THE UNIVERSITY OF MICHIGAN MUSEUM OF ANTHROPOLOGY MOUNDVILLE EXCAVATIONS: A PRELIMINARY REPORT ON THE 1978 FIELD SEASON

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In June 1978, the University of Michigan Museum of Anthropology began a multifaceted archaeological project designed to achieve a greater understanding of a major Mississippian system -- the Moundville system of West Central Alabama. This project was made possible by a grant from the National Science Foundation. The courtesy and aid of Dr. Richard Krause of the University of Alabama and Dr. Joseph Vogel of the Alabama Museum of Natural History also helped to bring the project to fruition.

The Moundville project has three primary objectives. First, and essential to the accomplishment of the other goals, is the establishment of tight chronological control via a ceramic analysis and seriation tied to Carbon 14 dates. Spatial control over the system will be achieved by means of a systematic stratified site survey. Finally, questions concerning the subsistence base of the system will be addressed from two directions. Trace element analysis of human bone samples will directly monitor the adequacy of the diet, while paleozoological and paleoethnobotanical studies will address questions pertaining to the development and variability of the subsistence economy.

This report describes the first seasons excavations at the site of Moundville. These excavations were undertaken in order to recover ceramic samples from a stratified context to supplement extant data and to collect floral and faunal remains for use in testing propositions concerning the development and operation of the subsistence system.

The work this past summer focused on an area North of Mound R in the north west section of the site. Previous escavations in 1973 and 1974, by a field school under the direction of David DeJarnette, had disclosed in this area a stratified deposit approx - imately two meters in depth. The deposit contained large quantities of ceramics. Although neither fine screening nor flotation were employed by the field school, both floral and faunal remains were recovered.

The reasons for returning to the deposit north of Mound R rather than beginning work in an untested section of the site were twofold. First, it was known that the data required by the current project were available in the deposit. In addition, the stratigraphy visible in the walls of the earlier excavations could be used as an aid in keeping tight control over the data collected.

Before beginning new excavations, the limits of DeJarnette's pit were mapped and the location of the pit was established in relation to a permanent survey point. Next, the backfill was cleaned out of the north end of DeJarnette's excavation, thereby exposing a profile approximately 6 meters long and 2 meters deep. This north profile and the section of the west profile exposed by the trench were then mapped in detail. The east profile was not drawn, as it was badly damaged from use as a ramp into the field school excavations.

Using the stratigraphy visible in the walls of DeJarnette's pit as a guide, two 2 meter by 2 meter units were opened immediately adjacent to the old excavation area. The location selected for

the squares -- one west of the pit and one north -- were areas where the stratigraphy was clear and where there was little apparent disturbance from roots or rodents.

The excavation techniques employed were chosen to maximize fine stratigraphic control and data recovery. With the exception of the first level in each square, almost all excavating was done by trowel. In the upper levels of the deposit, where there was no clear stratigraphy, 10 cm. arbitrary levels were employed. As soon as natural strata were enountered, they were used to define excavation levels. Features were pedestaled during the excavation and mapping of each level. They were then cross-sectioned, their profiles drawn and then they were removed. If a feature continued for more than one level, the process was repeated. This procedure was time consuming, due to the increased record keeping it entailed. However, it seemed to be the most reliable method for maintaining provenience control in a complex deposit.

To maximize retrieval of subsistence remains, both flotation and water screening were used. Flotaion was done in a SMAP type barrel (Watson, 1976) modified to allow the use of relatively low water pressure. Standard volume (3 liter) control samples were floted from every excavation level. In most instances, features were floted in entirety. Exceptions to this practice were limited to wall trenches and very large pits. In such cases, 3 liters of feature fill were floted per level. All dirt from level or feature contexts, that was not floted, was water screened through 1/4 inch and 1/16 inch nested water screens. As in the case of the flotation machine, water pressure was kept to a minimum.

Due to the generosity of Carey Oakley of the Office of Archaeological Research, two CETA trainees worked with the crew for the first half of the summer. These individuals were employed in water-screening and rough sorting of artifacts. Their help enabled the crew to keep up with the processing and cataloguing of the recovered materials. This in turn made it easy to monitor daily the results of the excavation.

Analyses of the materials recovered during the first seasons excavations are still in the initial stages. However, it is possible to make a provisional interpretation of the nature of the deposit based upon field observations and a review and synthesis of the field notes.

The descriptions of the field school excavations indicated that the deposit north of Mound R was a result of midden accumulation. It had been suggested that the depth of the deposit was a result of the proximity of the excavations to the bluff edge. It was postulated from the apparent dirth of midden on other portions of the site that the site was kept clean by throwing refuse over the bluff edges. The deposit north of Mound R was thus seen as an accumulation of refuse which had fallen short of its intended destination. An examination of the walls of the field school pit, made after the pit had stood open and subject to erosion for several seasons, suggested that there might also be occupation floors present in the deposit.

