# FUNCTIONALLY RELEVANT CLASSES OF POTTERY AT MOUNDVILLE

by
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A THESIS

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**Abstract**

Due to a strong relationship between form and function, vessel shape has been increasingly used as an indicator of function, particularly in the Southeast. Functional differences in mound use have been hypothesized for Moundville, alternating between elite residence and mortuary temple mounds. The first objective of this study was to determine the full vessel assemblage of Moundville for the Moundville II and III phases. Second, this vessel assemblage was utilized in examining functional differences in mound contexts. The vessel assemblage was determined first by developing a systematic classification of vessel shapes based on morphological criteria, and then determining the range of size modes through rim sherd analysis. A comparison of Mound Q, a hypothesized mortuary temple mound, and Mounds E and G, hypothesized elite residence mounds, was made using functionally relevant pottery classes. Based on a model of historic mound use in the southeastern United States, Mound Q was expected to conform to a restricted, elite pattern of use, and Mounds E and G were expected to reflect a diverse range of activities that were in line with a residential use pattern. The ceramic assemblages differed greatly from the original expectations, with Mound Q suggesting a diverse activity range, and Mounds E and G a more restricted range of activities. A greater surprise was the distinct differences between the ceramic assemblages of Mounds E and G, both hypothesized elite residence mounds. These results suggest the occurrence of activities that were not documented in the ethnohistorical record.

# Chapter 1
# Introduction

The potential held by pottery studies for functional information has increasingly been realized in archaeology, particularly among southeastern archaeologists. Pottery analysis has traditionally played the role of time marker and cultural identifier, being utilized in culture-historical reconstruction. While typological and chronological investigations have dominated pottery analysis, these studies alone are not effective in studying cultural behavior (Ericson et al. 1972; Braun 1980; Smith 1980; Pauketat 1987). Functional studies of pottery have progressed along several lines, including the relationship between morphological characteristics and vessel use (Braun 1980; Smith 1980; Hally 1984, 1986), use-wear analysis and mechanical performance (Steponaitis 1983; Hally 1983; 1986), and population size and site permanence (Shapiro 1984).

Morphological characteristics have been utilized as chronological tools, but this study will focus on the relationship between vessel morphology and intended function. Ethnographic studies support the assumption that there is a positive relationship between form and function, as the desired function of a container will influence its form (Braun 1980; Turner and Lofgren 1966; Smith 1985:254). This study has two primary objectives. The first is to determine the full vessel assemblage for the Moundville II and III phases. The full vessel assemblage as defined by Hally (1983:175) is the total set of shape classes

and modal sizes in concurrent use by a social group. The second objective is to utilize the full vessel assemblage in a functional comparison of two contexts at Moundville, a hypothesized mortuary temple mound and hypothesized elite residence mounds.

**Study Collection and Methods**

The Moundville site, consisting of 26 mounds, is located in the Black Warrior River Valley in West Alabama. It was once the civic-ceremonial center of a complex Mississippian chiefdom, which spanned 40 kilometers along the river valley (Welch 1991). The occupants of the Moundville chiefdom were sedentary, relying heavily on maize agriculture. The Mississippian occupation of Moundville has been divided into three subphases. The Moundville I phase dates from 1050-1250 A.D., the Moundville II phase dates from 1250-1400 A.D., and the Moundville III phase dates from 1400-1550 A.D. (Steponaitis 1983).

The Moundville II and III phase components of Mounds E, G, and Q (Figure 1) will be the subject of this study. Based on a working hypothesis developed by Christopher S. Peebles (1974), a pattern of mound use has been proposed for Moundville, in which function alternates between mortuary temple mounds and elite residence mounds. Mound Q represents a hypothesized mortuary temple mound context, and Mounds E and G represent hypothesized elite residence contexts. Comparable sherd samples from primary midden contexts dating to the Moundville II and III phases have been recovered and analyzed for both temple and residence mounds.

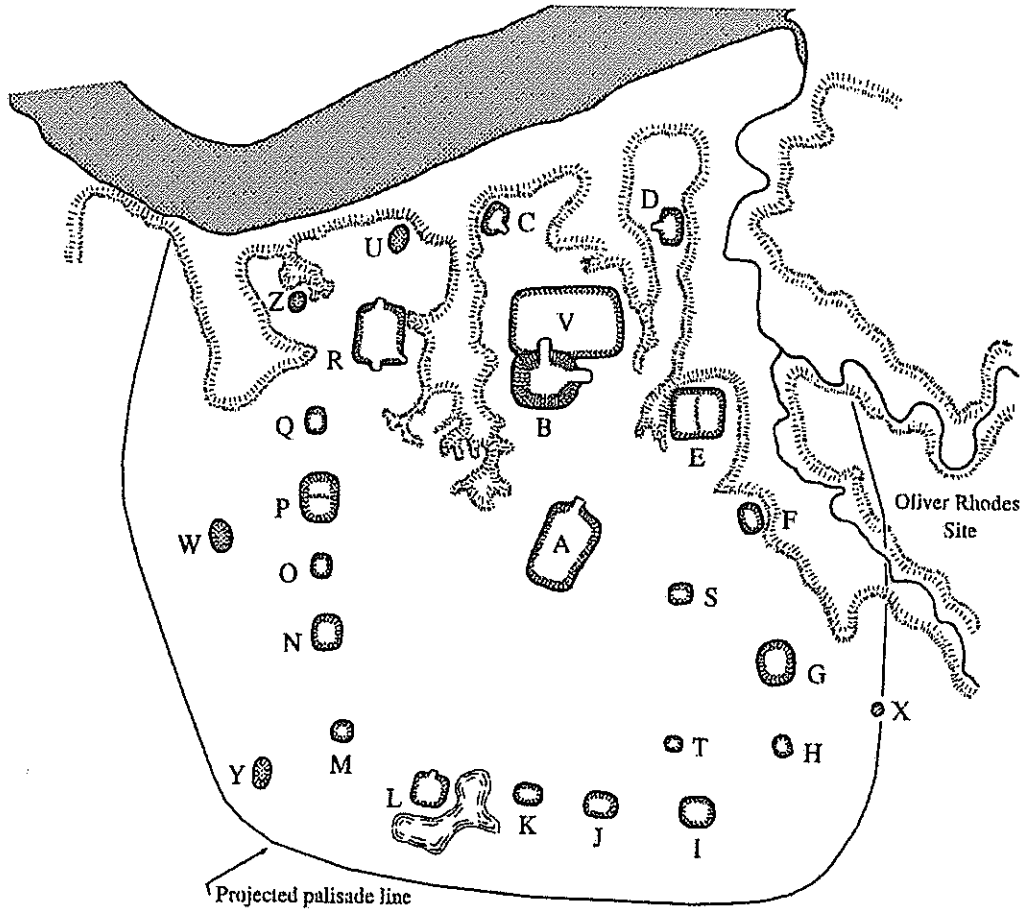



Figure 1. Map of the Moundville site

The full vessel assemblage was determined by first defining all of the existing local shape classes for Moundville during the Moundville II and III phases, and then estimating the number of size modes occurring for each shape class. Shape classes were defined by working with the previous vessel shape classifications of McKenzie (1964) and Steponaitis (1983), and examining photographs of whole vessels which were excavated from burials at Moundville. Definitions were formulated based on morphological characteristics of vessels.

Suggested size modes were determined through rim sherd analysis, using a dial indicator. This method utilizes a formula in which having the knowledge of three points along the arc of a rim allows for the estimation of its diameter (Plog 1985:244-245). The University of Alabama Engineering Department provided the use of a Teclock dial (model A1-921), as well as fabricating an interchangeable attachment for use with the dial. Measurements were also made using the curve fitting method, in which the arc of a rim sherd was placed along a series of concentric circles at one centimeter increments. Rim sherds constituting a minimum of seven percent of the total vessel rim were measured for the sample. Measurements derived using the dial indicator were used in the study of size classes as the use of the dial indicator allows for more precise measurement than the curve fitting method (Plog 1985). The rim sherd sample was combined from Mounds E, G, R, and Q, in order to produce a composite sample large enough for analysis. The context of the Mound R sample was comparable to that of Mounds E, G, and Q, however it was not included in the final analysis of mound function do to the extremely small sample size. Potential uses for Moundville vessel classes will be suggested upon a review of the literature concerned with vessel morphology and function.

Analyses of functionally relevant pottery attributes will be conducted in order to investigate the hypothesized differences in mound function. The proportions of service and utility ware, the proportion of individual vessel shapes, and the distribution of shape-size classes will be compared between Mound Q and Mounds E and G. The data for these analyses are drawn from a Paradox database in use by the Moundville Mound Project.

## Chapter 2
## Previous Research on Moundville Vessel Shapes

Studies of vessel shapes at Moundville have been conducted by both Douglas McKenzie (1964) and Vincas Steponaitis (1983). These studies were based on whole vessels excavated primarily from burial contexts. McKenzie's inventory of the range of vessel shapes represented at Moundville included all vessels, local and nonlocal, making no distinction between the two. Steponaitis limited his study of shapes to local vessels only.

McKenzie's study considered vessel shape as one of six categories of variation in his analysis of Moundville pottery. He described this variation as being either continuous or discontinuous. Shapes that did not gradually merge with others were considered distinct *basic vessel forms* (1964:51). These shapes were bottles, bowls, and jars, and within these basic vessel forms McKenzie saw continuous variation. McKenzie's vessel categories are not strictly definitions, but rather "descriptions of tendencies towards a fixed shape" (1964:52). Vessel shape was considered by Steponaitis to be one of six classificatory dimensions that could be examined independently of other aspects of pottery. Steponaitis recognized and described three basic vessel shape categories occurring locally at Moundville -- bottles, bowls, and jars (1983:64) -- and described the variation that occurs within these categories. Figure 2 is the chart of Moundville vessel shapes as classified by Steponaitis (1983:67).

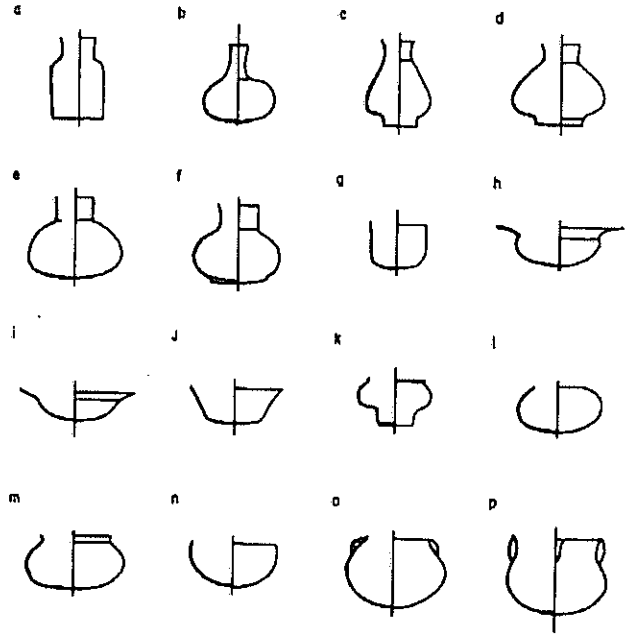



Figure 2. Vessel shapes of Moundville as classified by Steponaitis (1983:67): (a) cylindrical bottle, (b) narrow-neck bottle, (c) slender ovoid bottle, (d) subglobular bottle with pedestal base, (e) subglobular bottle with simple base, (f) subglobular bottle with slab base, (g) cylindrical bowl, (h) flaring-rim bowl (deep), (i) flaring-rim bowl (shallow), (j) outslanting bowl, (k) pedestaled bowl, (l) restricted bowl, (m) short-neck bowl, (n) simple bowl, (o) neckless jar, and (p) standard jar.

**Bottles**

McKenzie does not offer a general definition of a bottle. Steponaitis defines a bottle as a vessel having a distinct body, a more or less vertical neck which is usually one-third the height of the body, and a rim diameter less than three-fourths of the maximum diameter of the body (1983:66).

Both McKenzie (1964:53) and Steponaitis (1983:66) discuss a *cylindrical bottle*. McKenzie offers no description, but Steponaitis defines it as having an approximately cylindrical body with a relatively wide neck (1983:66). Steponaitis defines a category of

*narrow neck bottles* which have a tall narrow neck, a subglobular body, and an unmodified rounded base (1983:66). McKenzie does not have a corresponding category. Steponaitis also defines a shape class of *slender ovoid bottles* (1983:66). Because this shape is confined to the Moundville I phase, it will not be considered in this study, which is focused on the Moundville II and III phases.

McKenzie's general description of Moundville bottles is that they tend to have a flattened globular body, a straight and vertical neck, and usually an unthickened lip which may be slightly flared (1964:53). He designates three basic body shapes for bottles: *elongated*, *shouldered*, and *globular* (1964:53). The *elongated bottle* has a flat base, frequently formed by a hollow pedestal, and possesses a gradual neck to body juncture. This shape most closely corresponds to Steponaitis's *slender ovoid bottle*. McKenzie's *shouldered bottle* has a hollow pedestal base and a distinct break between the body and neck. McKenzie's *globular bottle* has a base that tends to be flat, and also possesses a distinct break between the neck and body.

The bottles that McKenzie designates as *shouldered* and *globular* are collapsed into one general body shape category by Steponaitis, the *subglobular bottle*, which is subdivided according to base modification (1983:66). The body is defined as generally being globular, ellipsoidal, or wide ovoid in shape, with a wide neck of medium height. Base variations include pedestal, slab, or simple. The pedestal base is hollow and forms a part of the container. The slab base is visibly thickened, but not hollow. The simple base is one in which the bottle base is not modified, but flattened (1983:66-67).

**Bowls**

McKenzie describes bowls "as a continuum in which the diameter-at-lip/height ratio steadily increases. At one pole are .... 'beaker bowls'...As bowls become shallower, they resemble 'soup plates'. ... The extremely wide 'soup plate' bowl is at the opposite pole of the straight-sided beaker-bowl" (1964:52). McKenzie describes a bowl as a general shape category in which there is a continuous range of variation, from tall vessels with small lip diameters, to short vessels with large orifice diameters. This definition cannot be applied accurately to the range of bowl shapes found at Moundville. There is, for example, a shape which McKenzie called a seed jar and Steponaitis called a restricted bowl, that may be deep or shallow and possesses a relatively small, restricted orifice.

Steponaitis describes Moundville bowls as having no neck at all or at most a short vertical neck, everted lip, or diagonally flaring rim, with the height of bowls typically not exceeding twice the maximum diameter (1983:68). He makes no reference to general body shape, only to the possible rim variations. McKenzie describes a class of *beaker bowls* which are straight sided barrel shaped vessels with flat bases (1964:52). *Beakers*, in the narrower sense of a vessel resembling a tumbler, are not found in the sample of local vessels, although some non-local beakers have been recovered from Moundville. Some of the bowls in McKenzie's beaker bowl category correspond to vessels in Steponaitis's *cylindrical bowl* category. Steponaitis's definition of *cylindrical bowls* are those that have straight, approximately vertical sides, where the base is usually rounded, but may be flattened (1983:68).

McKenzie discusses a category of bowls he calls *soup plates*. These are described as wide, shallow bowls with a thickened rim (1964:52). By thickened rim McKenzie

means that the rim is flattened and broader than other bowls, not literally thickened in profile. McKenzie's *soup plate* category corresponds to Steponaitis's *flaring rim bowl,* which has a hemispherical lower portion, a sharply outflaring rim, and which may be subdivided into deep and shallow variants (1983:68). McKenzie has a category of bowls called *seed jars*. There is no description of this shape, but is so named because of its similarity to the vessel shape called seed jars in the Southwest (1964:53). A photograph of a seed jar that appears in McKenzie's study corresponds to the *restricted bowl* category defined by Steponaitis (1983:68). These are defined by Steponaitis as having a smoothly curving profile, and a lip diameter less than three-fourths of the maximum diameter of the body.

