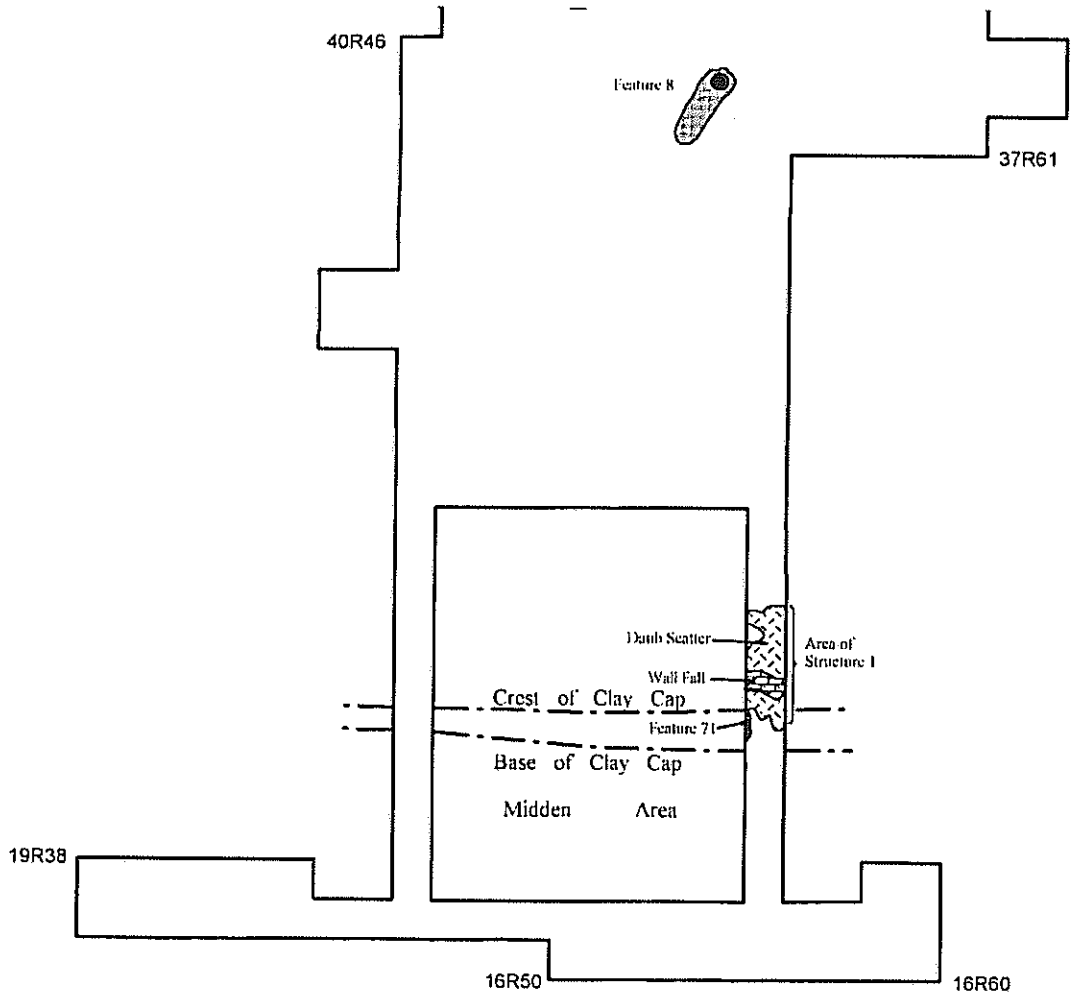

Figure 31. Plan of Stage III features, Mound E. Excluding "winged" features.

Winged Features. We assign this functionally noncommittal name to three hearths or burned areas, all of unusual form, which lay at the interface between the Stage II humic zone and the Stage III fill above (Features 5, 7, 70). Despite being found roughly at the Stage II floor level and all in the area of Structure 2 (we have included them on Figure 26, our map of Structure 2), an argument can be made that they postdated both the abandonment of that structure and the subsequent natural processes that formed the surface depressions and humic zone. This stratigraphic position was most unmistakably true of Feature 5, which was located within the shallow ditch that, according to our reconstruction, formed as the large post holes along the ridge line of Structure 2 silted in. Feature 5 rested *on top of* the humic silt that had washed into the depressed area. On this stratigraphic evidence, if we can assume rough contemporaneity among a set of formally similar features, they date to a time just precedent to the renewal of mound construction in Stage III. We confess, however, our total inability to conjure up a believable account of how these three eccentric features were formed. It is their shape, primarily, that is so

confounding--they all have "wings." Feature 7 (Figure 32) is in the shape of a "T," Feature 70 looks more like a three-bladed propeller, and Feature 5 more like an "H" or butterfly wings. All contained abundant charcoal and ash, occupying shallow troughs with fire-reddened rims or lips. Feature 5 yielded, in addition, animal bone and lumps of fired clay. To claim that these features were formal hearths and that their odd configurations were deliberate would be just a guess.

