

Discovery and Excavation of the Moundville Earth Lodge

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ABSTRACT: Archeological investigations during 1999-2002 of the summit of Mound V at the Moundville site, Alabama, revealed a pair of large building foundations of single-set post construction conjoined by a tunnel entranceway defined by wall trenches. The more elaborate of the two buildings was square in plan and had extraordinarily large roof supports and an external embankment of clay. It is an example of the kind of building called earth lodges elsewhere in the Southeast, a form previously unknown at Moundville. I discuss the discovery, excavation, architectural details, and evidence for dating these buildings to the Moundville III phase at ca. AD 1400-1500.

INTRODUCTION

Moundville, in west-central Alabama, is the largest of the Mississippian ceremonial centers in the Deep South, with more than 30 mounds arranged around a central plaza (Knight and Steponaitis 1998:2-6). We are concerned here with architectural remains recently found on the summit of Mound V at Moundville Archaeological Park. Because it is not possible to address every aspect of these remains in this paper, I will concentrate on an account of the discovery and an outline of the main architectural elements.

Mound V is a broad, rectangular artificial platform that adjoins the northern margin of Mound B, the tallest mound at Moundville (Figure 1). It is probably legitimate to think of Mound V as an apron of Mound B, intimately associated with the dominant mound. Mound V measures about 140 by 70 meters in basal dimension, and is approximately 2.5 m thick in the main area of our work, near the northeast corner of the summit. The importance of the space is signaled by the fact that one of Mound B's two ramps ascends directly from the Mound V platform on the north, the other from the east. The only previous

excavations at Mound V were by Clarence Moore in 1905 (1905:141-142), who devoted "eighteen trial holes and 150 feet of narrow trench" to the summit surface, finding no burials and few artifacts of interest to him. He did note the presence of near-surface midden, a detail that was important to us, as it suggested a residential use. A photograph taken from an airplane in April, 1938 of a Four-H Club outing to the Park (Figure 2) shows Mound V recently cleared of vegetation by the Civilian Conservation Corps. Its angular features are relatively well preserved. A close inspection of the photo, however, shows signs of erosion and gullying near the center. As with other mounds in the Park, the platform was to some degree "restored" in the late 1930s. Since then, about two dozen trees have been allowed to grow up on the summit while the area between them has been maintained in grass by mowing, resulting in a pleasantly shaded park-like area.

Our work at Mound V came at the tail end of a ten-year run of field work called the Moundville Public Architecture Project, aided by grants from the University of Alabama and National Science Foundation, and abetted by

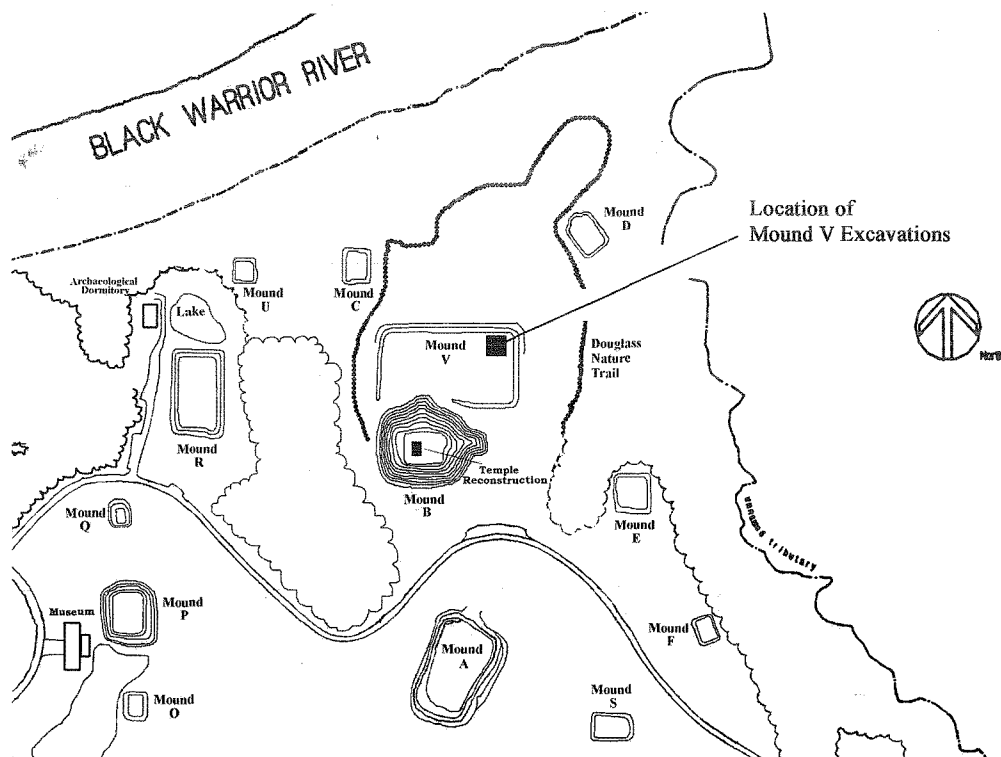


Figure 1. Detail from map of Moundville, showing relationship of Mound V to Mound B in the northern area of the site.

