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Trends in Western Kentucky Ceramic Assemblages

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IS APPROVED BY ME AS FULFILLING THIS PART OF THE REQUIREMENTS FOR THE

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Trends in Western Kentucky Ceramic Assemblages

by

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INTRODUCTION

The objective of this paper is to analyze the ceramic trends noticed by Sussenbach and Lewis (1987:74-75) at the Marshall site (15Ce27), and to test them against data from the Jonathan Creek (15Ml4), Wickliffe (15Ba4), Sassafras Ridge (15Fu3), and Twin Mounds (15Ba2) sites. The first three sites were chosen because of their sequential temporal overlap--the Jonathan Creek site was occupied during the James Bayou Phase (AD 900-1100), the Wickliffe site was occupied during the Dorena Phase (AD 1100-1300), and the Sassafras Ridge site was occupied during the Dorena and Medley Phases (AD 1300-1500). The Twin Mounds site was chosen to test a trend in ceramic thickness, since ceramic thickness has not been measured in any of the previously mentioned sites. The data from these sites was measured against the data from Unit I at the Marshall site. The ceramic trends are best represented in this unit, which also covers a long temporal span of occupation (Sussenbach and Lewis 1987).

Three trends that Sussenbach and Lewis (1987) found (two others, involving the use of shell as a tempering agent, and the folded rim mode,

are not tested in this thesis) are as follows:

A. An increase in the average wall thickness of Mississippi Plain sherds;

B. An increase in plain sherds relative to cordmarked and red-slipped sherds (note: in this monograph, plain sherds are compared to all decorated sherds, for simplicity's sake); and

C. An increase in vessel form diversity.

Geography and Environment

Carlisle, Hickman, Fulton, and Ballard counties comprise the western portion of the Jackson Purchase in Kentucky. This region is bordered by the Mississippi River to the west, the Ohio River to the north, the Tennessee River to the east, and the state of Tennessee to the south. The five major physiographic zones in this region include the floodplains of the Mississippi and Ohio rivers, the loess bluffs bordering the river valleys, tributary streams and their associated floodplains, the terrace formations

along the Ohio River, and the dissected uplands (Kreisa 1988). These zones have been described in detail by Butler (1977), Davis (1923), Lewis (1974), and Loughridge (1888) and will not be described here

The Wickliffe site (Figure 1) is located on the bluffs of the Mississippi River, 25 meters above the floodplain The Mississippi River floodplain directly west of the site is rather narrow, the river bank lying less than 1/4 mile from the base of the bluff The confluence of the Ohio and Mississippi Rivers is about three miles north of the Wickliffe site Most of the site is sod-covered and surrounded by a mixed mesophytic forest (Lewis 1986). The site is bordered on the southwest side by US Highway 51, which destroyed that edge of the site when built

The Marshall site (Figure 1) is located on the Mississippi bluffs about 10 kilometers south of the confluence of the Ohio and Mississippi rivers, and one kilometer south of Mayfield Creek. The present Mississippi River channel is 15 kilometers to the west, but it formerly flowed closer to the Kentucky bluffs (Fisk 1944). The site is currently in pasture and is surrounded by a beech-tulip forest (Sussenbach and Lewis 1987).