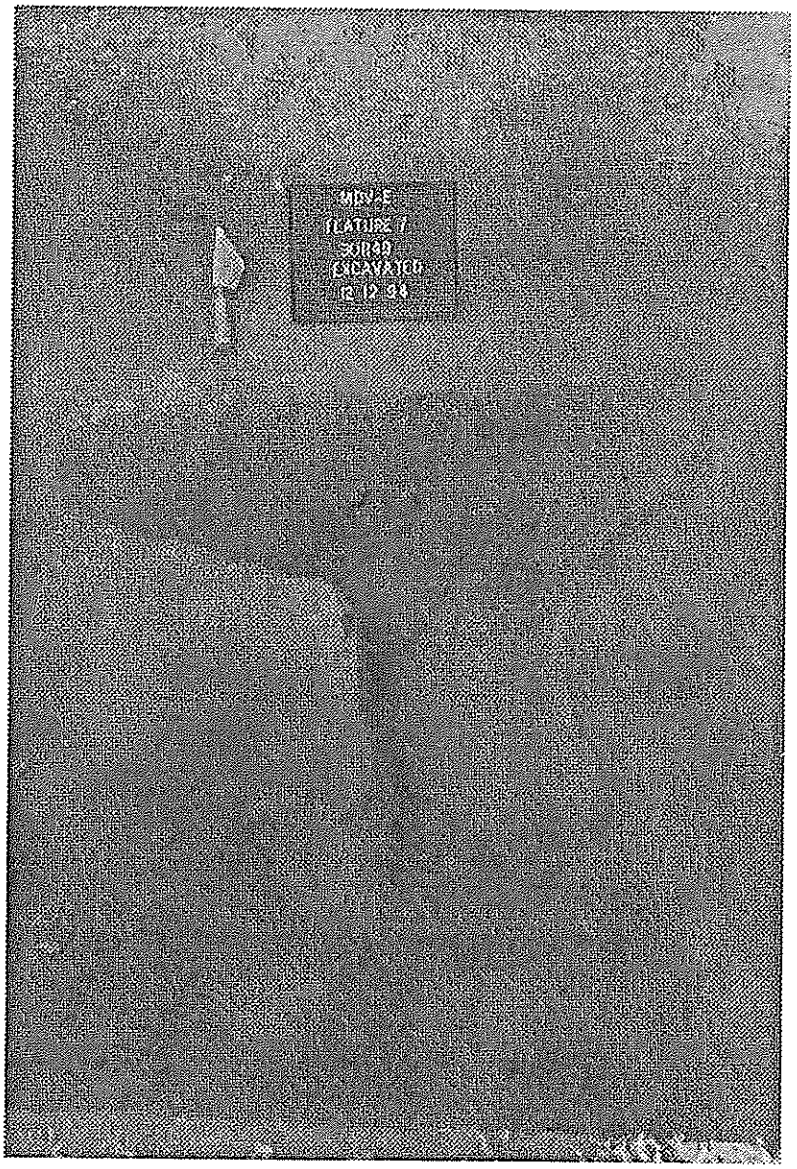

Figure 32. Feature 7, a T-shaped burned area or hearth.

Pit Containing Whole Vessels. Feature 4, a small oblong pit, merits special attention because it contained three whole vessels. Its dimensions were 99 by 28 centimeters at the orifice, and 28 centimeters deep below the point where it was initially recorded. The point of discovery was unusual in that it was deep within the yellow clay cap, near its southern margin in the eastern exploratory trench. The first of the three pottery vessels was a narrow-necked bottle of the type

Carthage Incised *var. Carthage*, which is one of our good Moundville III phase diagnostic types. The other two were miniature vessels, found together, one in the form of a jar and the other a bottle. Both were decorated with crude incised running scrolls. In the process of restoration it was discovered that both of the miniature vessels were essentially "pinch pots" of temperless clay, with one or two added coils used to form the neck.

Despite the presence of whole vessels, the sort of thing ordinarily used as mortuary accompaniments at Moundville, Feature 4 could hardly have been a burial pit because it barely had room in it to contain the three pots. No bone was noted in the pit fill, only dark-stained soil and chunks of daub. The presence of the daub raises the question of the pit's possible origin at the *top* of the yellow clay cap rather than in the middle, particularly since there was a heavy daub concentration related to a burned structure 30 centimeters directly above the level where Feature 4 was recorded. Unfortunately the notes do not help us resolve this question.

Structure 1. Evidence of a burned wattle and daub structure was found just below the modern humus in a segment of the eastern exploratory trench, on the southeastern summit of the mound. The evidence consisted of a heavy daub fall including what appeared to be a burned wall (Figure 33), designated as Feature 2. This is our only Stage III building, and unfortunately our sole window into it is a one-meter-wide trench. No corresponding opposite wall for Structure 1 was detected. Thus there is nothing to report about the size or floor plan of the structure. In fact a skeptic could argue that one section of burned wall is insufficient proof of a building, and we would perhaps even agree, were it not for our strong predilection, based on the presence of a thick midden, that a Stage III building had to be there somewhere. Thus we freely admit the wide margin for error inherent in this teetering logic.