McKenzie has a category of *hemispherical bowls* which he describes as being produced by a "gradual increase in lip diameter and the diameter-at-lip/height ratio" (1964:52). This means that there is no point of constriction on the vessel, and that the diameter of the bowl is constantly increasing in direct relation to the increasing height. McKenzie's hemispherical bowl most closely corresponds to Steponaitis's *simple bowl,* which is defined as being hemispherical in profile, without inflection or corner points, and having a lip diameter greater than three-fourths of the maximum vessel diameter (1983:69). McKenzie (1964:54) and Steponaitis (1983:68) both designate a *pedestaled bowl* category in which the bowl is somewhat square in shape with a hollow pedestal base.

Steponaitis has three additional bowl categories that do not correspond to McKenzie's. These are *outslanting, terraced rectangular,* and *short-neck bowls*. The

*outslanting bowl* has relatively straight walls that slant outward at an angle greater than 20 degrees from vertical, with a generally rounded base (1983:68). The *terraced rectangular bowl* is rectangular in shape, with a flat base (1983:69). Here, Steponaitis includes the castellated rim as part of the vessel shape definition, although this is also considered an independent rim mode (1983:71). The rim is terraced or castellated and is usually lower on one side than it is on the other three sides. The *short neck bowl* category has a subglobular body shape, with a restricted orifice and a short vertical neck (1983:68).

**Jars**

McKenzie designates only one kind of jar, the *standard Mississippian jar*. It has a horizontally flattened globular body, with a rounded base. The shoulder is vaguely defined and the neck is constricted. There is a short recurved or flaring rim. He describes two areas of variation. The body shape may be flattened to globular, and the rim low and rudimentary or having a pronounced flare (1964:51).

Steponaitis describes a jar as having a more or less globular body with a wide neck that is constricted in profile. The neck is typically one-third of the height of the body and the minimum diameter of the neck is no less than three-fourths of the maximum diameter of the body (1983:69). Steponaitis makes three distinctions within the jar category. The first is the *neckless jar,* whose neck "never reaches a point of vertical tangency" (1983:69). The *standard jar* has a neck that "slants outward at the lip" (1983:70). The *burnished jar* category is based not on shape, but rather on the possession of a burnished surface (1983:69). The burnishing is distinctive enough to indicate a potential functional difference from the *standard jar*, and therefore this distinction will be retained in this study

of vessel shape. The *burnished jar* commonly occurs in the form of a frog effigy. The basic globular body shape and constricted neck are retained, but the vessel neck on the effigy forms is typically short and straight.

**Previous Work on Moundville Vessel Size**

McKenzie is the only accessible source for measurements of vessel dimensions (1964). He drew his sample from a collection of burial vessels which included bottles, bowls, and jars. McKenzie stated that his vessel measurement sample emphasized non-utilitarian vessels (1964:57), and thus is likely to reflect small size ranges. Non-utilitarian vessels are interpreted as burnished vessels which were not used for food production and cooking. A variety of measurements were taken including the overall height of the vessel and the neck height of jars and bottles. The bottles were measured for neck height, the distance between the rim and the juncture of the neck with the body, and jars were measured for what McKenzie called length of rim, the length of the entire collar from vessel rim to body juncture. The rim or collar length is considered the neck height in this study. Also, the maximum body diameter, diameter at neck, and diameter at lip were measured. Only bottles and jars were measured for vessel orifice diameter, showing a narrow size range for both vessel shapes.

McKenzie's measured bottle rim diameter sample consisted of 178 rims ranging in size from 5.0 to 11.5 centimeters. The modal size range of 8.0 - 9.0 centimeters included 61 vessels (1964:68). The jar rim diameter sample consisted of 42 measured rims which ranged in size from 9.0 to 15.0 centimeters. The modal size range was 12.0 to 13.0 centimeters, including ten vessels (1964:60). These measurements were made with sliding

and spreading calipers. McKenzie expected that there was an error of $\pm$ 3 millimeters due to misjudgment and irregularities in the surface of the vessels (McKenzie 1964).

## Chapter 3
## Key to Vessel Shapes of the Moundville II and III Phases

In this study, a key was developed to categorize Moundville vessel shapes, with the ultimate goal of determining the full vessel assemblage for the Moundville II and III phases. The full vessel assemblage, as used by Hally (1983), is defined as the total set of shape classes and modal sizes in concurrent use by the same social group. Based on body geometry, this key uses distinctive criteria emphasizing function over style. Some of the distinctions made in previous analyses have thus been disregarded here, as not possessing obvious functional relevance. McKenzie (1964) and Steponaitis (1983) agree that there are three general classes of basic vessel shape represented at Moundville: bottles, bowls, and jars. However, as discussed in the previous chapter, there is a great degree of difference in the way McKenzie and Steponaitis subdivide these basic categories, using a variety of morphological and stylistic criteria.

This key seeks to establish a reference for systematic classification of Moundville vessel shapes bearing on the question of function. One problem with the previous categorization of vessel shapes has been vague standards by which the shape classes have been defined. The use of such terms as *approximately*, *usually*, and *typically* in defining vessel shape classes, and the paucity of definitive criteria, allow for judgmental or subjective classification. The use of such classification standards can lead to ambiguous results.

A second issue concerning previous vessel shape definitions is that stylistic elements which appear to have little or no bearing on function have been included as defining characteristics of particular vessel shapes. Some of these stylistic elements appear to be useful chronological markers, but are inappropriate when defining vessel shape by functional standards. For example, in the case of Steponaitis's subglobular bottle category, which has been subdivided according to base modification, the difference in bottle bases might be described as stylistic rather than functional. The bottle's functional capacity is not altered by the addition of a pedestal or slab base, but the image is. The distinctions appear to be chronological, with pedestal bases grading into slab bases, which ultimately give way to only simple bases (Steponaitis 1983:130).

Steponaitis's neckless jar designation is another example of a strongly stylistic element being used to make a categorical distinction. Although it does possess a neck which is constricted, the neckless jar was categorized separately from standard jars due to its straight neck and the absence of an outflaring rim. The neckless jar is confined to the Moundville I phase, thus this form serves as a chronological marker. The short-neck bowl of Steponaitis's classification has the same body profile as simple bowls, only with a slightly constricted rim which is set off from the body by a break in the vessel contour. A short collar is produced by this contour break, which apparently has no functional value. It actually serves as a chronological marker, as it only appears during the late Moundville III phase (Steponaitis 1983:130).

The following key defines the primary vessel shapes that occurred at Moundville during the Moundville II and III phases. The classification was constructed using

photographs of whole vessels which were excavated primarily from burial contexts. The key results in ten basic shapes which are named on the right-hand side of the key. Besides these ten, there are also rare composite and double vessel shapes that occur at Moundville in local varieties, but they will not be included in this study because their occurrence is so uncommon. The *composite bowl,* the *composite bowl-jar,* the *composite jar-bowl,* and the *double bowl* were defined by Steponaitis (1983:70,355) as vessel shapes occurring at Moundville, however, they constitute one percent of the whole vessel sample studied by Steponaitis.

The usefulness of the key can be seen in Figure 3. The four vessels are necked and represent three vessel shapes, bowl, bottle, and jar. By using the key, each vessel shape should be accurately classified. Clarification of a few terms is needed in order to better understand the key. A necked vessel is any restricted vessel which has a point of inflection or a corner point between the lip and the body of the vessel. Thus, by this definition, Steponaitis's "neckless jars" actually do have necks. Inflection points, end points, and corner points are characteristic points of a vessel profile. Inflection points are created when the curvature of a vessel changes from concave to convex. End points are the rim of a vessel and the angular juncture at which the base and vessel walls join. Similar to inflection points, corner points are formed by a sharp break in the contour of vessel (Shepard 1956:226).

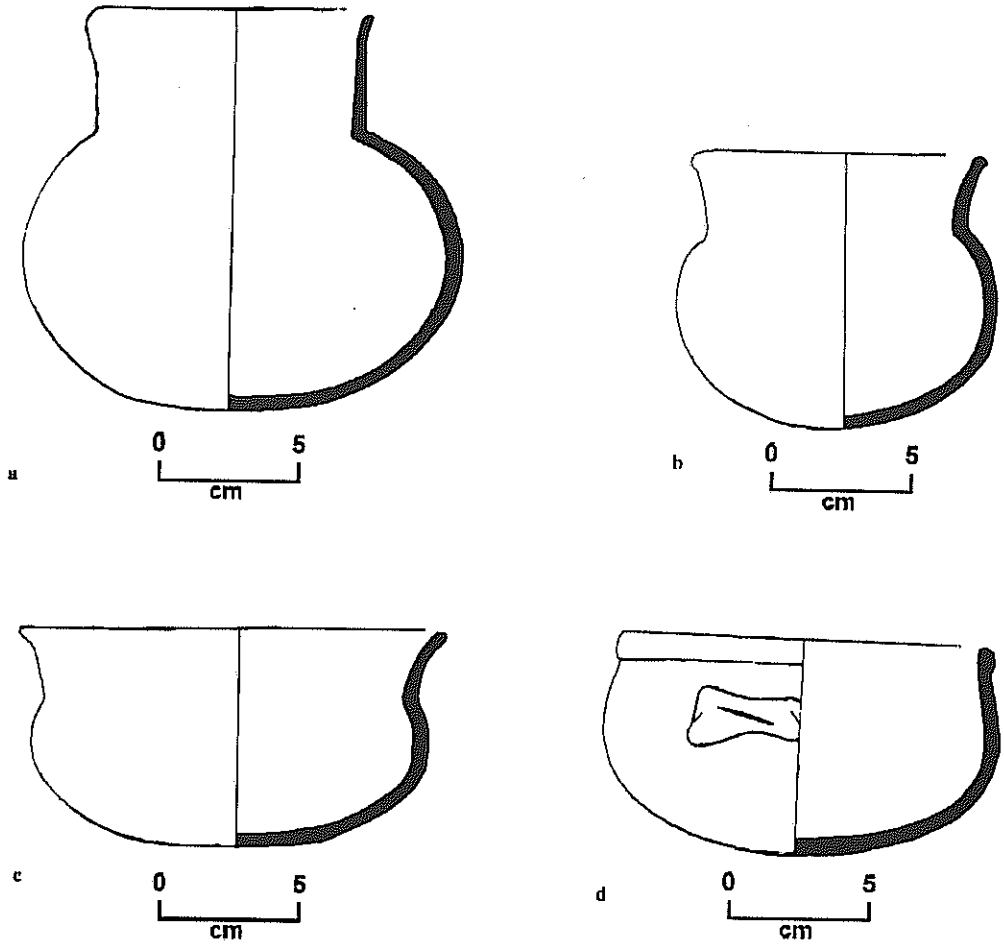



Figure 3. Necked vessels: (a) wide-neck bottle, (b) unburnished jar, (c) flaring rim bowl (deep), (d) hemispherical bowl

**Sorting Key for Moundville II and III Vessel Shapes**

1a. Necked vessels in which neck height is ≥ .20 of total vessel height — 2

2a. Minimum neck diameter < .75 of maximum body diameter — 3

3a. Cylindrical body shape — CYLINDRICAL BOTTLE

3b. Non-cylindrical body shape — 4

4a. Minimum neck diameter < .30 of the maximum body diameter — NARROW NECK BOTTLE

4b. Minimum neck diameter ≥ .30 of the maximum body diameter — WIDE NECK BOTTLE

2b. Minimum neck diameter ≥ .75 of the maximum body diameter — 5

5a. Vessel height is ≥ .60 of the maximum vessel diameter — 6

6a. Burnished surface — BURNISHED JAR

6b. Non-burnished surface — UNBURNISHED JAR

5b. Vessel height is < .60 of the maximum vessel diameter; outflaring neck; juncture of neck and vessel wall marked by a distinct break in contour — FLARING RIM BOWL (DEEP)

1b. Non-necked vessels, or vessels in which neck height is < .20 of total vessel height — 7

7a. Terraced rim — TERRACED RIM BOWL

7b. Non-terraced rim — 8

8a. Juncture of base and vessel wall marked by a distinct break; flattened base; straightened vessel wall — CUP SHAPED BOWL

8b. Juncture of base and vessel wall not marked by a distinct break; hemispherical to oblate lower body shape — 9

9a. Rim width ≥ .10 of maximum vessel diameter; flattened outflaring rim, horizontal to slightly angled; juncture of rim and vessel wall marked by a distinct break in contour — FLARING RIM BOWL (SHALLOW)

9b. Rim width < .10 of maximum vessel diameter — 10

10a. Lip diameter is <. 75 of the maximum vessel diameter; hemispherical to oblate overall body shape, with rounded base and sides — TECOMATE

10b. Lip diameter ≥ .75 of the maximum vessel diameter; hemispherical to oblate in lower body shape; upper body contour either straightened or continuous curve from rounded base — HEMISPHERICAL BOWL

Figure 4. Sorting key for Moundville vessel shapes for the Moundville II and III phases

## Chapter 4
## The Moundville Vessel Assemblage

The Moundville vessel assemblage represents the full range of vessel shape-size classes that were in use for the Moundville II and III phases. The vessel assemblage was determined by first defining the shape classes that commonly occurred at Moundville. Vessel size classes were then determined from rim sherd analysis which estimated vessel orifice diameter. The rim sherd sample was drawn from Moundville II and Moundville III contexts in Mounds E, G, and R, which represent hypothesized elite residence contexts, and Mound Q, which represents a hypothesized mortuary temple context. For the purpose of establishing size classes, the rim samples from these mound contexts were combined.

### Bottles

*Bottles* are defined as necked vessels in which the neck height is greater than 20 percent of the total vessel height, and the minimum neck diameter is less than 75 percent of the maximum body diameter. Bottles are subdivided into three separate shape categories, *cylindrical bottle, narrow neck bottle, and wide neck bottle*. The *cylindrical bottle* (Figure 5) has a flat base and cylinder shaped body which is adjoined at a corner point to a neck of the same, but smaller shape. The *narrow neck bottle* (Figure 5) has a minimum neck diameter of less than thirty percent of the maximum body diameter. The profile of this vessel shape is smooth, having a rounded base, globular body, and narrow

slender neck with a slightly outflaring rim. The *wide neck bottle* (Figure 6) has a minimum neck diameter greater than thirty percent of the maximum body diameter. The neck is short and wide and attaches to the body of the vessel by a corner point. There is a great degree of variation within the body shape of the wide neck bottles, ranging from wide ovoid to ellipsoidal to globular. The base may be of pedestal or slab construction, or it may be a simple base in which case there is no modification.