the Alabama Museum of Natural History. The project's aims were to provide a construction chronology for the earthworks by flank trenching Mounds Q, R, E, F, and G, and to investigate suggestions of differences in summit use through extensive horizontal exposure on Mounds Q and E. Our original research design also called for limited testing of two intriguing components of the site layout, (a) Mound A in the center of the plaza, and (b) the Mound V platform, with its curious relationship to

the dominant mound at the site. In both instances our intent was for the testing to be just sufficient to add to the site's construction chronology and to give us some indication of use, by intercepting summit architecture or by recovering artifact assemblages from midden or feature fill contexts. The Mound A work was completed in the fall season of 1996, leaving only the Mound V testing, which was scheduled for the fall of 1999. In anticipation of the work on the Mound V summit, certain of my Mesoamericanist colleagues confidently predicted that the platform supported an elite residential compound. That suggestion was speculative, but it did not seem unlikely, given the northerly location at the site and the association with Mound B, that Mound V was elite real estate of some sort.

THE EXCAVATIONS OF 1999-2002

Devoting the University of Alabama's annual fall semester field school to this work (Figure 3), we established a grid and began the 1999 season with two identical 6 by 1.5 meter trenches (Figure 4), oriented north and south, placed in the center of the platform near where the Mound B northern ramp converged. We found that the near-surface deposits here were loosely consolidated, full of coarse sand and pea-sized gravel, unlike mound fill. Potsherds were scarce. It soon became clear that in both trenches we were digging through a layer of restoration fill, trucked in by the Civilian Conservation Corps in the

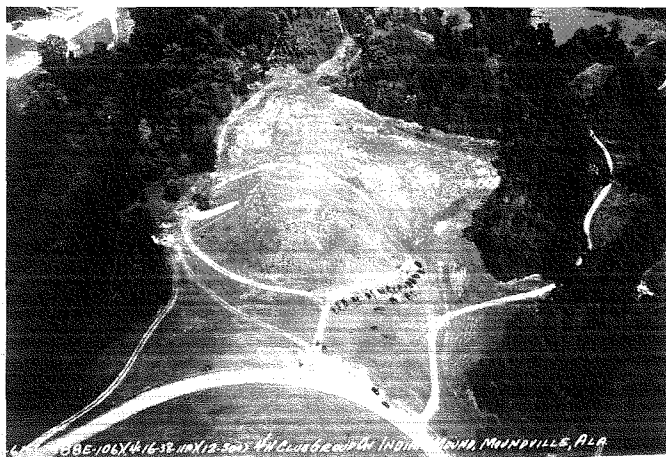


Figure 2. Aerial photograph of Mounds B and V, taken from a position over the plaza, April, 1938, showing Mound V cleared of vegetation. The occasion is a 4-H Club outing.

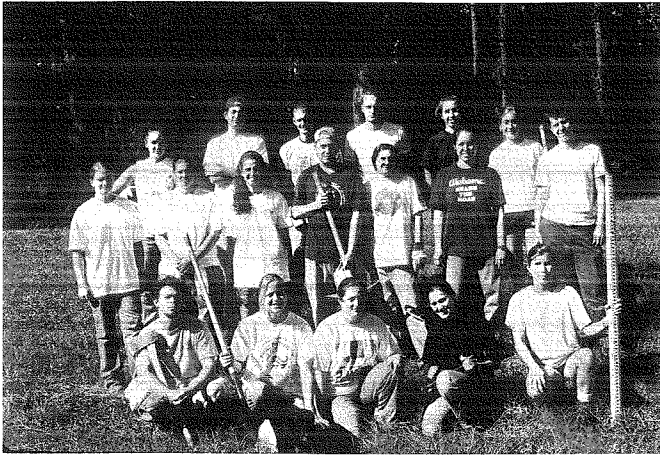


Figure 3. University of Alabama Department of Anthropology Field school, Mound V, fall semester 1999.