Re-examination of the freshly cleaned wall profiles, with all but the most serious effects of erosion removed, led to the belief that the situation might be considerably more complex that previous notes implied. The upper portion of the deposit as it appeared in

the profile had scattered lenses but no clear cut stratigraphy. Seventy five centimeters below ground surface, a thick layer of burnt daub extended across almost the entire exposure. Below the daub were numerous thin strata, which were also continuous across large portions of the profile. These strata formed a band at least 70 cm. thick. In addition to the horizontal stratigraphy, several large pits and post molds were visible in the profile.

Subsequent excavation confirmed the complexity of the deposit. Although the depth varied slightly between the two units, the upper portion of the deposit appeared to be a product of midden accumulation. At 30 to 45 cm. below ground surface, traces of sand floors were encountered. Associated with these floors were indications of in situ burning, post molds and wall trenches. The relationships of the wall trenches to one another suggest, that in all probability the floors were a part of a multi-roomed or partitioned structure. The daub layer visible in the profile was met at 75 cm below ground surface. The unconsolidated nature of the daub indicates that it was a product of a fallen wall rather than a burnt floor. Burn traces immediately below the daub indicate that the daub was in situ. Upon removal of the daub, it became clear that the thin strata visible in the profile were a series of superimposed sand floors.

These sand floors deserve special comment. The total number of floors is not yet known, since it was impossible to reach the bottom of the deposit before the end of the field season. Thus far, 8 seperate floors have been recognized. The floors vary in thickness from 2 to 6 cm. The separation between the floors in

most areas was quite clear. It was often possible to peel the floors apart by starting at an exposed edge and running a trowel between them. Post molds associated with the various floors -- som offset by only a few centimeters from those associated with floors above and below them -- suggest that the stratification of the floors is the product of repeated rebuilding of a structure. Each replacement recieving a newly packed sand floor. Finally, traces of thin sand lenses within the individual floors suggest that between rebuilding episodes the floors were occasionally given a fresh coat of sand.

To date, 105 features have been identified in the 2 squares. These features can be grouped into 5 major classes: postmolds (68), pits (16), large pits (2), wall trenches (7) and ash and charcoal lenses (8). Three of the pits contained considerable quantities of corn cob fragments. One of these pits yielded a single squash seed and several fragments of what may be a common bean. A second corn feature of note fits the formal description of a smudge pit (Binford, 1972:37-38).

The unexpected complexity of the deposit required increased care and record keeping. This slowed excavation to the point that it was not possible to complete either square before the end of the field season. The square west of DeJarnette's pit was taken in 20 levels to a depth of 120 cm below ground surface. Excavation of the square north of DeJarnette's pit was slowed appreciably by the presence of a badly disturbed burial in the upper portion of the unit. Consequently, only 9 levels (85 cm.) were completed before the end of the season. Both units will be reopened and completed next season.

Three wood charcoal samples have been submitted to Dicar Radioisotopes Laboratory for Carbon 14 dating. One sample, taken from a possible hearth located 30 cm below ground surface, should help to establish a terminal date for the upper portion of the deposit. Two samples, taken from the burnt daub layer were submitted, in order to obtain a date on the Moundville I materials. Once the excavation of the two squares is completed, samples for 14C dating will be selected from the bottom levels of the deposit. These final samples will help determine a date for the initial occupation of this portion of the site.

As noted earlier the analyses of the data from this summer's excavations are still in process. Hence it is not yet possible to draw from the data any conclusions concerning the major research questions of the project. It is possible, however, to make a few provisional observations.

The ceramics recovered from the excavation are being analyzed by Vincas Steponaitis. The results of this analysis will then be integrated into his study of the vessals from extant Moundville collections. Though detailed analyses have not yet been completed, Steponaitis has made a preliminary assessment on the basis of a visual inspection of the ceramics. He reports that all three of the phases he has provisionally defined, on the basis of the ceramics from burial contexts, are represented in the deposit north of Mound R. Furthermore, the stratigraphic order of the excavated sample supports the chronological sequence he has postulated through seriation of whole vessals. Perhaps the most interesting aspect of the preliminary assessment of the ceramics is

Steponaitis's observation that the majority of the ceramics can be assigned to the earliest of the three Moundville phases. The ceramics associated with the sand floors sealed by the daub layer are a pure Moundville I assemblage. The ceramics from the levels immediately above the daub are also predominently Moundville I types. The Moundville II and III phases are confined to the upper levels of the deposit.

No analysis has been performed on the faunal material. Based upon field observations by a non-specialist, it can be noted that at least 4 major faunal classes are represented. These classes are as follows: 1) Osteichthyes represented by fish vertebrae and scales; 2) Reptilia represented by turtle shell; 3) Aves --turkey and possibly swan; and 4) Mammalia -- deer and unidentified small mammals. As of this spring, Arlene Fradkin, a graduate student at the University of Florida, has joined the project. She will participate in the field project this summer and will analyze the faunal material for her PhD dissertation.