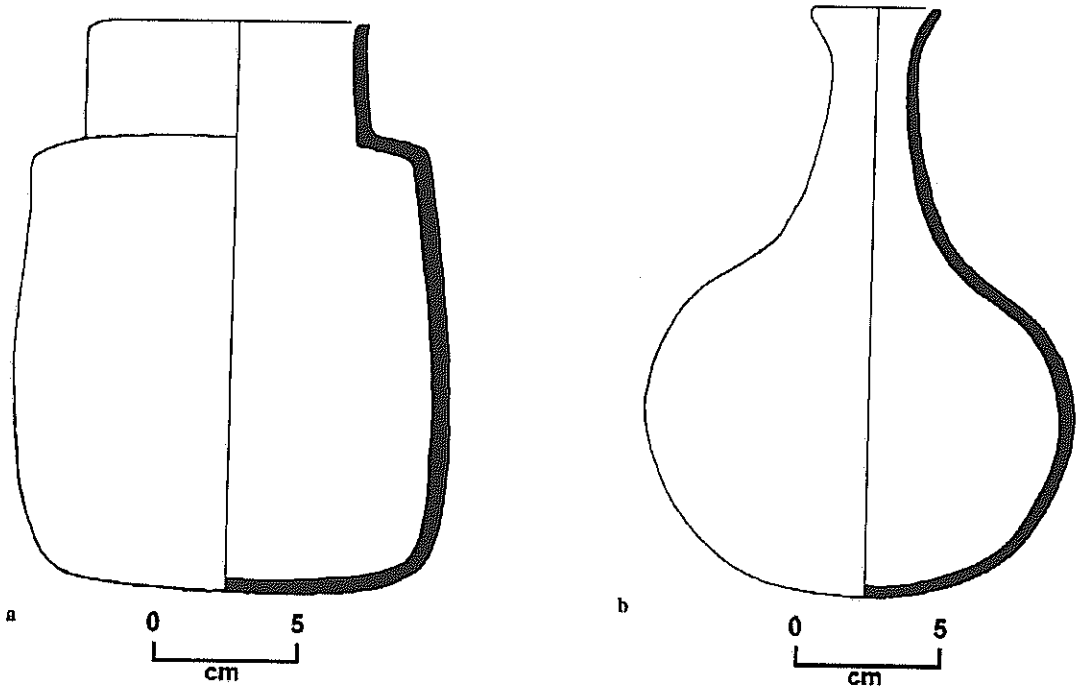



Figure 5. Cylindrical bottle (a) and Narrow-neck bottle (b)

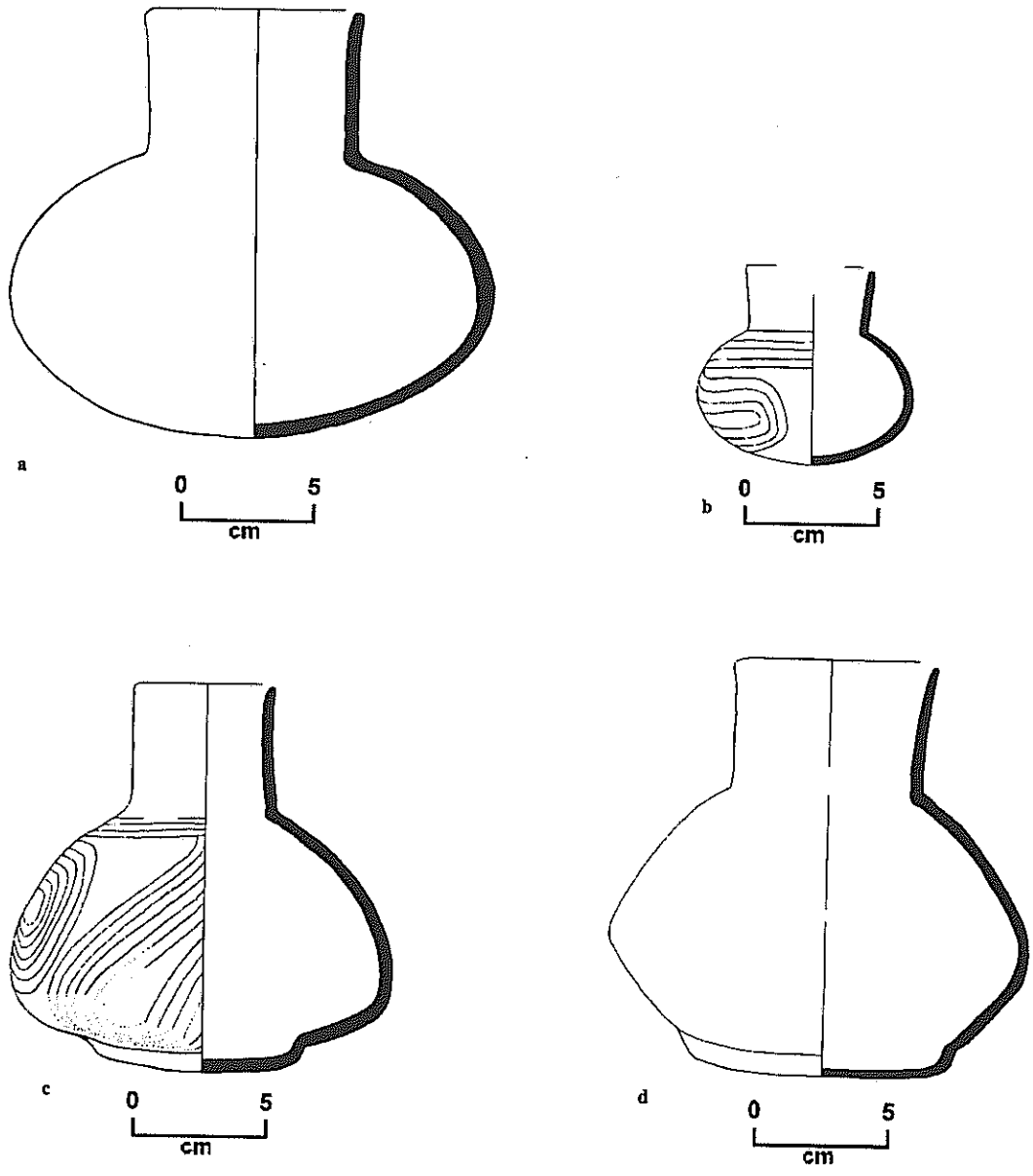



Figure 6. Wide-neck bottles: (a) Bell Plain var. Hale, simple base (b) Moundville Engraved var. Wiggins, simple base (c) Moundville Engraved var. Tuscaloosa, pedestal base, (d) Bell Plain var. Hale, pedestal base

Orifice diameter measurements of bottles were taken from rim sherds and corner points. It is not usually possible to determine the specific bottle shape from rim sherds.

Bottle rims reveal little concerning body shape, which is what primarily differentiates the various bottle shapes. The cylindrical bottle is obviously distinguished by its cylindrical body shape. Narrow neck and wide neck bottles are distinguished by the minimum diameter of the neck, but this size difference is contingent upon body width which is not discernible from rim sherds. Thus, all bottle shape classes, narrow neck, wide neck, and cylindrical, have been collapsed into the single classification of bottle for rim sherd analysis. There were, however, two reconstructed bottles in the rim sample whose vessel shape class were known. These were a miniature wide-neck bottle and a narrow neck bottle. Twenty-six bottle rims and bottle corner points were measured. Table 1 lists each measured bottle rim and corner point by sherd number, as well as the accession number which indicates the provenience, the measurement derived using the curve fitting method, and the measurement derived using the dial indicator method. The same information is presented for the remaining shape classes in Tables 2-5. The reconstructed narrow neck bottle was excluded from the estimated orifice diameter distribution as this distribution is believed to be dominated by the far more common wide-neck form.

Measuring whole and partial vessels from the Barnett phase of Georgia, Hally (1986:272) found a positive relationship between the vessel height or the maximum vessel diameter and the vessel orifice diameters for jars and bowls. Due to this positive relationship he used orifice diameter as an indicator of vessel size. Blitz (1993:85) has also used orifice diameter as an estimator of vessel size because he found a positive correlation between vessel height and vessel diameter for bowls and jars based on a sample of whole Moundville vessels. Hally did not find a positive correlation between orifice

| Rim # | Accession # | Curve fitting | Dial Indicator |
|---|---|---|---|
| 41 | A993.41.2404.1 | 4 | 4.5 |
| 57 | A989.40.1640.1 | 4 | 5.5 |
| 4 | A993.41.1010 | 8 | 6.3 |
| 108 | | 6 | 7.4 |
| 79 | A989.40.1657.1 | 10 | 8.2 |
| 59 | A989.40.1208.1 | 8 | 8.9 |
| 60 | A989.40.324.8 | 8 | 8.4 |
| 22 | A993.41.2211.1 | 7 | 9.0 |
| 11 | A993.41.2208.1 | 9 | 9.0 |
| 3 | A993.41.638 | 8 | 9.1 |
| 100 | A989.40.3315.1 | 8 | 9.4 |
| 37 | A993.41.1959 | 9 | 9.6 |
| 29 | A993.41.1547 | 9 | 9.7 |
| 104 | A989.40.1654 | 10 | 9.7 |
| 90 | A989.40.1083.1 | 9 | 9.7 |
| 106 | A989.40.2730 | 9 | 10.3 |
| 27 | A993.41.2210 | 9 | 10.8 |
| 35 | A993.41.1956 | 13 | 11.0 |
| 11 | A993.41.1527 | 8 | 11.0 |
| 3 | A989.40.1646 | 9 | 11.4 |
| 100 | A993.41.1549 | 11 | 11.6 |
| 37 | A989.40.1311.17 | 9 | 11.7 |
| 29 | A989.40.1654 | 10 | 12.2 |
| 104 | A993.41.1527 | 11 | 12.7 |
| 5 | A993.41.635 | 12 | 17.2 |
| 83 | A989.40.327.2 | 15 | 19.6 |

Table 1. Bottle rim diameter measurements

diameter and vessel size for bottles, and Blitz did not expect there to be a positive relationship due to the degree of restriction of bottle orifices.

To some degree, however, suggestions can be made concerning bottle size. Although bottle body proportion is not directly related to vessel orifice diameter, there is information to support variation in bottle sizes. Large bottle body sherds recovered from Mound Q, which have been partially reconstructed, have been estimated as having a

maximum body diameter of more than 35 centimeters. These sherds support the existence of a large or outsized class of bottles at Moundville that is not found in the whole vessel sample from burials. Additional support for large bottle sizes can be found in a comparison of McKenzie's (1964) data on bottle orifice diameter with the measurements taken for this study. The two data sets do not correspond, with McKenzie's measurements suggesting a narrow size range of bottles for Moundville. His orifice diameter measurements range from 5.0 to 11.5 centimeters in diameter, with a modal size of 8.0-8.5 centimeters, whereas the measurements for this study range from 4.5-19.6 centimeters, with a modal size of 10.0-12.0 centimeters. The difference in the two sets of measurements is possibly due to the fact that McKenzie's sample consists of only whole burial vessels. The largest estimated vessel orifice diameters for this study, 17.2 and 19.6 centimeters, suggest a large size class of bottles which were perhaps considered too large for inclusion in burials.

Although bottle shape cannot be determined from rim sherds, the distribution (Figure 7) of estimated rim orifice diameters probably reflects primarily wide-neck or cylindrical bottles. Based on the range of McKenzie's bottle rim diameter estimates and the bottle rim diameter estimates of this study, and the existence of large bottle body sherds, I feel that general size classes can be suggested for wide-neck bottles. The estimated orifice diameters of bottles suggest three possible size classes. The small size class is represented by only two rims, one of which was a reconstructed miniature bottle. The medium size class is the largest in terms of the number of vessels represented, which comprise a continuous range from 6.3 to 12.7 centimeters in diameter size. The modal

size range for this class was 10.0-12.0 centimeters. There were two rims, measuring 17.2 and 19.6 centimeters, that represented the large size class of bottles.. Figure 7 shows the distribution of estimated orifice diameters and the proposed size classes for bottles.

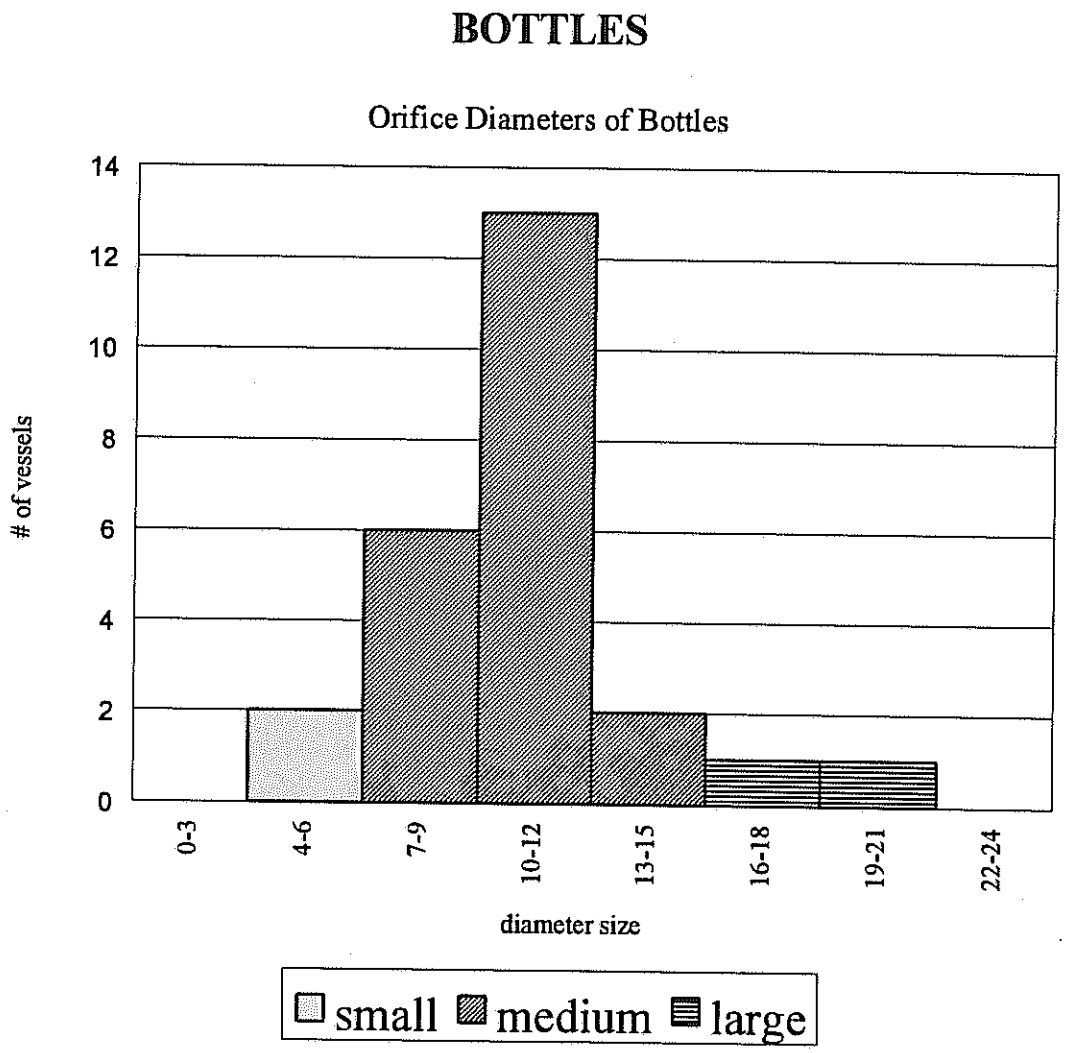



Figure 7. Bottle estimated orifice diameters with suggested size class ranges

**Jars**

*Jars* are defined as necked vessels in which the minimum neck diameter is greater than 75 percent of the maximum body diameter, and in which the vessel height is greater than sixty percent of the maximum vessel diameter. The *unburnished jar* (Figure 8) has a globular body with a constricted neck, and obviously has an unburnished surface. The mouth of the vessel is wide with a straight or slightly outflaring rim. The neck consists of

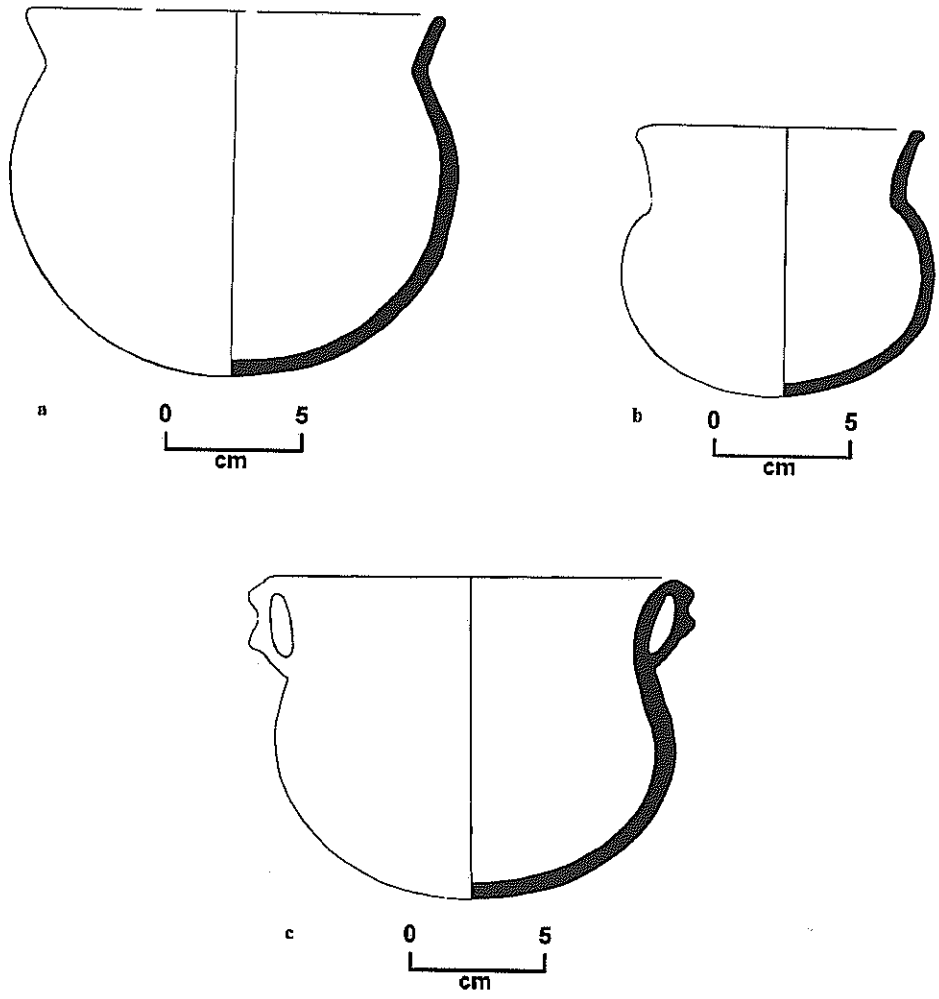



Figure 8. Unburnished jars, Mississippi Plain var. Warrior

a collar welded on at a normally visible juncture forming a collar break. *Burnished jars* are those whose surface finish has been burnished. Steponaitis's distinction between the two jar classes will be retained because the burnishing represents a potential functional difference, and the occurrence of burnished jars in the whole vessel sample was significant to retain them as vessel shape (Steponaitis 1983:351-355).