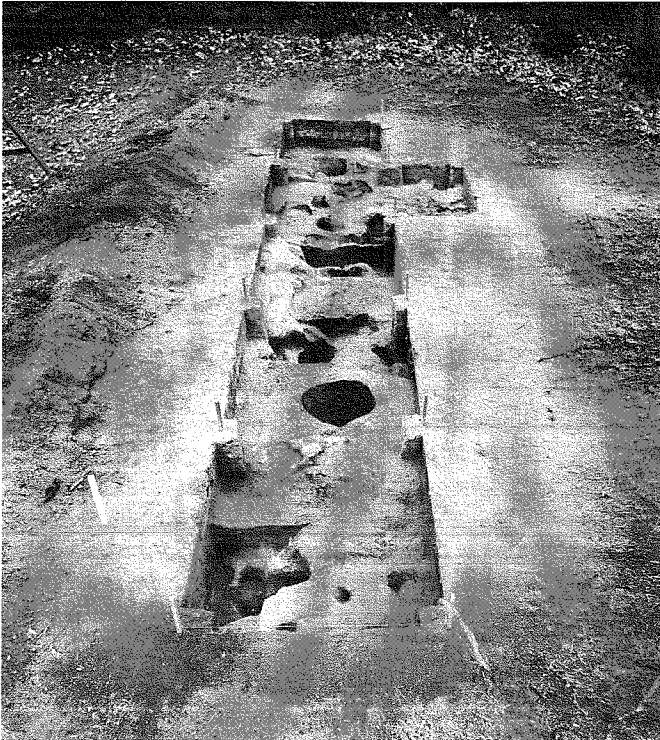


Figure 5. Trench in the northeast sector of the Mound V summit at the end of the 1999 season, showing multiple partially excavated features.

late 1930s to level and restore the eroded center portion of the mound. Recognizing this, we abandoned these two trenches and used a 1-inch split core auger to prospect for intact deposits elsewhere on the summit. Finding a promising locality on the northeast section, we set up a third trench measuring 10 by 1.5 meters, and spent the rest of the 1999 term excavating it. Here, just below the humus we encountered numerous intact features of various kinds (Figure 5). It was impossible to excavate and

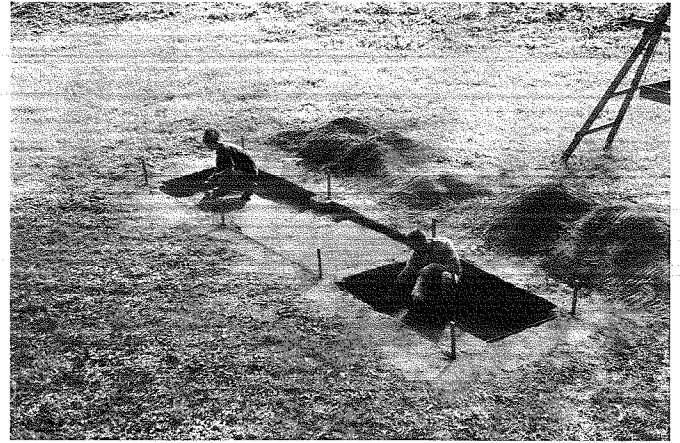


Figure 4. One of two 1.5 by 6 m trenches dug in the central portion of Mound V during fall, 1999. The one shown here was located near the base of the north ramp of Mound B.



Figure 6. Alabama Museum of Natural History Expedition 23, Moundville site, June 2001. This was one of four Expedition 23 crews, consisting primarily of high school students.

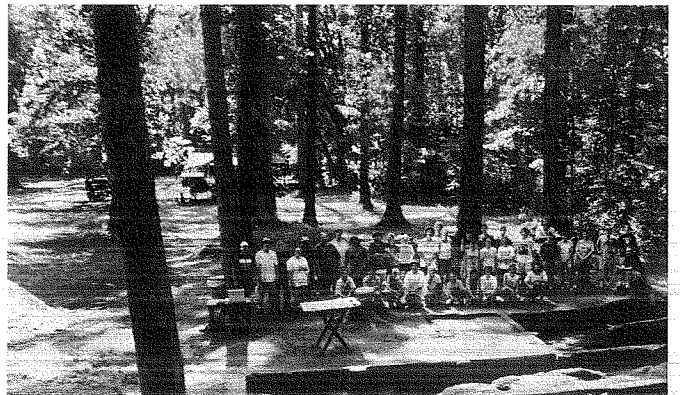


Figure 7. Extent of Mound V excavations at the end of the summer 2001 season, with Alabama Museum of Natural History Expedition 23 crew.