The concentrated daub fall ran east and west across the exploratory trench. Within it, on the same axis, was a burned timber, which provide a good radiocarbon sample (to which we will return). No post holes nor a wall trench were recorded below this one-meter wall segment. On the same surface, a lighter daub scatter extended to the north for a distance of about two meters directly overlying the yellow clay cap.

The most aggravating thing about Structure 1 is the lack of evidence necessary to convincingly relate it, stratigraphically, to the thick Stage III midden abutting the yellow clay cap to the south. Accounting for this midden, to reiterate, has been a very worrisome issue. The Structure 1 daub fall lay precisely at the south crest of the yellow clay cap, stubbornly confined to the top of the yellow clay. According to the available records, the daub scatter fails to spill out in the direction of the midden to the south, under it, over it, or through it. Thus we are left for the moment with two plausible scenarios. First, Structure 1 may be contemporary with the formation of the Stage III midden, in which case its occupants might be credited with generating it. But in that case one has to wonder why there was no more centrally located building on the top of the yellow clay cap. Alternatively, Structure 1 may entirely postdate the Stage III midden, in which case it might be thought of as a terminal re-occupation of the Mound E summit, not connected with either the Stage III mound construction or the subsequent use that generated the midden. We will return to this question later when we review the radiocarbon evidence.

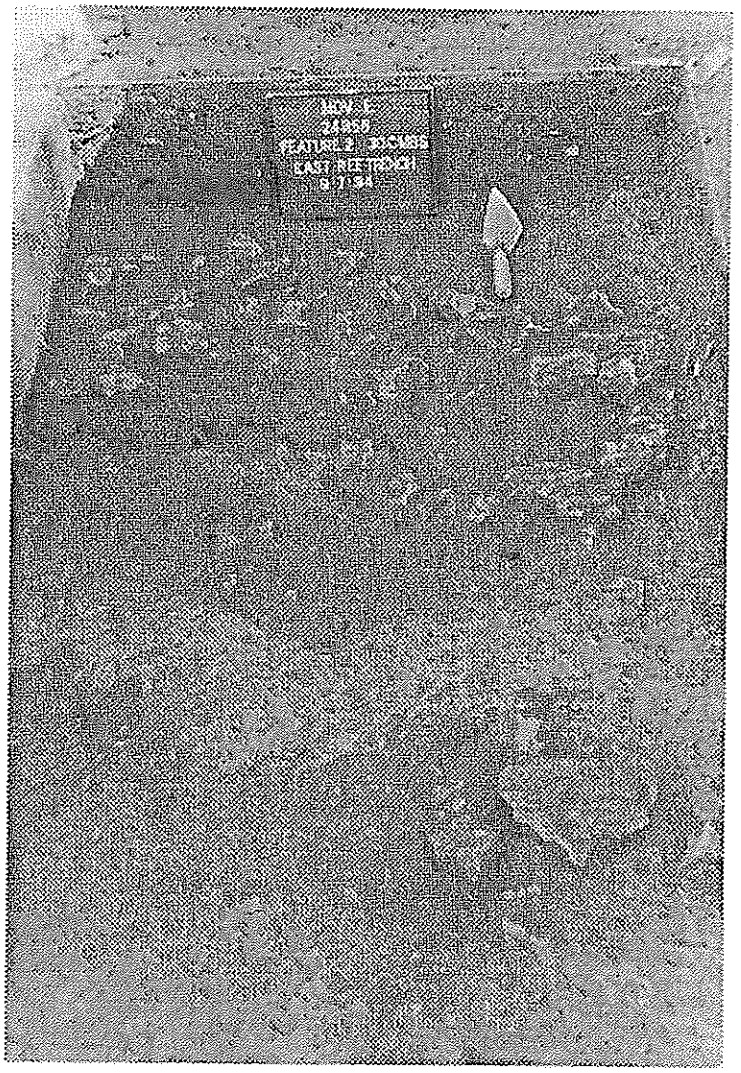

Figure 33. Feature 2, a mass of daub associated with Structure 1, Mound E.

Other Stage III Pit Features. Two additional aboriginal pit features originated just below the modern humus. Feature 8 was an elongated oval pit located near the center of the yellow clay cap. Its dimensions were 244 by 70 centimeters, with a maximum depth of 102 centimeters. The pit bottom was rounded. Feature 71 was a basin shaped pit intercepted in part by the east exploratory trench. The small section recorded was 108 centimeters in diameter and 36 centimeters deep. This pit intrudes both the Stage III midden and yellow clay cap, therefore postdating both. In fact it is the only aboriginal feature known, on stratigraphic grounds, to postdate the Stage III midden.

Radiocarbon Dates for Mound E

Ten radiocarbon samples were selected to represent the full chronology of contexts in Mound E (Table 4). A first look at the resulting set of dates, as a group, produces the same unsettling feeling that we experienced with the Mound R series. They appear to be all over the place. And thus the job of extracting some sense out of them, once again, will not be a simple matter. Let us take them into account in stratigraphic order.