The floral remains are being analyzed by the author of this report. Thus, the analyses, though still in their early stages, can be discussed in slightly greater detail. It should be noted, however, that as above any comments are provisional.

The quantity of material caught in the 1/16 inch water screen was so great that for the purposes of analysis it is necessary to subsample. For the paleoethnobotanical analyses, a subsample of 500 grams has been drawn from each provenience unit. This subsample is then floted in a Zinc Chloride solution to separate the carbonized plant remains from the samll artifacts, bones

and pebbles. To date, none of the fine mesh botanical samples have been completely processed. Visual inspection of samples which have been heavy floted indicate the presence of the following: corn cupules and kernels (Zea mays); nutshell including hickory (Carya sp.), acorn (Quercus sp.) and the outer husks of beech - nuts (Fagus americana); a few as yet unidentified small seeds; and wood charcoal.

A number of light fraction flotation samples have been sorted, including a corn pit and the control samples from all 20 levels of the unit west of DeJarnette's pit. The "corn pit" contained more that 70 grams of cob fragments--several complete cross-sections of cobs and numerous cupules--as well as corn kernels, one squash seed (Cucurbita pepo), half of a legume which is probably a common bean (Phaseolus vulgaris), an acorn meat, and hickory shell. The control samples all contained corn cupules, kernel fragments, and wood charcoal. Nut remains thus far identified in the flotation samples are hickory, oak, hazelnut (Corylus sp.) and beech nut husks. Seeds from persimmon (Diospyros virginiana), honey locusts (Gleditsia americana), and maypops (Passiflora incarnata) have also been identified. Most of the control samples contained a few small seeds which are as yet unidentified. It should be noted, however, that such small seeds do not seem to occur in significant quantities.

In addition to the plant materials from the excavations North of Mound R, supplemental data have been made available through the generosity of Dr. Joseph Vogel (Alabama Museum of Natural History) and Ned J. Jenkins and Cal[illegible] B. Curren of the Office

of Archaeological Research. Vogel has made available botanical materials collected during previous excavations at Moundville. These materials include 19 "lots" -- primarily corn -- from the WPA days, specimens from Dejarnette's field schools and a cache of cobs encountered by the University of Alabama field school this past summer. Jenkins has provided an excellent sample of material from three West Jefferson Phase sites. (West Jefferson is the phase which immediately precedes the Moundville Phases in the Black Warrior River Valley.) The West Jefferson sample is comprised of previously unprocessed fill from 11 features from the three sites. This pit fill has been water-screened and floted by the Michigan crew. In addition, Jenkins has provided all of the botanical specimens recovered from other contexts at the 3 sites. Finally, Curren has contributed data from 2 Burial Urn sites, which immediately post date the Moundville Phases. The samples from Jenkins and Curren should provide good comparative data to contrast with that from Moundville.

If the paleoethnobotanical data recovered from the two seasons at Moundville combined with the above mentioned samples is not adequate for a comprehensive analysis of the subsistence system, data from another large Mississippian site presently being excavated on the Tombigbee Waterway will be available to the author.

Evaluation of last sessons excavation results has led to an alteration of the plans originally proposed for the second seasons work. The changes proposed are based on considerations of the time consuming nature of the excavation techniques required for

fine grained control and upon the need to have a better understanding of the horizontal variability of the village portions of the site.

To complete stratigraphic control over the Moundville deposits, the units north of Mound R will be reopened and taken down to sterile soil. It is felt that this past summer's experience has provided a sufficient understanding of the deposit to enable work to proceed at a faster pace without significant loss of data control.

The fact that the deposit north of Mound R is not midden, as was believed before excavation began last summer, both simplifies and complicates the situation. On the one hand, it was not necessary to attempt to isolate dumping episodes in the deposit or to determine from which portion of the site various lenses of refues were gleaned. Thus the control over the data collected is better than was anticipated. On the other hand, there is a need for comparable data from other occupation areas of the site. Such areas need not have the depth of the deposit north of Mound R so long as they can provide control over the horizontal variability of the site. In fact, several shallow deposits could be tested in the time it would take to excavate a single unit in a deep, complicated deposit.

In order to attempt to locate other suitable deposits an auger with a 10 inch blade diameter will be employed. (Permission to use an auger on the site and the use of an auger have both been obtained.) By using available information concerning the

organization of the site -- including the probable location of high and low status village areas -- to select areas of the site for auger testing, it should be possible to increase the probability of locating the required deposits. Given a larger crew than was available last summer, the auger testing can be performed simultaneously with the completion of the two units discussed above. Thus without significant time loss it should be possible to learn more about the site and to plant the most efficient excavation strategy for the remainder of the season.

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