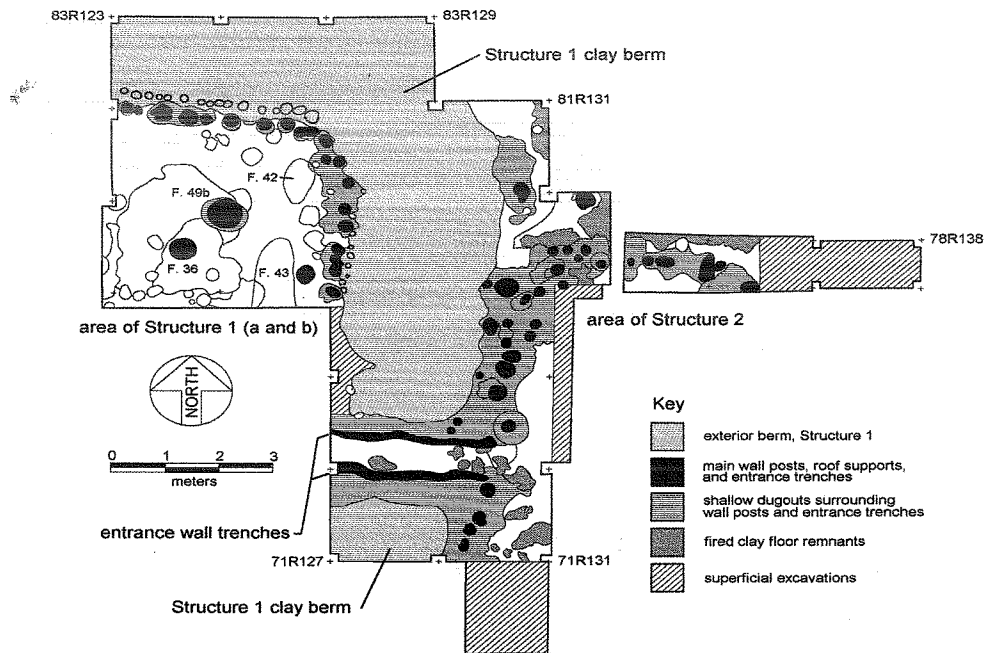


Figure 8. Plan of excavated area, northeast summit of Mound V, showing features associated with Structure 1 (the earth lodge) and adjacent Structure 2, with connecting tunnel entranceway bounded by wall trenches.

record all of these in the remaining time, so I chose to devote a second fall semester field school to this effort in the year 2000, excavating previously exposed features and expanding the 1999 trench in two places to the east and west. By the end of the second season, however, we were still left with unsolved puzzles. We had uncovered parts of what seemed to be a much larger architectural whole that could not be interpreted from our narrow excavation window.

Not wishing to abandon this effort with so little understanding of it, I decided that we needed to continue with a larger effort. Fortunately, a large crew was available in the annual Expedition program of the Alabama Museum of Natural History (Figure 6). I had worked with this organization before, and it suited our needs (and theirs) perfectly. Over a period of four weeks in the summer of 2001, with an average crew size of about 30 per day, we expanded horizontally (Figure 7), primarily to the west but also to the east and south. By the second week it became clear that we had uncovered portions of two adjoining buildings, one of which was heavily earth-embanked and which featured a tunnel entranceway bounded by wall trenches.

Even so, at the close of the summer work, the Expedition crew had exposed and mapped numerous feature stains that remained unexcavated. Consequently I devoted the next fall semester's Department of Anthropology

field school to excavating pits and post holes within the area already opened, completing the record of plan and profile drawings, and collecting additional samples. This work, which was undertaken in the fall of 2001, was primarily in the floor area of the embanked structure. These tasks, however, proved greater than I anticipated, which meant devoting yet another field school to the same work in the fall of 2002, after which we could finally bring closure to the excavations with some understanding of the deposits.

In this manner, after five episodes of excavation spread over four years, we had exposed the architecture shown in plan view in Figure 8. To the west, we have the northeast corner of a building surrounded by a massive earth embankment, featuring heavy roof supports and a tunnel entranceway—characteristics identified in the past with buildings called “earth lodges” in the Southeast. To the east, we had intercepted portions of the west and north walls of a second building, directly connected to the first by the entranceway. We will refer to the embanked building as Structure 1, and to the building to the east of it as Structure 2. Both were built essentially at ground level on the Mound V summit as it existed at the time. Although the embanked Structure 1 has a floor that was somewhat dished out toward the center, it was not built within a discrete excavated pit.

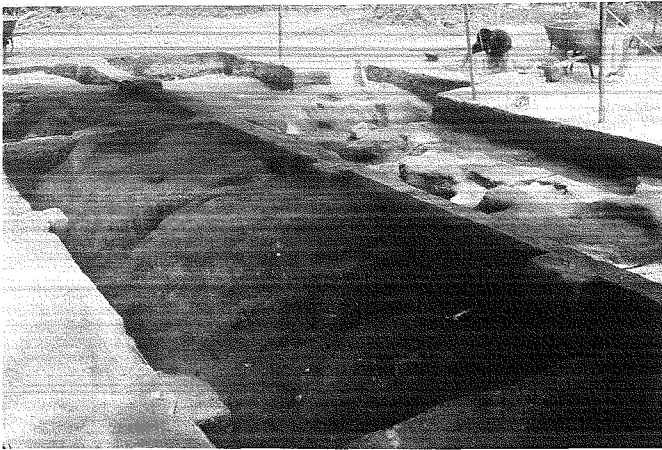


Figure 9. The east berm of Structure 1, looking north, summer 2001. This was an exterior embankment of compact tan-orange sandy clay. The wall trenches of the tunnel entranceway, crosscutting the berm, are seen in the foreground.