First off, there is a single date from the fill of Feature 2, the basin containing our premound pit-floor structure discovered during the 1993 season. The calibrated intercept, AD 1214, falls within the Late Moundville I phase. This is not necessarily an erroneous assay, but we have put much stock in the idea that such architecture is an *Early* Moundville I phase horizon marker, a form replaced during Late Moundville I times by wall trench houses built at ground level. Such a chronological assignment is just about the only way we can account for the total absence of the pit-floor form in the extensive CCC-era village excavations around the plaza. The age range at one standard deviation is AD 1064-1255, and we would feel most comfortable with a true age near the beginning of that range. This is also one of two assays for which extended counting was necessary due to the small sample size of final carbon. One of our painful most lessons during this project has been to treat such dates with extreme skepticism.

Next is a date from Feature 34, an erosional wash at the toe of Mound E that formed our basis for inferring the existence of a core construction designated Stage I. The intercept here is AD 1293, which would fall in the Early Moundville II phase. This is gratifyingly later than our premound date, but there is little else that we can do with it other than to take it at face value, because we have virtually no Stage I material culture to link it with.

Now for the dates associated with Stage II, an imposing construction supporting buildings of impressive size. The four samples are from the south flank midden and feature contexts associated with Structures 2 and 3. Here our trouble really begins; the intercepts range all the way from AD 1046 to 1403, with the age ranges at one standard deviation yielding an even more perverse span of time. One approach to the problem is to add together the calibrated probability distributions. But first we are no doubt justified in purging B-71696 from the set, on the grounds of sample size, this being another one of our problem assays with less than one gram of final carbon. The remaining dates give the following summed distribution.

Calendar AD Age Ranges	Relative Area Under Probability Distribution
cal AD 1244 - 1244	.01
1246 - 1287	.27
1298 - 1405	.72

This, thankfully, is an interpretable result. Our Stage II contexts, taken together, have the greatest likelihood of dating somewhere in the 1300s, that is, during Moundville II times. And, presuming this to be so, we are unlikely to get a better estimate than this, because of the sweeping S-curve in the calibration corresponding to the fourteenth century.

Table 4. Radiocarbon Dates, Mound E.

Context	Lab Number	^{14}C Age BP	^{13}C-adjusted Age BP	Uncalibrated Date	Calibrated Date (Age Range)	Sample Comment
Premound, Feature 2, House Pit	B-71694	950 ± 60	860 ± 60	AD 1090 ± 60	AD 1214 (1064-1255)	<1gram final carbon., extended counting, composite sample
Stage I, Feature 34. Erosional Feature.	B-71695	760 ± 70	700 ± 70	AD 1250 ± 70	AD 1293 (1277-1385)	
Stage II, Flank Midden	B-71697	720 ± 70	660 ± 70	AD 1290 ± 70	AD 1302 (1286-1398)	
Stage II, Structure 3 Post Hole	B-71696	980 ± 90	940 ± 90	AD 1010 ± 90	AD 1046-1153 1014-1218	<1 gram final carbon, extended counting
Stage II, Structure 2 Post Ramp	B-79967	800 ± 50	790 ± 50	AD 1160 ± 50	AD 1263 (1221-1284)	
Stage II, Structure 2 Wall Trench	B-79968	580 ± 70	570 ± 70	AD 1380 ± ~~50~~ 70	AD 1403 (1307-1431)	
Stage III, Winged Feature, F. 5	B-79969	360 ± 70	310 ± 70	AD 1640 ± 70	AD 1683 (1482-1660)	
Stage III, Winged Feature, F. 7	B-79970	490 ± 40	470 ± 40	AD 1480 ± 40	AD 1438 (1425-1449)	
Stage III, Feature 8, Pit	B-79965	630 ± 80	590 ± 80	AD 1360 ± 80	AD 1398 (1300-1426)	
Stage III, Feature 2, Daub Fall	B-79966	380 ± 50	360 ± 50	AD 1590 ± 50	AD 1511-1616 (1460-1638)	

In considering the four dates from Stage III contexts, one should bear in mind the implications of our reconstruction of the stratigraphic situation on the Mound E summit. Namely, we should expect a chronological gap between the abandonment of Stage II and the initiation of construction in Stage III, of sufficient duration for a natural humus to develop across the Stage II surface. This gap should be on the order of at least several decades; perhaps a half century is not an unreasonable estimate. Moreover, there are two significant facts about Stage III material culture that must also be taken into account. First, the Stage III midden overwhelmingly contains Moundville III phase diagnostics that, according to previous estimates, should date between ca. AD 1400-1550. Second, the terminal occupation is marked by the sparing occurrence of the pottery types Alabama River Incised and Alabama River Appliqué, both markers of the Moundville IV phase which is believed to postdate AD 1550. These appeared in the modern humus on the southeastern summit, in apparent association with the Feature 2 (Structure 1) daub fall, and also as an inclusion in Feature 8, a pit from which comes one of our dated samples.

The Stage III dates, taken at face value, are as irreverently inconsistent as any of our previous series. As a way of resolving this we can follow our previous examples and sum the four probability distributions, which gives the following results.