Jar rims were grouped into one vessel shape class for rim sherd analysis and were not differentiated based on surface treatment. There was only one burnished jar rim in the sample. Three size classes, small, medium, and large, are suggested by the 19 jar rims in the sample (Table 2, Figure 9). The small size class was represented by a single reconstructed miniature jar, measuring 8.3 centimeters in diameter. The medium size class is represented by 14 sherds which range in size from 13.7 to 25.5 centimeters in rim diameter, with a modal size range of 16.0-18.0 centimeters. The large size class consists of five rims from 33.0 to 45.0 centimeters in diameter, with a modal size range of 40.0 to 42.0 centimeters.

McKenzie's data on jar vessel orifice diameters indicates a much narrower size range than the measurements derived for this study. McKenzie's jar orifice measurements range from 9.0-15.0 centimeters with a modal size of 12.0-13.0 centimeters. The modal size range of medium-size jars in this study, 16.0-18.0, does not even exist in the sample of whole vessels measured by McKenzie. Again, this perhaps reflects the unsuitability of larger vessels in burials, and demonstrates the existence of medium and large jars of sizes unknown among the whole vessels.

| Rim # | Accession # | Curve fitting | Dial Indicator |
|---|---|---|---|
| 42 | A993.41.2045.1 | 7 | 8.3 |
| 111 | A993.41.48.2 | 14 | 13.7 |
| 40 | A993.41.3171.1 | 13 | 14.7 |
| 30 | A993.41.1547 | 14 | 14.9 |
| 92 | A989.40.331.1 | 17 | 15.9 |
| 113 | A993.41.39.1 | 27 | 16.0 |
| 14 | A993.41.2593.1 | 18 | 17.2 |
| 86 | A989.40.1314.2 | 16 | 17.7 |
| 102 | A989.40.1657 | 18 | 17.8 |
| 34 | A993.41.1597 | 20 | 18.4 |
| 25 | A993.41.2306 | 25 | 20.6 |
| 12 | A993.41.1517.1 | 16 | 21.4 |
| 39 | A993.41.1959 | 29 | 23.2 |
| 13 | A993.41.2097.1 | 22 | 25.5 |
| 99 | A989.40.3942.1 | 20 | 33.0 |
| 96 | A989.40.1095.1 | 37 | 40.0 |
| | A989.40.329.1 | | |
| 43 | A993.41.2100.1 | 40 | 40.3 |
| 107 | A989.40.47.1 | 40 | 40.8 |
| | A989.40.29.3 | | |
| 8 | A993.41.633.1 | 38 | 45.0 |

Table 2. Jar rim diameter measurements

Blitz (1993a, 1993b) analyzed jar rim sherds from the mound context of the Lubbub Creek site, a single-mound Mississippian center in the Tombigbee River Valley, located west of the Black Warrior River Valley. Lubbub Creek possesses the same ceramic tradition as Moundville, making Blitz's data comparable to this study. Thirty-seven jar rim sherds were measured, revealing a range of 20.0-42.0 centimeters in suggested diameter size (Blitz 1993b:94). Blitz's data also support the existence of a large jar size class that is not found in the whole vessel sample.

# JARS

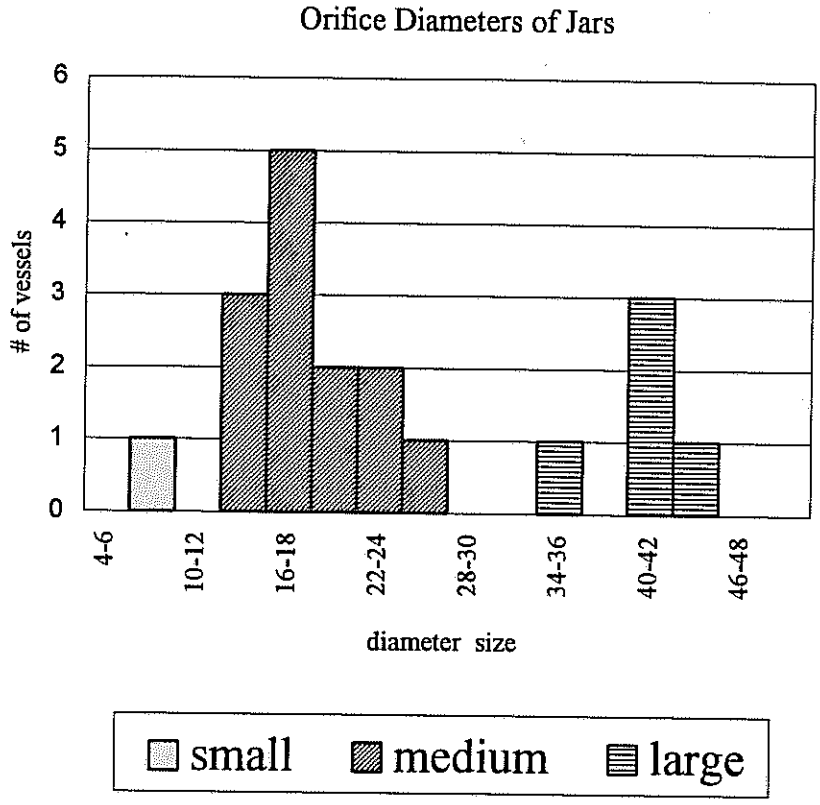



Figure 9. Jar estimated orifice diameters with suggested size class ranges

There is evidence to support the existence of even larger jars at Moundville (Knight 1994), the size of which is not represented in the jar rim diameter sample of this study. A total of 17 oversized jar rims have been identified from mounds A, B, R, and S. These rims are vertical, having extremely thickened folds and thick body walls. They are believed to be restricted to the late Moundville I phase and possibly the early Moundville II phase. The one oversized rim from Mound S is estimated at 60 centimeters in diameter (1994:10), and the two oversize rims from Mound B have been estimated in excess of 90

centimeters in diameter (1994:7). Knight suspects that jars of this size were used for storage (1994:6,9).

**Bowls**

In this study there were five bowl shapes defined for the Moundville II and III phases: *terraced rim bowl, flaring rim bowl, tecomate, cup shaped bowl* and *hemispherical bowl*. *Terraced rim* (Figure 10) bowls are those that have a castellated rim. This includes all vessels with a cut-out rim, regardless of body shape. The variation in body shape ranges from square to round. Square terraced rim bowls are the most common, possessing a flat base, straight vertical walls forming perpendicular corners, and a lowered lip. Steponaitis (1983:73) describes a lowered lip as a feature of a bowl in which "the lip dips downward forming a kind of window in one side of the vessel". It is not possible to measure the diameter of terraced bowls from rim sherds because of the terraced rim and the normally flat vessel walls.

*Flaring rim bowls* (Figure 11) are hemispherical in body shape with a broad, flattened outflaring rim, the angle of which may be horizontal to slightly oblique. The juncture of the rim and vessel wall is marked by a corner point. The width of the flaring rim, from edge to body juncture, is greater than 10 percent of the maximum vessel lip diameter. There are two tendencies within this category, one for shallow and one for deep bowls. The shallow flaring rim bowl is found consistently throughout the Moundville I, II,

and III phases. The deep flaring rim bowl appears during the late Moundville III phase (Steponaitis 1983:130).

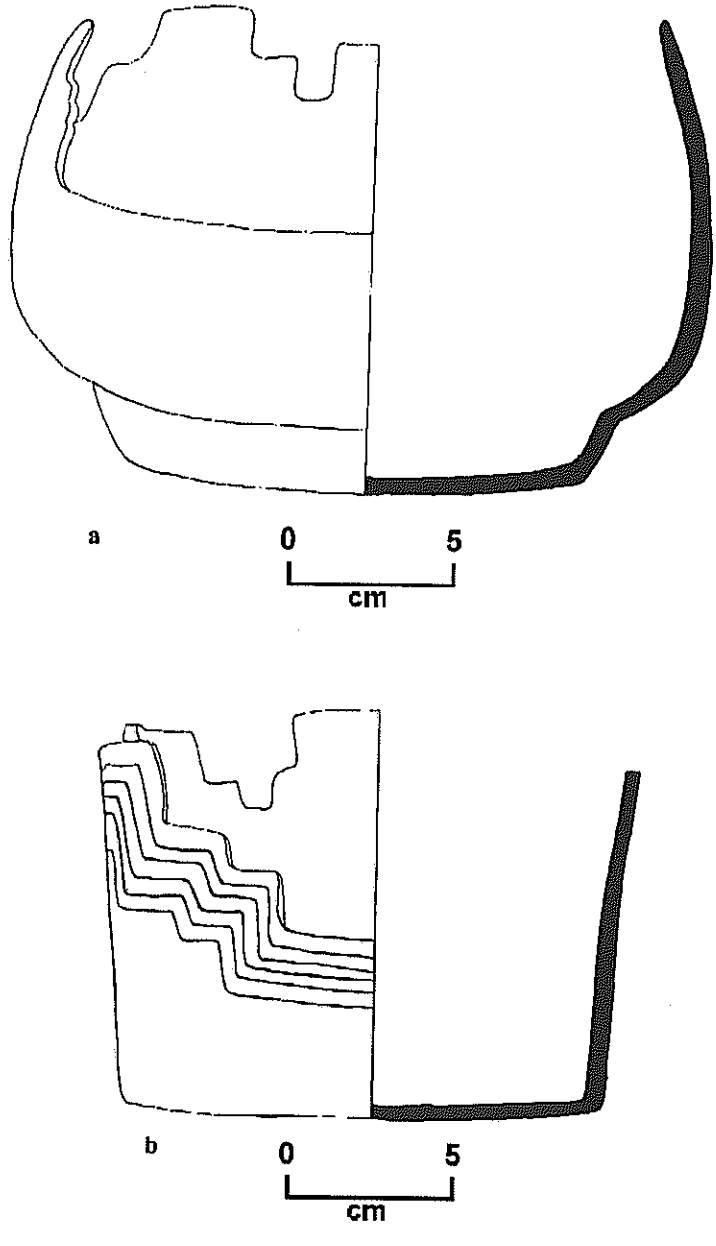



Figure 10. Terraced rim bowls

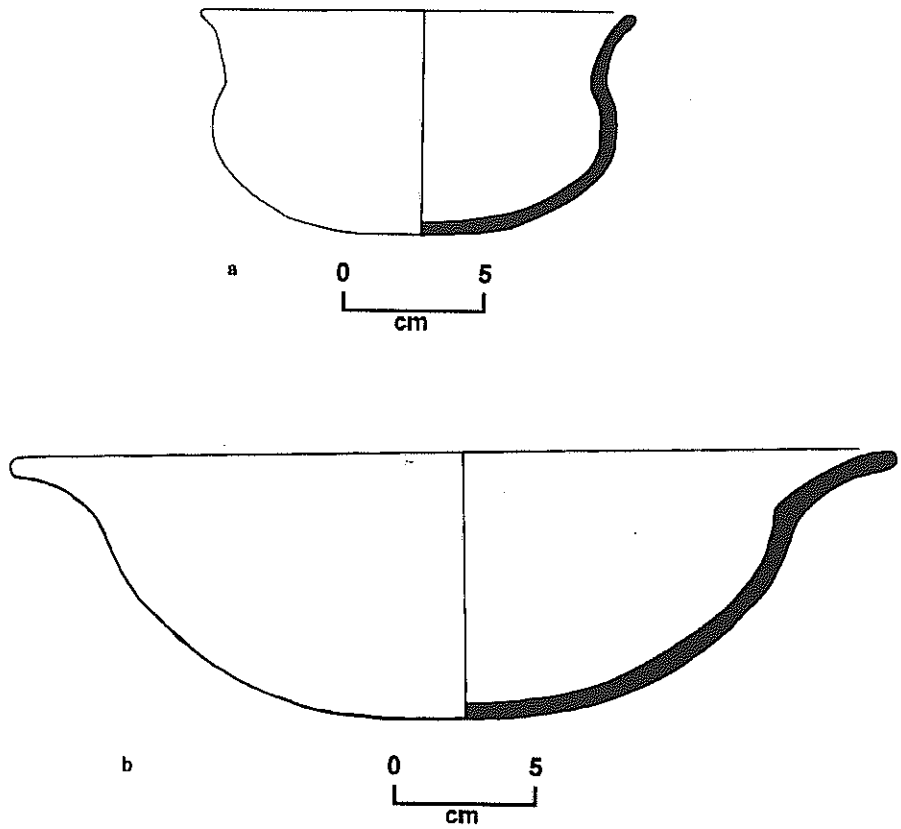



Figure 11. Flaring rim bowls: (a) shallow (b) deep

There were 13 flaring rim bowl rim sherds in the sample, suggesting three size classes (Table 3, Figure 12). The small size class was represented by one sherd measuring 20.5 centimeters in diameter. The next range of orifice diameters suggests a medium size class represented by five sherds. These range in size from 28.7 to 35.9 centimeters in diameter. The third size class, represented by six sherds, suggests a large size class ranging in orifice diameter size from 39.2 to 49.0 centimeters, with a modal size of 43.0-45.0 centimeters.

| Rim # | Accession # | Curve Fitting | Dial Indicator |
|---|---|---|---|
| 16 | A989.40.1224.2 | 16 | 20.5 |
| 93 | A989.40.320.4 | 32 | 28.7 |
| 95 | A989.40.1650.2 | 36 | 30.3 |
| | A989.40.3997.1 | | |
| 94 | A989.40.329.9 | 32 | 31.7 |
| 75 | A989.40.325.3 | 37 | 35.2 |
| 54 | A989.40.364.1 | 34 | 35.9 |
| 47 | A989.40.2548.3 | 40 | 39.2 |
| | A989.40.2555.1 | | |
| | A989.40.2555.3 | | |
| 65 | A989.40.1128.4 | 37 | 43.7 |
| 53 | A989.40.3978.1 | 40 | 43.7 |
| 98 | A989.40.1315.5 | 42 | 44.9 |
| 46 | A989.40.1266 | 46 | 46.0 |
| 116 | A989.40.2572.1 | 41 | 49.0 |