STRUCTURE 2

Let us first describe Structure 2, to the east, whose western wall was encountered by our initial trench in 1999. This was a rectangular building with rounded corners, of “single set post” construction (that is, with individually-dug post holes) and with daubed walls. The apparent confusion of wall posts seen in plan view is mainly due to the fact that Structure 2 was rebuilt in place. For each of its incarnations, wall posts were set about 70 cm apart center-to-center. The post holes averaged 20 cm in diameter and were rather deeply set, about 58 cm below the floor level. Two exceptional post holes, perhaps corner posts, were set much more deeply at 106 to 107 cm below the floor level. The daub along this wall line has a gritty exterior finish, and interior impressions show that it was applied against split cane lath-work (Sherard, this volume). When posts were pulled for renovation, as they were at least twice, the post holes were deliberately plugged with brightly colored clean clay—yellow in one instance and orange in another—such that these post holes are virtually color-coded by construction episode. The upper portions of these posts are surrounded on all sides by broad, irregular dugouts, filled with midden. Although these dugouts appear to be trench-like in plan view, these are in no sense conventional wall trenches. I interpret this as a connected series of crude extraction pits, dug around the bases of standing posts for the purpose of pulling them.

The floor of Structure 2 was initially paved with a thick layer of clay, laid down when wet. At least in some areas near the wall, this clay floor was fired in place, probably when an early version of the building burned. Subsequently the baked areas became much broken up and distorted, perhaps by foot traffic, such that remnants of the original clay floor were preserved only in spots. Where

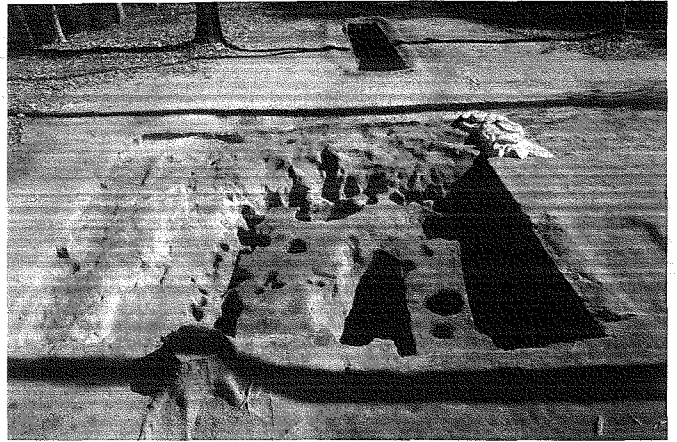


Figure 10. Excavated area of Structure 1 (the earth lodge), looking east, fall semester 2002. The large feature visible in the center is the bisected post pit of the northeast roof support, Structure 1a. The largest circular feature to the right is the northeast roof support of Structure 1b.

the wall dugouts intersected the baked floor areas, the dugouts cut through and therefore postdate the floor. A second, larger zone of baked clay floor was preserved north of Structure 2 in areas marginal to our excavation. I am unsure of the purpose of this patio-like surface and of the circumstances which caused it to be heavily baked.

STRUCTURE 1

Turning our attention to Structure 1, we found that it was surrounded by a loaf-shaped berm of well-compacted tan-orange sandy clay (Figure 9), that sloped both to the interior and to the exterior. This berm was about 2.7 m wide and rose 60 cm above the floor level. It was originally higher, having been truncated at the top by modern activity. We found that the berm slopes were gullied in places, showing that it had been exposed to the elements before the addition of dark brown midden-like deposits that covered its interior and exterior flanks. The berm was interrupted by a tunnel entranceway flanked by narrow wall trenches about 57 cm apart. Not indicated in our plan drawing (for risk of confusion) is the fact that there are actually two superimposed sets of entrance trenches pertaining to two successive buildings of Structure 1 in the same place.

Our work in the northeast corner of Structure 1 (Figure 10) revealed two superimposed floor levels. The first version, which we will call Structure 1a, did not burn, but was dismantled after a period of use. Afterward a clean layer of fill 15 to 20 cm thick was laid down over the floor, and the second version, Structure 1b, was built in place. At some point this second version burned fiercely, resulting in thick piles of daub rubble and charred bits of roof beams strewn across the floor area. The fire was suffi-



Figure 11. North wall line, Structure 1. The main row of post holes is shown, with shallow dugouts surrounding the posts. A separate line of shallow post holes or indentations for leaner posts appears just to the left of the main wall line.

ciently intense to produce silica froth, a gray vesicular glass formed by the melting and fusion of silica phytoliths in grass and cane structural elements (Sherard 2001).