Calendar AD Age Ranges	Relative Area Under Probability Distribution
cal AD 1405 - 1549	.67
1545 - 1634	.33

This is a step in the right direction. The four dates do seem to be trying to tell us something, although it is not a very lucid message. The results are clearly later than the fourteenth century estimate made for Stage II, and the most probable time range is consistent with a Moundville III phase chronological placement. The two dates for the "winged" hearths, which taken together should date the beginning of Stage III, give a similar, and somewhat tighter, result.

Calendar AD Age Ranges	Relative Area Under Probability Distribution
cal AD 1409 - 1490	.75
1520 - 1570	.18
1626 - 1646	.07

This suggests that the onset of Stage III construction occurred some time in the mid-fifteenth century, a conclusion that is generally agreeable with the Moundville III phase material culture of the Stage III midden, and which allows for a lengthy post-Stage II abandonment.

As a final consideration we should scrutinize two of the Stage III dates individually because of their evident associations with Moundville IV phase marker types. B-79965 dates Feature 8, an elongated pit intrusive into the Stage III clay cap that contained one rim sherd of the marker type Alabama River Appliqué. Its calibrated intercept of AD 1398 and one-sigma range of AD 1300-1426 are far too early for any reasonable estimate for the type, so much so that we are inclined to disregard the date entirely. It is probably pertinent that Feature 8 also intruded the Stage II floor below, specifically the south wall trench of Structure 3, such that some organic

material from the latter context could have gotten mixed with the Feature 8 pit fill. The other date, B-79966, is our only assay for Structure 1, coming from a charred timber associated with the daub fall. In the same level as the daub fall was another rim sherd of the type Alabama River Appliqué. The calibrated intercepts, AD 1511-1616, and one-sigma range of AD 1460-1638, could be interpreted as supporting either a Late Moundville III or an Early Moundville IV chronological placement for the feature. The date does not help us to resolve the key question regarding the interpretation of Structure 1, i.e., whether it is (*a*) a Moundville III phase structure contemporaneous with (and perhaps responsible for) the Stage III midden, or (*b*) a later structure postdating the Stage III midden and perhaps associated with the Moundville IV phase sherds found in its vicinity.

Discussion

Initial flank test excavations defined a three stage construction sequence for Mound E. Field efforts of the following season were focused upon uncovering summit architecture of the second of these stages. In the bargain we obtained some information about buildings at both ends of the sequence, on the premound surface and on the final summit. It will perhaps not be too redundant to summarize the whole sequence here, from beginning to end.

In our estimation the premound surface was occupied during the Early Moundville I phase, although we have to admit neither diagnostic artifacts nor radiocarbon evidence provides unambiguous support for this chronological placement. It is a judgment based almost entirely on the discovery of portion of a pit-floor house, a type of architecture that, according to our current biases, is confined to Early Moundville I times. It is only the third pit-floor house to be documented from the site. Adjacent to this house was a line of post holes that probably marks the wall of a second house constructed with individually set posts at ground level. During the Early Moundville I phase, Moundville lacked a formal community plan. Clusters of houses were located all along the northern margin of the terrace, near the banks of the Black Warrior River and Carthage Branch.

A single radiocarbon date places the earliest known mound construction, Stage I, in the late thirteenth century, during the Early Moundville II phase. This is roughly contemporaneous with the earliest radiocarbon dated earthwork constructions in Mounds Q, F, and G. Water-deposited soils, presumably from its south flank, overlay the premound occupation beneath the present south toe of Mound E. The top of Stage I was never reached in our excavations, so all that can be said about its size is that it could not have exceeded two meters in height.

Stage II, a massive unitary construction, constitutes the greater portion of the fill of Mound E. By this time Mound E had assumed the form of a broad, rectangular platform, standing about four meters tall with a level summit. Rather than possessing one dominant timber building on the Stage II summit, Mound E housed what we envision as a crowded palace-like compound of large buildings. Structures 2 and 3 occupied the east half of the summit and were the focus of our attention.

Both buildings featured spacious interiors with minimal interior partitioning, coupled with ostentatious timber framing, the latter quite overblown in relation to what we judge to be the minimal support requirements for walls and roof beams of this scale of building. As we reconstruct it the roofs were hipped, featuring a central ridge pole held aloft by a row of massive log uprights that may have projected above the roof line. Using roof supports of this size, a high pitch was attainable. There was little evidence for daub applied to the walls. In view of the local scarcity of palmetto, the outside covering of roofs and walls may have consisted of matting.

The design of Structures 2 and 3 was no doubt meant to convey a sense of grandeur in comparison to ordinary dwellings. For example, the floor area of Structure 2 is minimally 22 times that of an average house at Moundville (cf. Scarry 1995:239). Also, the design appears to incorporate an aspect of exclusivity, which is especially seen in restrictions to public access from the plaza side. Unlike mound-based public buildings at many other Mississippian centers, which tend to have entrances and ramps facing the plaza, the main evidence of entrances to Structures 2 and 3 was on the north side opposite the plaza. In general the ravine-dissected areas to the north of Mounds R, B, and E at Moundville, which were to some degree shielded from the plaza, show indications of exclusivity of access during this period (cf. Welch and Scarry 1995:413-414).