Table 3. Flaring rim bowl diameter measurements

*Tecomates* (Figure 13) are hemispherical to oblate in shape, with a rounded base and rounded sides. Here the label *tecomate* is being applied to a vessel shape category that was previously called restricted bowls. This vessel shape could have been called "seed jar", which is the traditional term in the Southwest. However, to avoid a functional inference the Mesoamerican term *tecomate* is being used as it is neutral in that regard. The term restricted bowl technically refers to any bowl that possesses a restricted rim. The use of the term tecomate refers to only those vessels which have a restricted rim with an orifice diameter smaller than 75 percent of the maximum vessel diameter, thus eliminating restricted vessels that do not meet this criterion. This is the same criterion outlined by Steponaitis (1983:68) for *restricted bowls*. This standard was derived by calculating the ratio of lip diameter to maximum vessel height for a sample of photographs

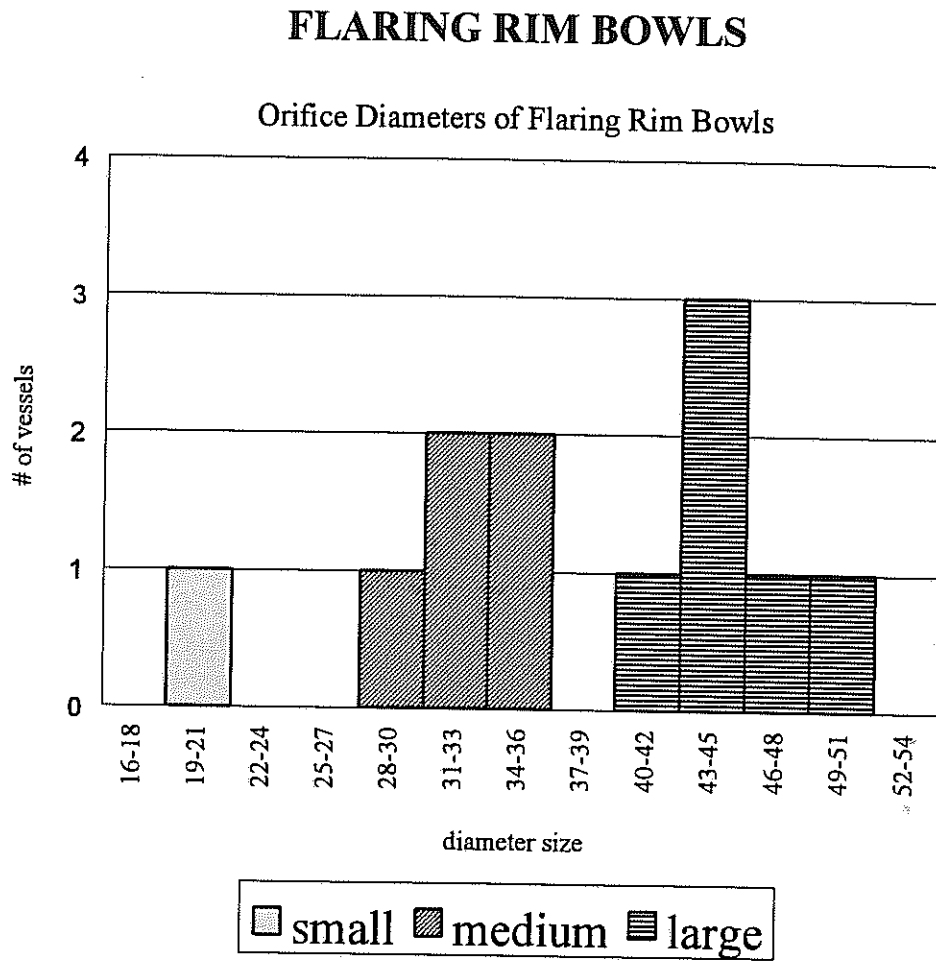



Figure 12. Flaring rim bowl estimated orifice diameters with suggested size class ranges

of bowls with restricted rims. There was a definite gap between bowls with slightly restricted rims, which were well above 75 percent of the maximum body diameter, and those with sharply restricted rims, which fell below 75 percent of the maximum body diameter.

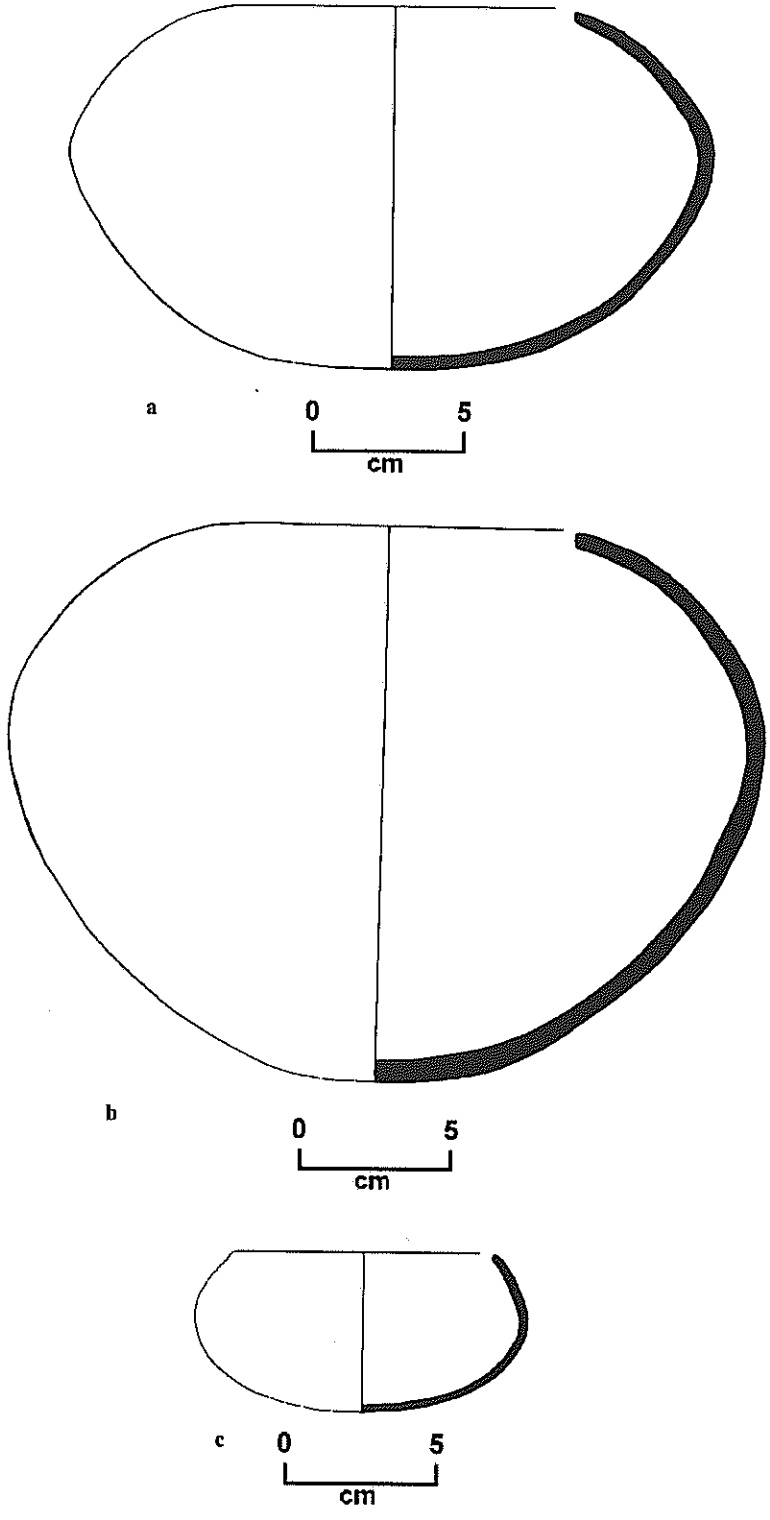



Figure 13. Tecomates

Tecomates were represented by the smallest number of rim sherds in the sample, with only seven. The estimated orifice diameters suggest two size classes (Table 4, Figure 14). The small size class was composed of three sherds that ranged from 12.7 to 13.7 centimeters in size. The medium size class consisted of three sherds that ranged from 19.6 to 21.9 centimeters in diameter size. There was an outlier that measured 32.1 centimeters using the dial method. This contrasted greatly with the measurement of 20 centimeters achieved with the curve fitting method. In this instance the curve fitting method is probably the more reliable indicator of orifice diameter. Due to the great discrepancy between the two measurements and the uncharacteristically large vessel shape posed by a rim of this size, this rim sherd will not be considered as representative of a definite viable size class. Owing to the restricted nature of tecomate rims, only a small portion of a rim is needed in order to meet the seven percent needed for measurement. The small rim often makes it difficult to apply the dial indicator effectively to arrive at an accurate measurement.

| **Rim #** | **Accession #** | **Curve fitting** | **Dial Indicator** |
|---|---|---|---|
| 28 | A993.41.2208 | 11 | 12.7 |
| 24 | A993.41.2287 | 10 | 13.4 |
| 62 | A989.40.1651.1 | 14 | 13.7 |
| 7 | A993.41.605 | 10 | 18.6 |
| 1 | A993.41.1016 | 18 | 19.6 |
| 109 | A989.40.2555.2 | 15 | 21.9 |
| 6 | A993.41.635 | 20 | 32.1 |

Table 4. Tecomate rim diameter measurements

# TECOMATES

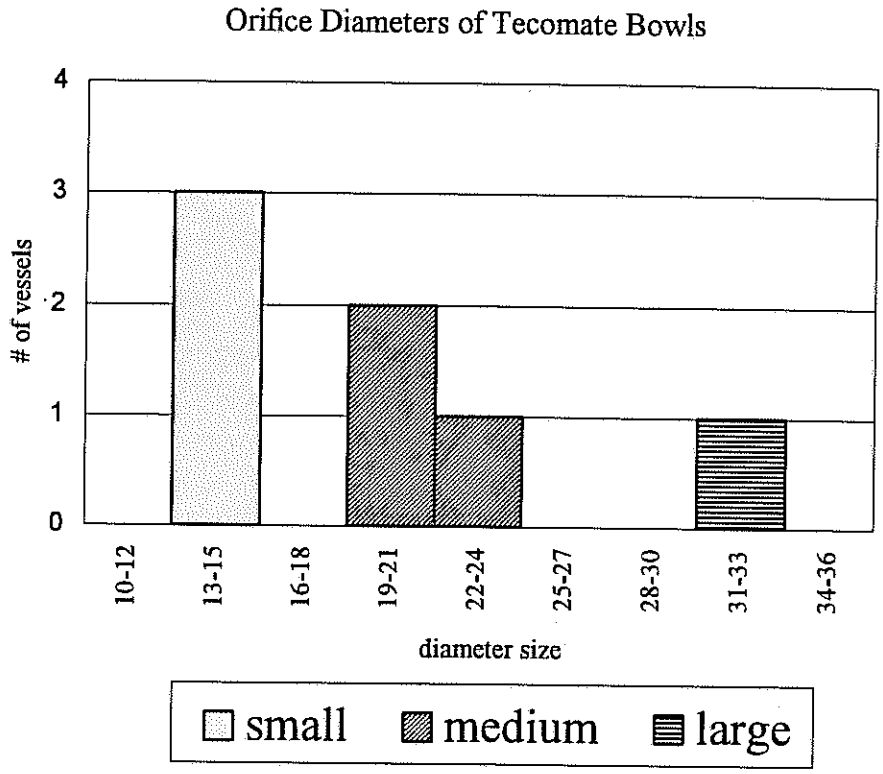



Figure 14. Tecomate estimated orifice diameters with suggested size class ranges

The *cup shaped bowl* (Figure 15) has a flattened base that is distinct from the vessel walls, which are straight in profile. The flattened base abruptly angles upward to form either vertical or outslanting, straightened walls, producing a cup like shape. The juncture of the base and the vessel walls are marked by distinctive end points.

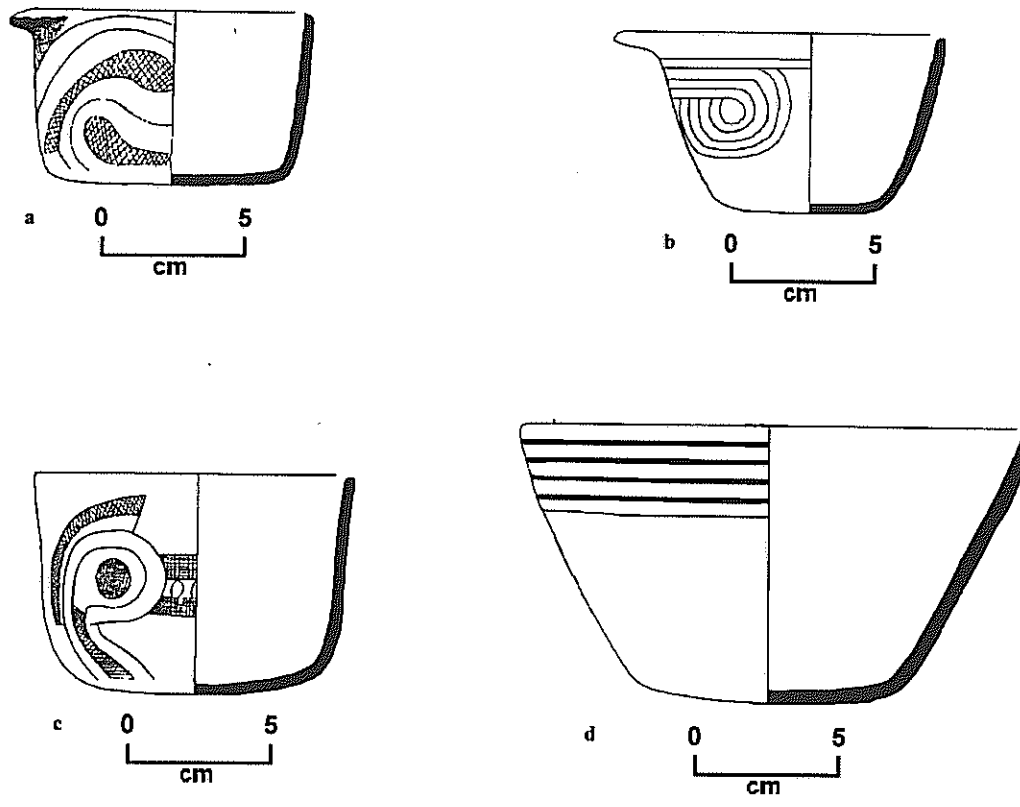



Figure 15. Cup-shaped bowls: (a) Moundville Engraved var. Taylorville, (b) Moundville Engraved var. Havana, (c) Moundville Engraved var. Hemphill, (d) Carthage Incised var. Akron

*Hemispherical bowls* (Figure 16) are defined as hemispherical or ellipsoidal in lower body shape, with the upper body contour being either straightened or forming a continuous curve from a rounded base. The lip diameter is greater than 75 percent of the maximum vessel diameter. This vessel shape category possesses wide variation in the body form. Variation in lower body shape and upper body contour intersect to produce a variety of intergrading tendencies in overall shape. The lower body contour grades between spherical and ellipsoidal. The upper body may be straightened, involving a change in contour from the base, or it may form a continuous curve from the base.