The main wall line thus incorporates post holes pertaining to both buildings (Figure 11). When Structure 1a was dismantled, a certain amount of digging was done around the bases of the posts to dislodge them, resulting in midden-filled dugout areas similar to those of Structure 2, but not quite so extensive. The post holes, spaced about 50 cm apart center to center, averaged 28 cm in diameter and 74 cm deep. They were not vertical, but rather sloped inward from bottom to top toward the center of the building at a very slight angle of about 9 degrees from plumb, reminiscent of the sloping wall posts of the earth lodge found beneath the main mound at Town Creek, North Carolina (Coe 1995:65-72). This was undoubtedly a weight-bearing wall that supported a horizontal plate. Charred bits of pine wood (Tickner, this volume) from

the wall posts of Structure 1b were frequently encountered in the post holes. As Structure 1b burned, the wall fell inward on both the northern and eastern sides, leaving a continuous ridge of daub rubble just interior to the wall line.

In addition to the main wall line, there was a second row of small indentations just exterior to it, set into the base of the clay berm. These indentations—one can hardly call them post holes—were so shallow and so ephemeral that at first we did not believe they could be structural members. In Figure 8, they are shown as small open circles adjacent to the main north and east wall lines. On inspecting these indentations, my colleague Richard Krause, who has first-hand knowledge of earth lodge excavations in the Plains, recognized these as “leaner posts,” homolo-



Figure 12. Bisected post pit for Structure 1a roof support (Feature 49b), view to the east. The post insertion and extraction ramp occupies the foreground. At the base was a circular indentation 65 cm in diameter, marking the size of the post. Charred remnants of wood found at the base of this feature show that the post was yellow pine, as was the adjacent roof support post for Structure 1b.

gous with the outermost wall posts of Plains earth lodges against which the sod is embanked.

Daub recovered from the collapsed northern and eastern wall lines revealed a very different patterning than that seen in Structure 2 (Sherard, this volume). The hand-smoothed exterior surfaces here differed from the gritty-textured surfaces of the adjacent structure. More interesting from an architectural standpoint was that whole cane rather than split cane formed the horizontal lathing of this wall. Apparently bundles of two to three whole canes were tied at close intervals to the main wall posts, and heavily grass-tempered daub was built up around this framework to form the wall. The daub-plastered interior east wall was painted in red and white, using pigmented clay slips. We cannot know what the overall painted pattern was like, except to say that red and white painted areas were relatively large. Fragments of daub showing the conjunction of both colors also occurred.

Daub rubble was also found well to the interior of the collapsed walls, evidently having fallen from the underside of the roof. This daub, in contrast to the wall daub, tended to show the impressions of split cane lathing, presumably bound to the interior roof to provide a fireproof coating of hand-smoothed clay plaster.

The roof was held up by interior support posts (Features 36 and 49b in Figure 8), almost certainly four in number, each situated near a building corner. These were large. Shown in Figure 12 is one of the primary roof supports for the initial version of Structure 1. This post hole, Feature 49b, lies at the base of a broad insertion pit which was later re-excavated as an extraction pit, a distinction that is clear in profile view. The post pit is somewhat more than two meters deep, and it bears a compact impression at the base which gives us the diameter of the post itself: 65 cm. This tree-sized post, I suggest, is a case of over-engineering, meant to impress. The species is identified as yellow pine (Tickner, this volume) from remnant charred fragments present at the base. An intriguing architectural fact is that this post, like the main wall posts, leaned inward toward the center of the building at an angle of four degrees from plumb. The fill of the post pit contained

unusual inclusions of tiny, round pellets of copper, which must have had a symbolic significance. The roof support for the corresponding rebuilt version (Feature 36, Structure 1b) was smaller, 51 cm in diameter, with its own insertion pit. It was placed about 1 meter interior to its predecessor. As a result of the burning of the replacement structure, the butt of the smaller roof support post (also yellow pine) was partially preserved in place.

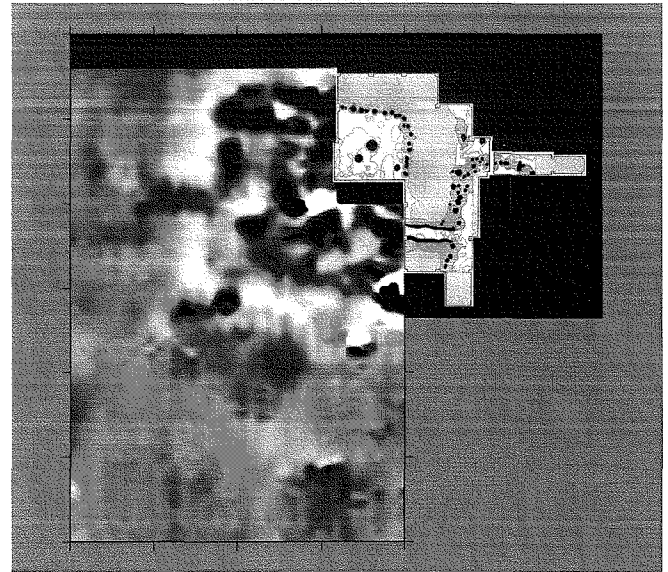


Figure 13. Gradiometer image of the unexcavated portion of the Structure 1 area, with excavation plan superimposed. Tick marks are at 5 m intervals. The surrounding clay berm has a negative magnetic signature and shows as a light-colored square, interrupted by a probable second entranceway to the west. Piles of fired daub lying on the interior floor have a positive magnetic signature and show as black. A contrasting black and white “dipole” near the center marks the probable location of the hearth. Image courtesy of Jay Johnson and Bryan Haley, University of Mississippi.