Because of natural disturbance processes following the abandonment of the Stage II summit, in situ remains from good floor contexts are unavailable. Artifacts from original Stage II floor contexts were ultimately incorporated into an overlying humus. Future analysis of these near-floor contexts promise insights into routine activities connected with these buildings. A brief examination of artifacts from such contexts suggests the following. First, these buildings appear to have housed certain activities that can be viewed as specialized stone-working, in the sense that the activities were not common to ordinary domestic contexts. Sandstone saws are especially abundant, and there is evidence that these were used in the manufacture of formal paint palettes of gray micaceous sandstone. By-products from the manufacture of these palettes were also present, as were fragments of finished palettes. Small stone gaming disks were also made here, since several roughouts were found in addition to finished specimens. And one quartz crystal bead broken during manufacture attests to stone bead-working.

Despite this specialized activity, however, it is our initial impression that an emphasis on elite crafting and exotic raw materials was not nearly as prominent on Mound E as it was on Mound Q, our most thoroughly excavated example of the "mortuary temple" class. Such materials as galena, sheet copper, and sheet mica were scarce or absent on Mound E in contrast to Mound Q. The relative frequency of locally found pigments--fine grade hematite, limonite, and glauconite--is also impressionistically lower on Mound E than Mound Q. Such differences, however, may be partially due to the fact that primary midden deposits comparable to those found on the flanks of Mound Q are not found on Mound E.

We have estimated that the Stage II mound construction and the use of its summit date to some time in the fourteenth century, at some point within the Moundville II phase. The fact that Structures 2 and 3 were each rebuilt only once is pertinent to the issue of duration. Using a generous estimate of 20 years for the use-life of posts set in the ground in this environment (cf.

Scarry 1995:235), the Stage II summit was used for a maximum of 40 years. Probably the actual span was much less than that. Without being able to prove it, I suspect that the occupancy of Structures 2 and 3 was roughly confined to the first half of the fourteenth century.

What happened next in the history of Mound E is a matter of much interest. Our evidence indicates rather conclusively that the summit buildings were dismantled and the mound was left in an abandoned state for a long period of time. There was no immediate effort made to cap the Stage II surface, even with a thin layer of earth. The abandonment lasted long enough for a well-developed humus to appear, and for substantial erosion of the surface to take place in areas surrounding collapsed roof supports of the former buildings. This event, against the immediate background of the labor-intensive Stage II constructions, suggests an abrupt and thorough reversal of political fortune for the leadership connected with this mound. It is all the more curious in view of the evidence that mound construction was sustained through approximately the same period at Mound R, the symmetrical companion to Mound E on the west side of the site.

Mound E was returned to by about the middle of the fifteenth century, during the Moundville III phase. At this time cap of yellow clay was added to the eastern summit, giving the mound its present terraced configuration. The flanks were expanded slightly at this time as well. This renewed earth-moving was preceded by the creation of several oddly shaped hearth-like features on the old Stage II surface. A pit containing three whole vessels, perhaps an offertory cache of some sort, was put into the clay cap either during its construction or just following it.

A collapsed wattle and daub wall on the south end of the clay cap is our only evidence for a Stage III summit building, and we have, perhaps optimistically, given this the designation of Structure 1. Adjacent to this building, occupying a sort of saddle between the edge of the clay cap and the crest of the mound, is a thick primary midden. Despite careful scrutiny, the chronology of the building and the midden, and their mutual relationship, if any, all remain in doubt.

Among the many chronologically diagnostic artifacts from these contexts are six tell-tale sherds of the types Alabama River Appliqué and Alabama River Incised, which are conventional marker types for the Moundville IV phase. One of these sherds was found in the same level as the Structure 1 daub fall, which would suggest a very late placement for the building. However, the vast majority of the marker types in the midden are more closely compatible with a Moundville III phase placement. Our sole radiocarbon date for Structure 1 could support either interpretation. In either case it does appear that the final occupation of Mound E tool place during the sixteenth century, possibly even later than the De Soto entrada of AD 1540.

Chronological Alignment of Mound Construction

A guiding hypothesis in the present work has been that all of Moundville's principal mounds are contemporaneous at their earliest levels, corresponding to the time of initial political consolidation of the Black Warrior River Valley. Based on previous research we have estimated that this consolidation was achieved during the Late Moundville I phase, ca. AD 1150-1250. If this timing for initial mound construction can be supported, the symmetries inherent in the layout of the center make sense as diagrammatic of a fixed social order, imposed on a ceremonial landscape (Knight 1993). Prior work with limited CCC-era collections, moreover, led us to the preliminary conclusion that the *subsequent* histories of the mounds, taken individually, were more or less ideosyncratic, having to do less with centralized control than with the political fortunes of particular kin groups that were responsible, it is believed, for the mounds on the plaza periphery. Thus it was inferred from the earlier sherd collections that the mounds were abandoned at different times. Most of those on the southern plaza periphery, for example, were abandoned prior to the beginning of the Moundville III phase at about AD 1400 (Knight 1989). Others were abandoned at some point during the Moundville III phase but prior to the final abandonment of the site (Knight 1994). It is now time to see how our recently acquired excavation data stack up against these hypotheses. One way to do this is to discuss the developments at Mounds R, E, F, and G together, in reference to a succession of periods.