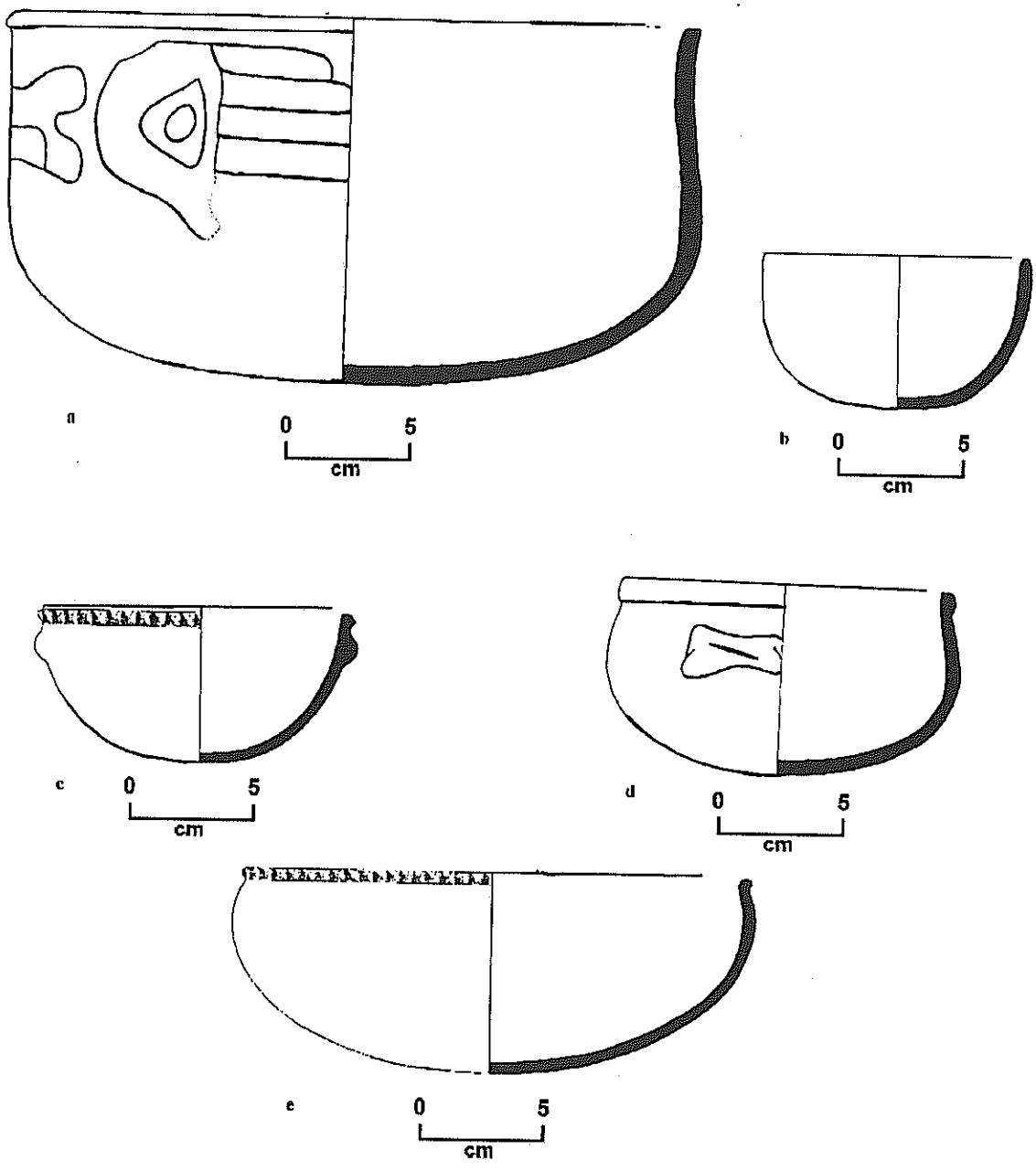



Figure 16. Hemispherical bowls: (a) Carthage Incised var. Fosters, (b) Bell Plain var. Hale, (c) Bell Plain var. Hale, with beaded rim, (d) Carthage Incised var. Fosters, (e) Bell Plain var. Hale, with beaded rim

Tecomates and flaring rim bowls are easily discerned in rim sherd analysis because the rims of these bowls possess diagnostic attributes that are indicative of their respective

vessel shapes. However, cup-shaped bowls and hemispherical bowls are distinguished by vessel base and walls, and not by rim attributes. The rim sherds of the cup-shaped bowls and hemispherical bowls are very difficult to distinguish, and thus were collapsed into a category that will be termed other bowl.

The distribution of vessel orifice diameters of other bowls suggests three possible size classes (Table 5, Figure 17). The smallest size class was represented by ten rim sherds, with a continuous size range of 9.7 to 15.5 centimeters in vessel orifice diameter and modal size of 13.0 to 15.0 centimeters. This is the small shape size class. The next size class was represented by seven sherds ranging from 20.0 to 23.9 centimeters and suggests a medium size class. The estimated vessel orifice diameters of this size class have a modal value of 22.0-24.0 centimeters. The large size class was only represented by three rim sherds, ranging 27.3 to 31.8 centimeters in diameter.

McKenzie did not specifically measure rim bowl diameters when conducting his analysis of vessel size. He did, however, measure the maximum diameter of bowls which provides an idea of the bowl size range from the whole vessel burial sample. McKenzie's bowl sample included what I have defined as cup-shaped bowls and hemispherical bowls, as well as flaring rim bowls. Again, McKenzie's data represents a much narrower size range than the data for this study. His sample of 119 bowls ranged in size from seven to twenty-two centimeters in maximum body diameter, with a modal size range of 11-12 centimeters (McKenzie 1964:63). Using Steponaitis's vessel shape classification, Blitz (1993b:94) measured bowl rim diameters, collapsing all bowl shape variations into one sample. Forty-one rims comprised the Lubbub Creek mound bowl sample, ranging from

14 to 44 centimeters in diameter. The distribution mean of 29.31 was most likely influenced by the presence of flaring rim bowls in the sample. Both McKenzie's and Blitz's data provide support for the range of cup-shaped and hemispherical bowls, as well as flaring rim bowls, that were found in this study.

| Rim # | Accession # | Curve fitting | Dial Indicator |
|---|---|---|---|
| 38 | A993.41.1959 | 11 | 9.7 |
| 105 | A989.40.2730 | 13 | 11.5 |
| 36 | A993.41.1957 | 10 | 12.7 |
| 10 | A993.41.3223.1 | 17 | 13.5 |
| 115 | A993.41.92.1 | 12 | 13.6 |
| 49 | A989.40.350.1 | 10 | 13.9 |
| 114 | A993.41.62 | 20 | 14.2 |
| 20 | A993.41.1224.5 | 14 | 14.8 |
| 91 | A989.40.1128.2 | 17 | 14.9 |
| | A989.40.1128.3 | | |
| 15 | A993.41.1557.3 | 13 | 15.5 |
| 112 | A993.41.44.1 | 19 | 20.0 |
| 17 | A993.41.1955.1 | 14 | 20.2 |
| 18 | A993.41.2101.1 | 18 | 20.7 |
| 63 | A989.40.1131.3 | 26 | 22.4 |
| 21 | A993.41.2409.1 | 27 | 23.3 |
| 26 | A993.41.2211 | 19 | 23.6 |
| 23 | A993.41.2277 | 20 | 23.9 |
| 2 | A993.41.617 | 27 | 27.3 |
| 95 | A989.40.320.1 | 26 | 30.0 |
| | A989.40.320.2 | | |
| | A989.40.320.3 | | |
| 19 | A993.41.1547.3 | 27 | 32.8 |

Table 5. Other bowl rim diameter measurements

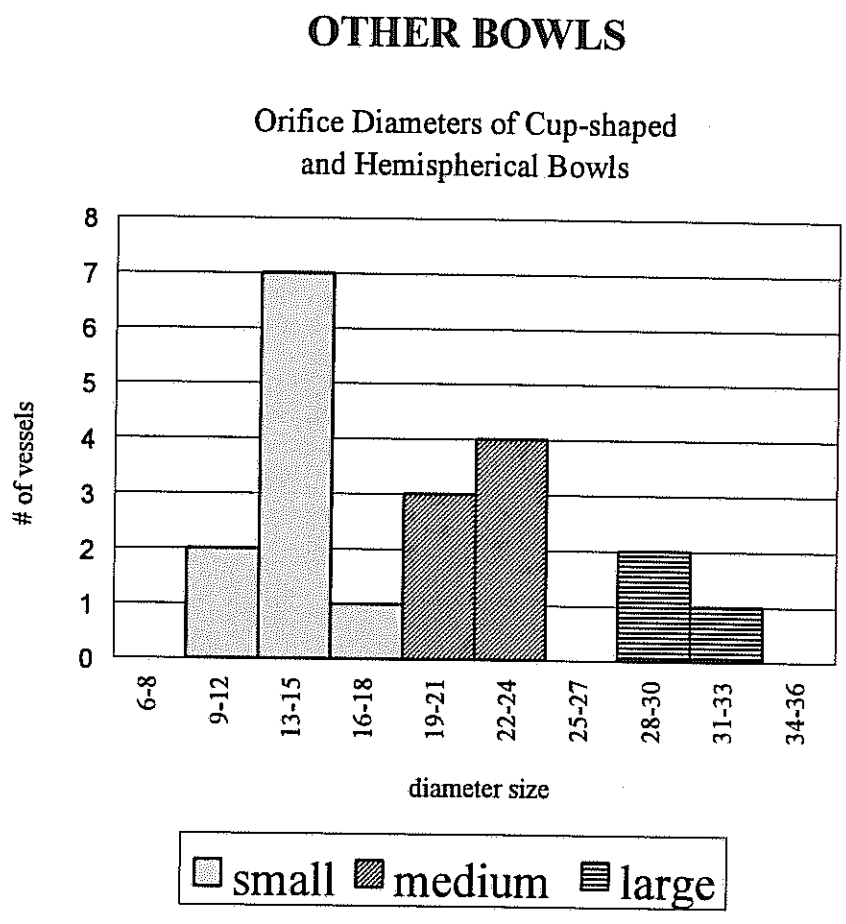
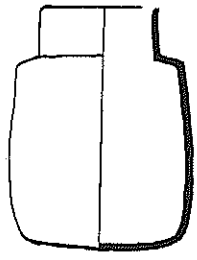



Figure 17. Cup-shaped and hemispherical bowl estimated vessel orifice diameters with suggested size class ranges

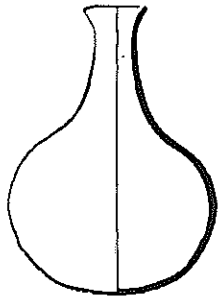
**Conclusions**

Based on the estimated vessel orifice diameters derived from measured rim sherds, the Moundville vessel assemblage consists of 10 shapes and fourteen suggested size classes for the Moundville II and III phases (Figure 18). For the general category of bottles there is a small, a medium, and a large shape-size class. There was only one

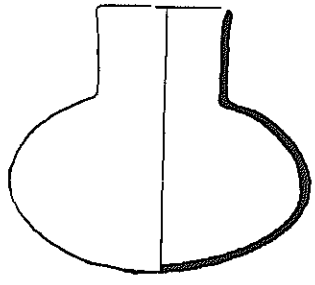
recognizable narrow neck bottle, a reconstructed specimen; therefore, size class designations will not be made since the sample obviously is not large enough. There are three suggested size classes for jars: small, medium, and large. Flaring rim bowls also appear in three shape-size classes: small medium, and large. Tecomates are represented by a small shape-size class and a medium shape-size class, with a questionable large size class. Cup-shaped and hemispherical bowl diameter measurements suggest three shape-size classes: small, medium, and large. The distribution of these size classes among the vessel shapes cup-shaped bowl and hemispherical bowl cannot be determined based on rim sherds alone.

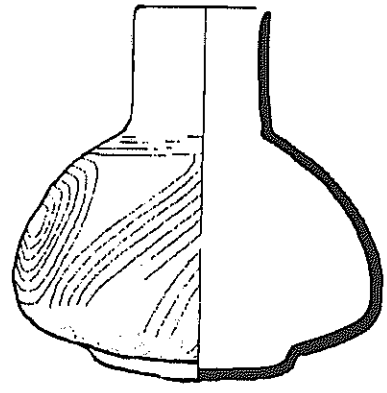


cylindrical bottle

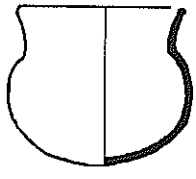


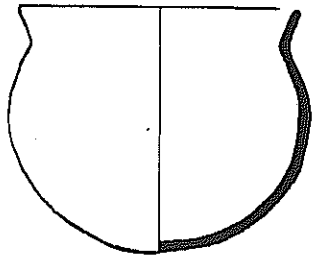
narrow neck bottle

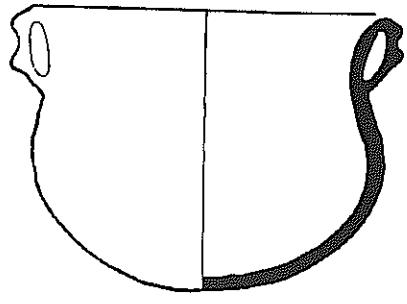




wide-neck bottles

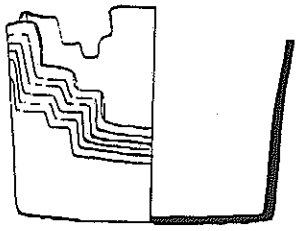




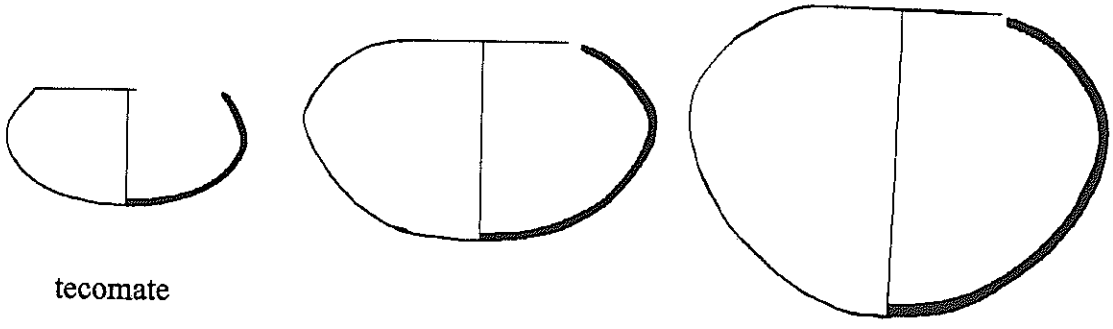


burnished and unburnished jars

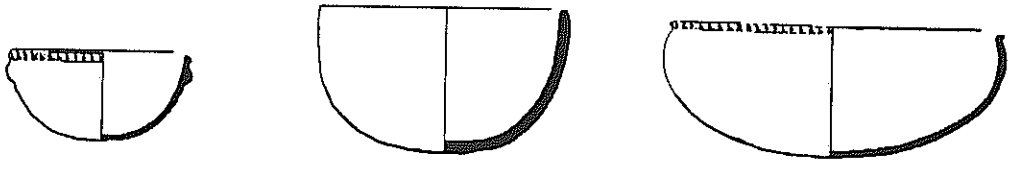
Figure 18. Matrix of shape-size classes



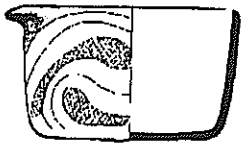
terraced rim bowl



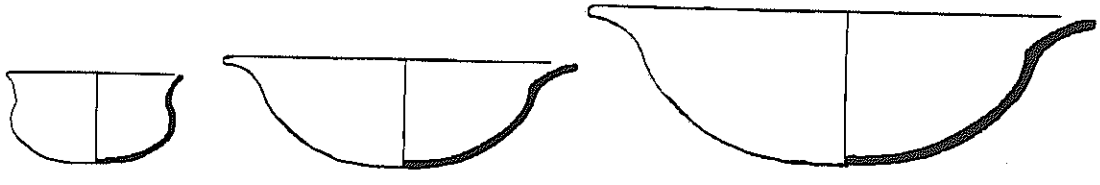
tecomate



hemispherical bowls



cup shaped bowl



flaring rim bowls

(Figure 18 continued)

## Chapter 5
## Functional Attributes of Moundville Vessels

The traditional role of pottery studies has expanded from chronological and typological studies to include a wide range of functional studies. Egloff (1973) stated that behavior should be studied in terms of pots rather than sherds; that is, considering the entire vessel shape can reveal greater insight into vessel use. Whole vessels reveal not only the physical details of their manufacture, but also the reasons for manufacture. Vessel morphology is strongly influenced by a vessel's intended use and the circumstances involved in the vessel's utilization (Braun 1983:108). Morphology is ideally suited as a functional indicator because of its relation to mechanical performance and the constant form/function relationship that is inherent in vessel shape (Pauketat 1987:3).