Table 1. Radiocarbon dates from the Mound V excavations.

Sample No.	Sample Description	Radiocarbon Age	$^{13}\text{C}/^{12}\text{C}$ Ratio %	Conventional Radiocarbon	2 Sigma Age Calibration
Beta-161959	Feature 8. Pocket of wood charcoal within fill of east berm. Structure 1.	620 ± 60 BP	-26.7	590 ± 60 BP	AD 1290 – 1430
Beta-161960	Feature 14. Charred wood from corner post of Structure 2.	570 ± 60 BP	-24.8	570 ± 60 BP	AD 1290– 1440
Beta-161961	Charred wood from roof beam, Structure 1b, Unit 79R125.	250 ± 60 BP	-25.7	240 ± 60 BP	AD 1500 – 1690
Beta-161962	Feature 33. Charred wood from roof support post, Structure 1b.	550 ± 60 BP	-25.7	540 ± 50 BP	AD 1300 – 1440

Our excavations were insufficiently broad to determine the size of Structure 1. In consequence, we used a 1" split core auger to locate the crest of the exterior berm to the west and south. Better still, we were favored by a visit from Jay Johnson and Bryan Haley of the Center for Archaeology at the University of Mississippi, who applied four different remote sensing technologies along a grid in the unexcavated area: ground-penetrating radar, soil resistivity, magnetometry, and gradiometry. Because of the strong magnetic signature produced by daub, they obtained their best results using a fluxgate gradiometer (a Geoscan FM 36). The gradiometer image (Figure 13), with our excavation plan superimposed, reveals a great deal. The piles of fired daub on the floor of the building show as an area of mostly positive magnetic readings which appear as dark patches, mixed with some negative readings which show as lighter patches. As in the excavated area, we can see that concentrations of daub rubble occur both along the wall line and also to the interior, where the daub must represent roof fall. The wall daub appears to be heaviest along the northern margin of the building. The central hearth is indicated by a "dipole," a spot near the middle of the structure where stark positive and stark negative magnetic readings are juxtaposed—rendered as white against black. The top of the clay berm shows up clearly as a square outline with a relatively negative magnetic signature, light in tone, confirming that it is made of homogeneous material with low magnetic susceptibility. One of the nicest features of this image is that it shows a break in the western berm corresponding to the one excavated in the eastern berm—almost certainly a second tunnel entranceway on the west side. It is noteworthy that both entranceways are off-center. With this image we can verify that the building is square, and that the floor as marked by the main wall lines is approximately 11.1 m in diameter, giving a floor area of about 123 square meters. This is large for an earth-embanked building in the Southeast, the only comparably big example being the earth lodge at the Macon Plateau site in central Georgia (Fairbanks 1946).

As for interior features we have only a few indications in the small excavated area. Two oval pits originating at the level of the second structure floor resembled burial pits but contained no human bone. One of these did yield unusual artifacts—a triangular arrow point of clear crystal quartz and a large, white-painted clay bead. Both pits were open at the time of the burning, and the larger of the two pits contained water-sorted sand and silt below the burned debris that could only have accumulated from a breach in the roof. Based on these circumstances and the lack of any artifacts on the floor, it is my impression that the burning of Structure 1b was deliberate, and that skeletal remains may have been exhumed from their sub-floor burial pits just prior to the burning.

CHRONOLOGY, ARCHITECTURAL STYLE, AND FUNCTION

The stratigraphy of the area shows that following the fire that destroyed Structure 1b, humic, midden-like fill was added to the Structure 1 area to even out the piles of fired daub and the surrounding berm. This was followed in succession by the addition of a layer of clean yellow clay, perhaps over the whole locality, although due to modern truncation it was apparent only to the east of the berm. This activity produced a locally mounded area on the Mound V summit, a rise noticed by C. B. Moore and shown on an unpublished topographic map made in the 1930s. Following that, there was yet another midden-producing episode superimposed on the mounded area, about which we know little except for limited evidence of a final structure indicated by yellow clay-filled post holes on top of the mounded surface.