AD 1000-1250. No mound construction dating to this period, which corresponds to the Moundville I phase, was identified in our excavations. This fact, of course, hardly proves the absence of mound construction at this time, because our excavations in no case penetrated vertically as far as half the distance from the summit to the base of any mound. In the cases of Mounds R, E, and G, however, the premound surfaces beneath the toe did yield evidence of Moundville I phase occupation. More specifically, the indications are that the premound occupations encountered beneath Mounds R and E date to Early Moundville I, and that beneath Mound G dates to Late Moundville I.

AD 1250-1300. It is during this time, corresponding to the Early Moundville II phase, that we have our earliest evidence of earth-moving in Mounds E, F, and G. It was a time of large-scale building initiatives. Pads of fill were added to extend the flat plaza terrace in the directions of Mounds F and G. If the plaza fill extends completely under Mound F, as we suspect it does, then this is the only case where we have a firmly dated initial construction stage. The most massive of the known constructions of Mound G, Stage I, dates to this time. And the earliest known core construction of Mound E, Stage I, is also attributed to this period. Although Mound Q is not specifically addressed in this document, one can add to this list Stage II of that mound's construction sequence, which is also Mound Q's most massive known construction stage.

AD 1300-1400. Each of the mounds investigated has one or more constructions dating to the fourteenth century, but their histories here, during Moundville II phase times, become plainly divergent. It is, unfortunately, very difficult to refine datings within this span because of a major fluctuation in the radiocarbon calibration curve. We have estimated that the most expansive construction we encountered, Stage II of Mound E, belongs roughly to the first half of this span,

after which this mound was abruptly abandoned. Mound F, with one large construction making up most of its bulk, was occupied through to the end of the century and then abandoned as well. During this period Mounds R and G both initiated a series of smaller construction stages--Stages I-III for Mound R and II-III for Mound G--which continued into the following century.

AD 1400-1450. With the onset of the Moundville III phase, Mound F had been abandoned, joining Mounds H, I, J, K, and M on the south margin of the plaza as mounds lacking any evidence of Moundville III phase use. Mounds R and G each continued to add small constructions stages during this period--Stages IV and V for Mound R and Stage IV for Mound G--and both were abandoned by the end of the period. Incidently Mound Q was abandoned here as well. Although the exact chronology is still unclear, it was at about this time that construction was revived on Mound E after a long abandonment, with the addition of Stage III.

AD 1450-1550. By the end of Moundville's occupational sequence in the sixteenth century, only three mounds, according to our present knowledge, were still in use. These were Mounds P, B and E (Knight 1984), all of which show minor evidence of Alabama River series marker types. Mound E, for which we have good excavation data, does not, however, show any further mound construction during this period.

In short, we have about what we would expect to find if our developmental hypotheses were true: an early flurry of mound-building activity everywhere at ca. AD 1250-1300--as deeply into the mounds as our trenches can take us--followed by uncoordinated additions and abandonments through the next two centuries, mostly on a smaller scale. We appear to have very nice confirmation from excavated contexts of the pattern spotted earlier in sherd collections from other mounds, namely that of some mounds experiencing abandonment while others carry on in the later years of the chiefdom. Regarding our previous estimated dating of the site's initial formal layout at ca. AD 1150, we have little new data, except for that which seems to establish the onset of construction of Mound F at about AD 1250-1300. If true, we should move our estimate forward in time about a century. Interestingly, such an adjustment does not conflict with calibrated radiocarbon evidence for the onset of palisade construction at Moundville (Scarry 1995:197), an event seemingly coordinated with the establishment of Moundville's formal site plan.

A revised estimate of ca. AD 1250 for the consolidation event has an additional implication. According to our data,within about a century of this date, all of the mounds tested during this project had been built up to within one meter of their final height. This represents a tremendous amount of construction over a relatively brief span of time, particularly when coupled with the concurrent labor requirements of building and maintaining a palidade. Accepting this dating for the sake of argument, we can envision a graph of communal labor in the developmental history of Moundville over time, which would feature a single large spike, against which all efforts that followed would pale by comparison.

ZOOARCHAEOLOGICAL ANALYSIS

by Susan L. Scott

More than 20,000 vertebrate fragments have been examined to date in the Moundville assemblages from Mounds E, F, G, Q, and R. The majority of bone recovered and analyzed comes from various contexts in Mound Q, with a sample of approximately 3500 bones from Mound G, and much smaller samples from the other three mounds. In addition to quantifying data from well-dated contexts, all bone samples from the excavations are being scanned for rare taxa, to better flesh out our understanding of elite consumption practices at this important site. Due to the fact that some of the samples are still to be examined, a planned trip to the University of Georgia Museum of Natural History has been delayed until January 1996, after all samples have been checked, and all rare taxa pulled for identification. At least four additional bird species, including a probable heron and an eagle have already been pulled from processed samples but have not yet been positively identified with reliable comparative material.