The analysis of vessel morphological characteristics in the Southeast has grown within the past fifteen years (Hally 1983, 1984, 1986; Pauketat 1987; Smith, 1983), aimed at a better understanding of the cultural and social contexts in which vessels were manufactured and employed. However, as early as the turn of the century Holmes (1903:61) recognized the predictable relationship between vessel shape and primary function (Pauketat 1987:3; Smith 1985:254), as well as function and vessel size (Holmes 1903:60). Vessel size is viewed as an indicator of food volume and preparation activities, in addition to social group size (Blitz 1993a:84; Shapiro 1984:696).

Ethnographic studies have shown that cross-culturally, vessels which are used in the same context share similar morphological characteristics (Braun 1980; Henrickson and McDonald 1983). Based on these characteristics, inferences concerning intended function can be made. Moundville vessels are believed to have been used primarily for cooking, storage, and service (Blitz 1993a:84; Steponaitis 1983:33; Welch and Scarry 1995:410-412). Storage of foodstuffs would have included temporary and long-term storage of dry goods and liquids. In addition to cooking, vessels would also have been necessary for food processing.

When constructing a vessel to serve any one of these tasks, a number of considerations have to be made concerning vessel performance, including access to vessel contents, containment security, the ability to manipulate vessel contents, and the stability and space utilization of a vessel (Hally 1986:278-281). Morphological attributes which affect these performance requirements are orifice size and restriction, lip or rim modification, the dimensions of a vessel, base modification, and the presence or absence of a neck.

The principal characteristic that affects performance is the restriction of the vessel orifice. The degree to which an orifice is restricted affects it's suitability as a cooking, storage, or service vessel. Sharply restricted rims will provide secure containment for contents, but will also critically reduce accessibility. Inversely a wide-mouthed vessel with little or no constriction will allow eased accessibility, but will not provided secure containment (Braun 1980; Hally 1986).

The accessibility of vessel contents not only refers to the convenience with which contents may be retrieved, but also the practicality of manipulating those contents. Food preparation activities require unhindered access (Braun 1980; Hally 1986). Cooking vessels require consideration of the orifice diameter as well. A vessel with a small orifice diameter will not allow heat to adequately escape during cooking, and thus the contents will boil over (Linton 1944:370). Conversely, a vessel with a wide orifice may enhance the evaporation of liquid contents.

A necked vessel offers secure containment of and minimal access to contents. Excessive spilling would be reduced, in addition to encumbering the retrieval of contents (Braun 1980:172-173). The modification of a lip or rim will also affect vessel access and containment. The presence of an everted, or outflaring rim can protect contents from spilling. By combining an everted rim with a slightly restricted orifice, the rim would securely hold the contents and the slightly restricted orifice would afford eased accessibility (Shapiro 1984:702). A flaring rim can also facilitate pouring (Hally 1986:280).

Vessel size would be indicative of the amount of food being prepared and served, and thus may reflect on the size of the serviced group. Ethnographic studies have shown that small vessels, which are obviously suited for small quantities, are indicative of individual use. Conversely, larger and wide-orificed vessels serve more often as communal vessels (Braun 1980:183; De Boer and Lathrop 1979:105; Henrickson and McDonald 1983:632). The size of a container may indicate the ease with which contents were manipulated and thus the vessel's suitability for food preparation. Very small vessels

would not have been practical for processing foods because the small vessel volume would limit the amount of food processed.

The dimensions of a vessel affect not only the quantity of food and group size, but also the suitability of a vessel for storage. When vessel height is greater than vessel width, minimal storage space is utilized. Dimensions of this nature would be practical for long term storage, however, a wide and shallow vessel would not (Henrickson and McDonald 1983:632; Ericson et al. 1972:92). Base modification is also a key element in vessel shape design. A broad base in relation to the maximum vessel diameter will provide stability (Hally 1986:278; Shepard 1956:237-238).

Moundville bottles are necked vessels, with relatively flat bases. The tall, constricted necks of bottles would make them a poor choice for cooking and heating. The nature of bottle necks would, however, be suited for storage of liquid contents, hindering evaporation of contents (Ericson et al. 1972:89), while providing secure containment. A burnished surface has been suggested (Henrickson and McDonald 1983:633) as a treatment for liquid storage vessels to decrease the porosity of vessel walls. The majority of Moundville bottles are burnished.

The distinct break between the neck and body of a *cylindrical bottle* and the angular construction make them unsuited for pouring. This factor, in addition to the flat base and height to width ratio, suggests long-term storage. The *narrow neck bottle* possesses a long neck which imposes on the vessel's capacity, and a rounded base which would not provide great stability. Therefore, it is not likely that this vessel shape was used

for long-term storage. Based on the vessel dimensions of a reconstructed narrow neck bottle, it was most likely used to hold small amounts.

The *wide neck bottle* has a great degree of variation in body shape, but most are curvilinear, with primarily flat bases. The curvilinear body enhances pouring of vessel contents and the flat base provides stability. The restricted orifice and the neck provide security, and limited access to contents. The wide neck bottle does not have a great height to width ratio, which does not make it the most economic vessel for space utilization. Due to these factors, the wide neck bottle seems most likely to have been a temporary storage vessel for liquid contents. The smallest vessels would have been most suitable for individual use or possibly non-food related purposes, and the large bottles may have been more suitable for long-term storage. The medium size bottles are good candidates for short-term storage.

Moundville jars seem to have been most appropriately used for storage and cooking. The base of the standard jar is not flat, but rounded, indicating that it was not suited to be moved about frequently (Shapiro 1984:702), minimizing its potential for transport. The height to width ratio indicates that jars would have occupied minimum horizontal space (Ericson, et al 1972:92), which provides evidence for use as a storage vessel. The constricted, short neck in association with a wide orifice promotes secure containment while allowing for easy access. Based on the dimensions of a the reconstructed miniature jar, it is not likely that the small class of jars were used in domestic food consumption activities, but rather non-food related activities or for individual use. The range of sizes for the medium class of jars suggests that they were

used for cooking and reheating. In addition to cooking, the large jar class probably served as storage vessels.

Tecomates possess an interesting combination of attributes. They have a rather constricted orifice and rounded base. The constriction of the mouth promotes secure containment and restricted access to contents. The rounded base of the bowl, while not extremely unstable, is not suited to long term storage. This vessel form was probably used for short term storage of dry goods.

Flaring rim bowls have an extremely wide vessel orifice, which allows for easy access to contents, but no secure containment. This wide orifice, in association with shallow depth, would not be amenable for cooking purposes because the contents would evaporate too quickly (Linton 1944). The height to width ratio of the vessel body is very low, making it quite unsuitable for storage. Due to the stable base and the easy access afforded by the wide unrestricted orifice, this vessel form was most likely used for serving and presentation (Welch and Scarry 1995:412). Ethnographic research has shown that wide-mouth vessels have a high use rate as communal vessels for serving and eating (Braun 1980:183, McDonald and Henrickson 1983:). The small class of flaring rim bowls may have been used for individual serving. The medium and large size classes of flaring rim bowls were seemingly used to service large groups, each size class perhaps indicative of the size of the serviced group.

Hemispherical and cup-shaped bowls possess straight rims which not only provide for easy access, but also allow for manipulation of contents. The lack of constriction of these vessels does not suit their use as storage containers. From Mound Q, bowl fragments have been recovered which were encrusted on the interior with glauconite, a

green pigment. Also, on display in the Moundville Archaeological Park Museum is a bowl which contains hematite, a local red pigment. The presence of these pigments suggests craft activity (Markin 1994:11), and thus a possible non-food related use for hemispherical and cup-shaped bowls. Many Moundville bowls, as well as bottles, have blackened, burnished surfaces. This blackened surface is produced during the firing of the vessel, and would be destroyed if in direct contact with fire. Therefore bowls would be inferior candidates as cooking vessels. Not suited for cooking or storage, cup-shaped and hemispherical bowls were most likely used for service, and possibly food preparation. The small size class of cup-shaped and hemispherical bowls were probably used for individual service and possibly non-food related activities. The size range of the medium and large size classes suggests that they would have served multiple persons, and could have been used in food preparation.

# Chapter 6
# A Comparison of Hypothesized Elite Residence Mounds and Mortuary Temple Mounds

## Peebles's Hypothesis

Based on the excavations of mounds at Moundville conducted by C.B. Moore in 1905 and 1906, Christopher S. Peebles (1971) developed a working hypothesis concerning the arrangement of the twenty principal mounds at the ceremonial center. According to Peebles, there appears to be a strong bilateral symmetry in the orientation of the mounds around the plaza. There is an alternation of function in the mounds as one travels clockwise and counterclockwise around the plaza, between hypothesized temple mortuary and elite residence (Knight 1993). The most obvious difference between these two categories is the presence or absence of burials. The hypothesized function is the same for mounds that are parallel across the plaza. According to Peebles,

> It should be noted that the mounds containing burials are paired one with another across the plaza and are separated one from the other by mounds containing no buirals. 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].

Temple mounds are defined by the presence of burials, and are hypothesized to be sites of ritual activity. Mound Q is one such mound. Mounds E and G are hypothesized to be elite residential mounds, the homes of high ranking individuals. Research on craft specialization at Mounds Q and G revealed differences in the frequency of stone artifacts and pigments, providing preliminary indications of functional differences in mound use (Markin 1994:24).

Excavations have been conducted in each of these three mounds, resulting in comparable contexts for analysis. It is believed that the hypothesized mound activities for each context, temple and residence, should be reflected by differences in the ceramic assemblage. The full vessel assemblage is believed to reflect patterns of use, and will therefore be used to explore functional differences. In addition to the full vessel assemblage, differences in service and utility wares will also be examined. Based on a profile of historic mound use in the southeastern United States, predictions may be made concerning the ceramic assemblage for the two contexts under examination.

**Ethnohistorical Evidence of Mound Use in the Southeastern United States**

Drawing from the accounts of Charlevoix, Du Pratz, Le Petit, Gravier, and Penicaut (Swanton 1911), details of mound related activities among the Natchez and the Taensa are utilized in order to form a model of historic mound use among Southeastern

Indians. Based on the observed behaviors and activities, a pattern of expected vessel use can be predicted.

Eyewitness accounts of temple mound related activities are more abundant than residence mound related activities. Two observences which are consistently found among the descriptions of the temple mounds are the presence of an eternal fire and a set of guardians who maintain the fire. Gravier, Penicaut, Charlevoix, Le Petit, and Du Pratz (Swanton 1911) each observed the maintenence of an eternal fire in the Natchez temple, which was never allowed to extinguish. Entrusted with the fire was a set of four guardians, who resided in the temple at intervals of eight days. Charlevoix (Swanton 1911:160) wrote that "four old men lie by turns in the temple, to keep in this fire, that he who is on duty must not go out for the eight days of his watch."

Access to the temple was restricted. The guardians appointed to maintain the temple were the only occupants. Penicaut said, aside from the temple guardians, the chief and his wife were the only people allowed to enter the temple, and did so each morning and evening (Swanton 1911:159). In addition to the chief and his wife, Le Petit (Swanton 1911:161, 269) noted that the "sisters of the great chief" had access to the temple, as well as "some Honored men." However, they note that these people did not enter the temple every day, and entrance into the temple was forbidden to all others, even those bringing gifts and provisions.

Historic temple mounds served as repositories for the remains of high ranking individuals. Penicaut (Swanton 1911:159) noted that in the Natchez temple were the remains of "the first three families of nobles." Relatives often made gifts of food to the

memory of relatives interred in the temples. Gravier's inspection of the Natchez temple revealed this observation: "I noted a number of little earthen pots, platters, and cups .... this is to serve up food to the spirits of the deceased chiefs, and the temple keeper finds his profit in it (Swanton 1911:158)." Le Petit (Swanton 1911:269) also comments on this practice of carrying food to the temples in memory of the interred individuals. In this instance, the temple guardians would accept the gifts of food and place them next to the remains in the temple. This presentation of food would last "only during one moon." Afterward the dishes would be placed outside the temple and left to the deer. Le Petit makes no mention of the temple guardians serving themselves from these offerings, as Gravier noted.

The temple guardians were, however, were provisioned to some extent. Charlevoix recorded that provisions of bread and flour were made to the guardians for the whole month, at the beginning of every new moon (Swanton 1911:161). This was not observed directly by Charlevoix, but came from a report. Penicaut (Swanton 1911:159) substantiates Charlevoix's claim by writing that "every new moon presents of bread and meal are made at the temple which are profitable to its guardians."

Charlevoix and Le Petit noted an additional form of temple offering among the Natchez (Swanton 1911:166). Family leaders would carry to the temple the first of their harvests, including vegetables and seed. These gifts would be presented to the spirits by the guardians, and then delivered to the chief's home for distribution. The bread and flour presented at this time would by retained by the temple guardians.

Unlike the temple mound, access to the chief's home was not as restricted. In the accounts describing the chief's home, there were references to guests, nobles, and relatives being present. Le Petit noted a number of beds in the chief's home, in addition to the chief's own (Swanton 1911:102). This suggests either multiple occupants or frequent visitors. Penicaut noted (Swanton 1911:102) that relatives and distinguished old men were present when the chief ate, as they were responsible for removing the chief's dishes. There was a procedure for those entering the chief's home (Swanton 1911:101-102), suggesting that entrance to the chief's home was a common occurrence.

Penicuat wrote that only the wife of the chief was allowed to share food with him at his table (Swanton 1911:101). Guests were allowed to dine in the company of the chief. However, Charlevoix noted that no one, not even a close relative, was allowed to eat or drink from the same dish or vessel as the chief (Swanton 1911:102). The distribution of food mentioned previously took place on the chief's mound, and was carried out as the chief saw fit (Swanton 1911:166).

To summarize the observed mound related activities, access was restricted to the Natchez temple mound, and occupation was limited to no more than four individuals. The few occupants of the temple mound, the temple guardians, were provisioned. The primary activity in the temple was the interrment of nobles' remains and the presentation of food offerings to these individuals. Details concerning activities of the Natchez Chief's mound are scant, but they reveal a wider range of activities taking place than on the temple mound. Individuals had greater access to the chief's mound, which possibly housed many occupants. The chief was serviced at meals, and several persons were also involved in

food consumption, although the chief was not involved in communal vessel use. Food distribution was also occurring at the home of the Natchez chief.

**Initial Hypothesis**

Based on this profile, Mound Q is expected a priori to reflect a pattern of restricted use, and Mounds E and G are expected to reflect a residential pattern of use and a diverse range of activities. High frequencies of service ware are viewed as an indicator of high status and provisioning, and utility ware is used as an indicator of cooking and storage activities. Mound Q is expected to have a higher proportion of service ware than Mounds E and G, as the historic temple mound was the site of limited provisioning and food offerings to the spirits of ancestors interred in the temple mounds. Mounds E and G are predicted to have a higher of proportion of utility ware than Mound Q. Although differing proportions are expected between the two contexts, both are considered elite and are expected to produce a considerable quantity of service ware.