All of this activity, start to finish, was late in the Moundville sequence. Three calibrated radiocarbon dates on charred wood obtained from a post hole in Structure 1b, a mass of charcoal in the east berm, and a post hole in Structure 2 are in close agreement in suggesting construction early in the 1400s (Table 1). Although the pottery has been analyzed, the data remain unreported to date. The diagnostics indicate use during the Moundville III phase, consistent with the radiocarbon dates. The pottery in the upper fills overlying the burned remains includes sherds of the type Alabama River Appliqué and certain other Protohistoric diagnostics, suggesting a final abandonment of the locality around AD 1500.

The architectural style of these remains is South Appalachian Mississippian and was heretofore unknown at Moundville. No earth lodges have been previously reported for the state of Alabama, although several are known from neighboring Georgia, eastern Tennessee, and western North Carolina. The significance of this fact is not obvious, but the sudden appearance of foreign architecture at a time when Moundville was a vacant ceremonial center and a regional necropolis adds a curious detail to the circumstances of Moundville's decline and eventual collapse (Knight and Steponaitis 1998:21-24). Regarding the function of the Moundville structures reported here, we know that they were ceremonially important, from their location, from details of their construction, and from evidence of commemorative ritual activity following their deliberate dismantling and destruction. Regarding more specific questions, a key one being whether or not Structure 1 served as a council house, I will have to reserve judgment pending a full analysis of the associated artifacts and comparison with elite assemblages elsewhere at the site.

APPENDIX: THOSE WHO DID THE WORK

UA Department of Anthropology Field School, Fall Semester 1999

Undergraduates: Jessica Baggett, Melissa Baggett, Charlotte Bohrer, Howard Davidson, Brian Hand, Lori Harris, Kareen Hawsey, Amanda Ingram, Shannon James, Jennifer Keeling, Shannon Koerner, Melina McConatha, Ann Pearson, Brannon Queen, John Simmer, David Wendlek, Kelly Whatley, Katherine Williams.

Graduate Assistant: Katherine McGhee-Snow

UA Department of Anthropology Field School, Fall Semester 2000

Undergraduates: Tracy Allen, Jeffrey Brown, Leigh Elgin, Elizabeth Forward, Sharon Freeman, Becky Pitts, Jeff Sherard, Stephanie Weinstein, Josh Willingham.

Graduate Assistant: Tom Lewis

Alabama Museum of Natural History Expedition 23, June 2001

Week 1: Emily Bailey, Davis Burleson, Jennifer Cobb, James Dwyer, Charles Ebert, Wylene Ebert, James Elliott, Patricia Elliott, Chris Hamilton, Amber Harrison, April Kirk, Michael Picone, Benjamin Picone, Locke Provost, Reba Redd.

Week 2: Barbara Beaman, Andrew Bernard, Erin Camp, Joyce Crenshaw, Jan Delgehausen, L.E. Delgehausen, Avery Driggers, Lona Hawkins, Jamie Hill, Douglas Jones, Ralph Jones, Susie I. Lanier, Kristen Lomax, Richard Lomax, Beth Newman, Glen Newman, Locke Provost, June Ritchey, Krista Truscott, Lauren Woernle, Darrell Woodall.

Week 3: Elliott Alford, Barbara Beaman, Michael Bricknell, Stephen Bricknell, Cabot Brown, Rush Bruson, Julie Cole, Michael Finnell, Amanda Harbin, Kamrehn Harvey, Mary Harvey, Whitney Harvey, Kathy Joseph, Charles Munoz, Jesse Munoz, Bryan Poe, Billy Shaw, Marcia Veal.

Week 4: Katie Anderson, Joe Anderson, John Anderson, Maiben Beard, David Blum, Belinda Brown, Callan DeRamus, Matt Durham, Suzanne Flynn, Kathleen Hilt, Angela Mayfield, Will Morrison, Neil Pinkerton, Malinda Powers, Craig Reinhart, Anna Rich, Emily Taff, Lila Taff, Philip Taff, Joe Thompson, John Thornhill, Vera Welsh, Daniel Wise.

Staff: Brian Rushing, Bob Pasquill, Rosa Newman, John Hall, Collins Davis, Anne Halli, Monica Newman, Jordan Sandlin, Walter Gowan, Jeff Sherard, Philip Donley, Brian Montabana, Julie Markin

UA Department of Anthropology Field School, Fall Semester 2001

Undergraduates: Charles Burns, Dereik Edwards, Patrick Mann, Robin Newborn, Michael Stevens

Graduate Assistant: Jennifer Myer

UA Department of Anthropology Field School, Fall Semester 2002

Undergraduates: Jamie Boyd, Emily Brewer, Daniel Bridges, Michael Bujalski, Elizabeth Collier, Michael Dockens, Jennifer Elliott, Alex Medicus, Susan Olin, Natalie Porter, Paula Simmons, Jeffrey Whatley.

Graduate Assistants: Steve Barry, Jennifer Myer.

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