Observations made in the preliminary report for Mound Q continue to hold true in the expanded sample. Rare taxa are present, provisioning is well represented, and a general disregard for total utilization of resources is apparent. The latter is suggested by a relatively large quantity of complete bones, not processed for marrow and bone grease extraction. Large mammal remains clearly dominate all of these assemblages, followed distantly by birds, including a high percentage of turkey hens. Aquatic remains are only spottily represented, and snakes are very rare.

Perhaps the most notable facet of this assemblage is the distinct evidence of provisioning. Bones generally discarded in primary butchering are nearly absent in the samples, and elements from upper fore- and hindquarters and from the well muscled portions of the torso are all very well represented. The hindquarter appears to have been the favored cut based on relative frequencies calculated to date. Provisioning is well reflected in both Mound Q and Mound G samples. The remaining mounds each produced very small samples comprised primarily of deer, turkey, and unidentifiable large mammal and large bird. Element counts in these samples are too small to comfortably assert similar patterning.

One area of inquiry planned for the final report is whether or not these relatively uniform samples represent public consumption practices from communal feasting events or private consumption (per Jackson and Scott 1995). Feature content coupled with information on vessel sizes associated with remains in various contexts may be useful in ascertaining probable behavioral origin of the assemblages (e.g., Blitz 1991).

Several unusual taxa have been identified in these samples, the more notable being bison and shark. The latter is represented by a single tooth, but clearly indicates coastal contact and exchange. The latter is represented in early Moundville III deposits (Cuts 1 and 2 of 58R33) by a metatarsal, lateral malleolus, and second phalange of an immature bovid. Examination of the metatarsal suggests a probable identification of *Bison bison*, and butchering marks on the phalanx 2 clearly indicate an aboriginal origin for the remains. Bison remains have been recovered in

protohistoric samples from northeast Mississippi (Johnson et. al. 1994), in central Alabama, and at slightly earlier time levels in Louisiana (Kelly 199), and Arkansas (Scott et. al 1990). If this deposit dates to the estimated age of 1430 A.D., to my knowledge it is the earliest evidence to date for bison east of the Mississippi River, and may represent an imported item, perhaps brought in on the hoof.

Other unusual taxa common to both Mounds G and Q include raptors, passenger pigeon, and dog. Examination of other elite assemblages in Arkansas, Alabama, and Tennessee has suggested that these three taxa frequently are associated with elite assemblages and are rare in other contexts (Jackson and Scott 1995).

Coding and data entry are continuing, and are expected to be completed by January 30, 1996. At that time, all rare taxa will have been pulled from non-analyzed samples and the final stage of identification will ensue, followed by a final report.

CURRENT SPECIES LIST FOR MOUNDVILLE:
SAMPLE FROM MOUNDS E, F, G, Q AND R

Opossum	*Didelphis virginiana*
Cottontail rabbit	*Sylvilagus floridana*
Swamp rabbit	*S. aquaticus*
Gray squirrel	*Sciurus carolinensis*
Mouse	*Peromyscus* spp.
Beaver	*Castor canadensis*
Racoon	*Procyon lotor*
Mink	*Mustela vison*
Striped skunk	Mephitis mephitis
Bobcat	*Lynx rufus*
Gray fox	*Urocyon cinereoargenteus*
Domestic dog	*Canis familiaris*
Black bear	*Ursus americanus*
Whitetail deer	*Odocoileus virginianus*
Bison	*Bison bison*
Teal	*Anas discors/carolinensis*
Medium sized duck	*Anas* spp.
Canada goose	*Branta canadensis*
Redtail hawk	*Buteo* cf. *jamaicansis*
Wild turkey	*Meleagris gallopavo*
Passenter pigeon	*Ectopistes migratorius*
Crow	*Corvus brachyrhynchos*
Songbird	Passeriformes
Snapping turtle	Chelydridae
Softshell turtle	*Apalone* spp.
Mud/musk turtle	Kinosternidae

Musk turtle	*Sternotherus* spp.
Box turtle	*Terrapene carolina*
Cooter/Slider/Map turtle	*Pseudemys/Chrysemys/Graptemys*
Viper	Viperidae
Black racer	*Coluber constrictor*
King/Rat/Corn snake	*Lampropeltis/Elaphe* spp.
Frog/Toad	*Bufo/Rana* spp.
Bowfin	*Amia calva*
Alligator gar	*Atractosteus spatula*
Shortnose gar	*Lepisosteus platostomus*
Smallmouth buffalo	*Ictiobus bubalus*
Largemouth buffalo	*I. cyprinellus*
River redhorse	*Moxostoma carinatum*
Blacktail redhorse	*M.* cf. *poecilurum*
Channel catfish	*Ictalurus punctatus*
Blue catfish	*I. furcatus*
Black bullhead	*I. melas*
Smallmouth bass	*Micropterus dolomieu*
Largemouth bass	*M. salmoides.0*
Crappie	*Pomoxis* spp.
Sunfish	*Lepomis* spp.
Freshwater drum	*Aplodinotis grunniens*
Shark	Charcharinidae?

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