Mound Q is expected a priori to have a lower proportion of jars than Mounds E and G. Jars are considered utility vessels, used primarily for cooking and storage. The wider range of activities profiled for a residence mound would be conducive to the use of jars, unlike the limited range of activity of a temple mound. Bottles have been suggested as short-term liquid storage vessels. They are expected in both contexts, but in greater numbers in the residence mounds in order to accomodate the higher frequency of occupants and visitors. Flaring rim bowls are suggested to be service vessels, used

primarily in presentation (Welch and Scarry 1995:412), and thus a higher proportion is expected for the residence mounds.

Mound Q is expected to have a narrower size range of vessels, than Mounds E and G. A greater frequency of smaller size vessels is predicted, as they would be indicative of individual servings or small portions, and thus would reflect the restricted activity of a temple mound. Generally, specialized contexts which are limited in activity would be expected to have a narrow size range. Conversely, domestic contexts should possess a greater range of sizes which would reflect a diverse range of activities (Blitz 1993a:85). Mounds E and G are expected to reflect this diverse activity through a wider range of vessel sizes. Greater numbers of inividuals were involved in activities on residence mounds historically. Individual vessel use was occurring as well as distribution of foodstuffs, thus Mounds E and G are expected to possess a wide range of vessel sizes, with an emphasis on large vessels.

**Analysis**

Three analyses were conducted of the pottery from Mounds Q, E, and G: a comparison of the ratio of service ware to utility ware, a comparison of the percentages of individual vessel shapes, and an analysis of the diversity of shape/size classes.

*Service versus Utility*

The sample for the service/utility ware comparison was taken from the SHRDTYPE database in use by the Moundville Mound Project. Bottles and bowls were

interpreted as service and storage vessels and unburnished jars as cooking ware. There is a strong correlation between bottles and bowls and a burnished surface, therefore surface finish serves as an indicator of service or utility ware (Steponaitis 1983:33). There is a service versus utility distinction built into the currently used pottery types which are defined by surface finish and decorative technique (Steponaitis 1983:51). Utility ware is defined as Mississippi Plain and the Moundville Incised varieties. Mississippi Plain is shell tempered, unburnished pottery with no tooled decoration. The Moundville Incised varieties are shell tempered and are decorated with wet paste incising. The service ware is defined as Bell Plain, the Carthage Incised varieties, and the Moundville Engraved varieties. Bell Plain is a burnished pottery with no decoration. The Carthage Incised varieties are burnished and are decorated with broad incisions made when the vessel was in the final stages of drying. The Moundville Engraved varieties are burnished and decorated with dry paste engravings. The service ware is usually, but not always, of a finer shell temper than the utility ware, and almost always have black filmed surfaces (Steponaitis 1983:51-58). Reduction in the final stages of firing intentionally produces a blackened surface, which would be destroyed if exposed to fire. Therefore burnished vessels, which were primarily "black-filmed", were not likely used for cooking but for service or storage (Steponaitis 1983:33).

Using the entire sherd sample from the designated contexts, a chi-square analysis was performed in order to determine if there were significant differences in the proportion of service and utility wares between Mound E, Mound G, and Mound Q. There was no significant difference between Mound Q and Mound E ($\chi^2$=1.077, df=1, p<.01).

However, there was a significant difference between Mound E and G ($\chi^2$=21.245, df=1, p<.01), and also between mound Q and G ($\chi^2$=44.977, df=1, p< .01). Table 6 displays the percentages of utility and service wares of Mounds E, G, and Q. The percentages of the Powers site (1Ha11), a Moundville III community located approximately two miles south of Moundville, is included for comparison.

| | **Mound Q** | | **Mound E** | | **Mound G** | | **Powers Site** | |
|---|---|---|---|---|---|---|---|---|
| | # | % | # | % | # | % | # | % |
| **Utility** | 13043 | 75% | 3672 | 76% | 3970 | 79% | 954 | 73% |
| **Service** | 4388 | 25% | 1188 | 24% | 1028 | 21% | 348 | 27% |

Table 6. Sherd counts and percentages for service and utility wares for Mounds Q, E, G, and the Powers Site

*Vessel Shape Analysis*

The vessel shape sample was taken from the VESSMODE Paradox database. These data were recorded using the Diagnostic Vessel Fragments form in use by the Moundville Mound project. This analysis form was designed using Steponaitis's vessel shape classification. Jars, bowls, and bottles were counted and recorded based on the recognition of diagnostic attributes. In addition to recognizable rims, other vessel fragments such as jar handles and bottle corner points were utilized in the recognition of vessel shape. The vessel shapes under consideration in this analysis are jars, bottles, flaring rim bowls, and a general bowl category, which includes cup-shaped bowls,

hemispherical bowls, and tecomates. The analysis form was interpreted in the following manner: "Collar, jar" and "Handle, jar" were counted as jars; "Flaring rim, bowl" was counted as a flaring rim bowl; "Rim, Short-neck Bowl" and "Rim, Other Bowl" were included in a general bowl category; "Corner Point, Bottle", "Pedestal Base, Bottle", "Slab Base, Bottle", and "Neck, Bottle" were counted in a general bottle category. The Diagnostic Vessel Fragments form makes no distinction for burnished or unburnished jars. Unfortunately, tecomate rims were not distinguished in the vessel shape analysis, but were recorded as "Rim, other bowl."

A chi-square analysis was conducted to test for significant differences in the proportions of vessel shapes present between the three mounds in question. A significant difference was found between Mound E and Mound G ($\chi^2$=247.278, df=4, $p < .01$), between Mound E and Mound Q ($\chi^2$=589.813, df=4, $p < .01$), and between Mound Q and Mound G ($\chi^2$=603.111, df=4, $p < .01$). Table 7 displays the percentages of vessel shapes.

| | **Mound Q** | | **Mound E** | | **Mound G** | |
|---|---|---|---|---|---|---|
| | # | % | # | % | # | % |
| **Jars** | 486 | 60% | 130 | 52% | 97 | 61% |
| **Flaring Rim Bowls** | 97 | 12% | 17 | 7% | 17 | 11% |
| **Other Bowls** | 162 | 20% | 68 | 27% | 20 | 13% |
| **Bottles** | 63 | 8% | 35 | 14% | 24 | 15% |

Table 7. Vessel shape counts for Mound E, G, and Q

*Vessel Size*

Comparing the diversity in size range will be a qualitative analysis. Using the developed vessel assemblage based on the rim sherd sample, the presence or absence of a shape-size classes will be examined. This will not be based on percentages due to the small sample size. Table 8 displays the occurrence of the shape size classes for Mounds E, G, and Q. This is by no means a definitive statement on the occurrence of shape-size classes in these and similar contexts. This analysis is only to provide a preliminary idea of the distribution of the shape-size classes. In the case of Mound G, there is no confirmation for either the small, medium, or large flaring rim bowl, based on the rim sherd sample. However, there is evidence for flaring rim bowls in Mound G (n=17), based on the Diagnostic Vessel Fragment analysis. In this case, there were no flaring rim bowl rim sherds large enough to be included in the rim sample.

**Discussion**

The hypothesized mortuary temple mound context was expected to have a greater proportion of service ware than the hypothesized residence mound contexts. There was a significant difference between Mound Q (U=.75, S=.25) and Mound G (U=.79, S=.21), Mound Q, a hypothesized temple mound having four percent more service ware than Mound G, a hypothesized residence mound. However, there was no significant difference between Mound Q (U=.75, S=.25) and Mound E (U=.76, S=.24), with the composition of service and utility wares differing by only one percent. Mounds E and G, both residence mounds, showed a significant difference in the proportions of service and utility ware.

| Shape-Size Class | Mound Q | Mound E | Mound G |
|---|---|---|---|
| **Jar,** small | | X | |
| **Jar,** medium | X | X | |
| **Jar,** large | X | X | X |
| **Bottle,** small | X | X | |
| **Bottle,** medium | X | X | X |
| **Bottle,** large | X | | X |
| **Flaring Rim Bowl,** small | | X | |
| **Flaring Rim Bowl,** medium | X | | |
| **Flaring Rim Bowl,** large | X | | |
| **Tecomate,** small | X | X | |
| **Tecomate,** medium | X | | |
| **Tecomate,** large (questionable) | | | X |
| **Bowls,** small | X | X | |
| **Bowls,** medium | X | X | |
| **Bowls,** large | X | X | X |
| **Terraced Rim Bowl** | X | | |

Table 8. Presence/Absence of shape-size classes in Mounds E, G, and Q based on rim sample

Surprisingly, the highest percentage of service ware occurred at the non-mound Powers site (U=.73, S=.27).

Mound Q was predicted to have a lower proportion of jars than Mounds E and G. However, Mounds Q (J=.60) and G (J=.61) had approximately the same percentage of jars, whereas Mound E (J=.52) had decidedly fewer. Residence mounds were expected to have a higher proportion of flaring rim bowls. Again, Mounds Q (FRB=.12) and G (FRB=.11) had an equivilent proportion of flaring rim bowls, and Mound E (FRB=.07) had a distinctly lower percentage. The distribution of bowls between the three mounds was the most divergent of the vessel shapes. Mounds G (OB=.13) and E (OB=.27) differed once again, and by a very wide margin. For Mound Q, the general bowl category

was the second most frequent vessel shape represented. Mounds E (B=.14) and G (B=.15) shared a similar percentage of bottles, much greater than Mound Q (B=.08), as expected.

Mound G had the most narrow vessel size range of the three mounds in question, with a strong emphasis on large sizes. Large bottle, large bowl, large flaring rim bowl, and large jar are each represented in Mound G. The only other size class represented in Mound G is a medium bottle. Mound Q was expected to have the most restricted range of sizes, with an emphasis on the smaller size classes. In actuality, Mound Q had the most diverse size range, possessing all size classes except the small jar, small flaring rim bowl, and large tecomate. Mound E is represented by each size class of cup-shaped and hemispherical bowls, all three size classes of jars, small and medium bottles, and only the small tecomate and small flaring rim bowl. Again, this analysis is only to provide an idea of the distribution of shape-size classes. Due to the small sample size of 84 rim sherds, some presence claims are based on only one rim sherd.

Markin (1994) conducted research on mound function, involving a comparison of the stone assemblages of Mound Q and Mound G. Differences did occur, indicating a functional difference. However, the variation did not conform to the ethnohistoric model of mound activity. Rather, Mound Q showed an evident pattern of craft production, an activity not mentioned in the historic accounts. Therefore, it should not be a great surprise that the differences in the ceramic assemblages of Mounds Q, E, and G also did not correspond to an expected ethnohistoric profile of mound activity.

Faunal and botanical analysis have also been conducted for Mounds Q and G. Scott (1995) found evidence for provisioning in both contexts. Complete bones which

show no evidence of marrow or bone grease extraction, high-quality portions of meat, and rare taxa are represented in Mound Q. Scarry's (1996) botanical analysis of the same mounds portrays a different picture. Consumption, rather than processing, is expected to reflect provisioning in the mound contexts. However, a comparison with farmsteads in the Moundville polity does reveal a significant difference in the kernel to cupule ratio. In addition, there is no evidence that special plants were utilized for consumption in these elite contexts. Mound Q did, however, show evidence for tobacco and yaupon, which are believed to have been ritually important.

## Chapter 7
## Conclusions

This study was directed at determining the full vessel assemblage for the Moundville II and III phases, and utilizing it in a comparison of hypothesized temple mound and residence mound contexts. The study of vessel shape and size resulted in ten defined shapes and fourteen suggested size modes: small, medium, and large jars, unburnished and burnished; small, medium, and large bottles, which included wide-neck, cylindrical, and narrow neck bottles; small, medium, and large flaring rim bowls; small and medium tecomates; small, medium, and large cup-shaped and hemispherical bowls; and terraced rim bowls. These vessel shapes are suggested to have served a variety of storage and service uses, cooking and food processing, as well as non-food related activities.

In the same fashion as Blitz's study of Lubbub Creek (1993a, 1993b), service to utility ware proportions, frequencies of vessel shape, and diversity of size ranges were analyzed for functionally relevant information. Using accounts of historic mound use, expectations were proposed concerning the ceramic assemblages of temple and residence mounds. The presumption of this study was that Mound Q, a hypothesized mortuary temple mound would produce a pattern of restricted activity, and Mounds E and G would produce a pattern of diverse elite activity.

Mound Q was expected to have high proportions of service ware, few storage vessels, and a restricted size range emphasizing small sizes. Jars accounting for sixty

percent of the vessel shapes and a three to one ratio of utility to service ware are a strong indication that there was more storage and cooking activities occurring than originally predicted. Mound Q also had the highest frequency of flaring rim bowls, suggested for use in public presentation of food (Welch and Scarry 1995:412). Again, this was not expected for a context which allowed few visitors historically.

Even more surprising was the distribution of shape-size classes. The large shape-size class of each vessel, with the exception of a questionable tecomate, was represented in Mound Q, while two small size classes, jar and flaring rim bowl, were missing. Vessel size is interpreted as an indicator of the volume of food prepared and the social group serviced, and diversity of size range is viewed as an indicator of the diversity of activities. It appears that Mound Q was the site of greater activity involving a greater number of individuals than previously expected based on a historic temple model.

Mounds E and G were expected to have similar ceramic assemablages, however, they displayed distinct differences in the proportions of service and utility ware and frequencies of vessel shapes. Mound E had a lower frequency of jars, which were present in all three size-classes, and a lower proportion of utility ware than Mound G or Q, providing the strongest support for provisioning. Mound E had a distinctly high frequency of cup-shaped and hemispherical bowls, representing each size class. These vessels are interpreted to have the most diverse use, and thus comply with the profile of a residence mound. However, the lowest frequency of flaring rim bowls was in Mound E, which does not support the assumption of large groups of people involved in food consumption. The range of Mound E's vessel sizes also does not support the notion of large groups. Of the

large sized vessels, only the jar and the "bowl" were represented. I am hesitant to make claims concerning vessel sizes of Mound G, as its representation in the measured rim sample was minimal. From G there were only one jar rim, one generalized bowl rim, three bottle rims, and three tecomate rims.

Bottle frequencies constituted the only similarity between Mounds E and G. Disproportionate differences between jar and generalized bowl frequencies strongly suggest that different activities were taking place between these two hypothesized residence mounds. In certain instances, Mound Q shared a greater similarity with residence mounds than they did with each other.

The results of the service/utility and vessel shape analyses provide clear evidence of differential mound function. However, these differences do not correspond to the ethnohistoric model of mound use. Rather Mound Q appears to have been the site of large group communal food activities. A better fit for the Mound Q ceramic assemblage can be found in accounts of Choctaw mortuary ceremonies (Swanton 1931). In his analysis of ceramic frequencies from Lubbub Creek, Blitz used narratives of temple/charnal structure activities as a model for mound related activities (1993b).

Several accounts reveal similar information regarding the practice of burying the Choctaw dead. After the dead had been exposed on a scaffold, a ceremony took place in which the body was defleshed and bones were prepared for burial. A ceremony involving family members and friends followed. Bossu and Adair (Swanton 1931:171,172) both recorded that a cyclical feasting ceremony took place in association with the burying of a relative. Milfort wrote in 1802 (Swanton 1931:174), "while the priest on the scaffold is

occupied with the dissection, all others who are present busy themselves on their side in lighting fires, on which they place for the guests great earthen pots full of food." The priest was in charge of distributing the food to the ceremony's attendants, who were not allowed to leave until all food had been consumed.

The high proportion of utility ware and jars, the noticeable number of flaring rim bowls, and diverse range of sizes in Mound Q reflects a pattern that may be interpreted as feasting. Large groups involved in shared food activities for lengthy periods could result in a pattern similar to Mound Q. This is not an attempt to force a Choctow model on the archaeological data. Rather, the inclusion of the Choctaw information is to document historic evidence of feasting in relation to mortuary contexts.

As for Mounds E and G, proposed to be identical in function, service/utility and vessel shape analysis suggests otherwise. The distribution of size classes should be interpreted with caution. The entire distribution was based on a measured sample of 84 sherds, 43 of which came from Mounds E and G. Mound E does, however, conform to some of the expectations of a residence mound.

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