The Sassafras Ridge site (Figure 1) is located on the Mississippi River

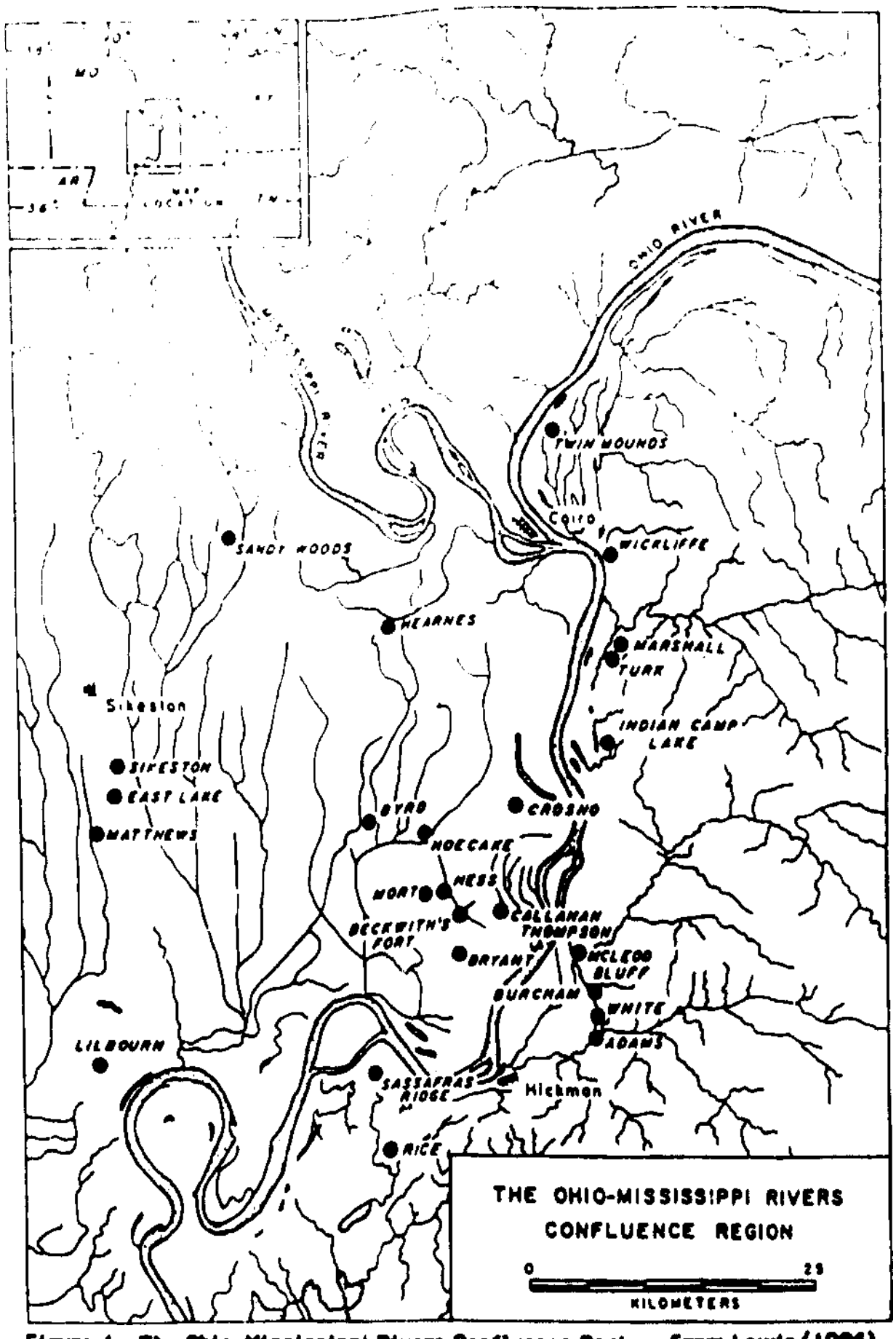


Figure 1--The Ohio-Mississippi Rivers Confluence Region. From Lewis (1986).

floodplain, approximately 10 kilometers west of the town of Hickman and immediately south of Fish Pond Slough. The native vegetation would have been sweetgum-elm "cane ridge" forest. The location has been in row crop cultivation for at least 50 years.

The Twin Mounds site (Figure 1) is located seven kilometers north of the confluence of the Ohio and Mississippi rivers, and less than one kilometer from the confluence of the Cache and Ohio rivers. The site lies on a levee ridge of the Barlow Bottoms, less than one kilometer east of the present channel of the Ohio River. Currently the site is in row crops, while the mounds are wooded.

Before 1944, the Jonathan Creek site (Figure 2) was located on a second river terrace approximately 1.5 kilometers south of its confluence with the Tennessee River. Today, much of the site is flooded by the impounded waters of the Kentucky Dam, built during World War II. What remains visible of the site is located on the south end of a long, narrow island on the west side of Kentucky Lake, just north of the mouth of the Jonathan Creek embayment (Wolforth 1987). At summer pool, only the eastern edge of the river terrace and the earthen mounds of the site remain above water.

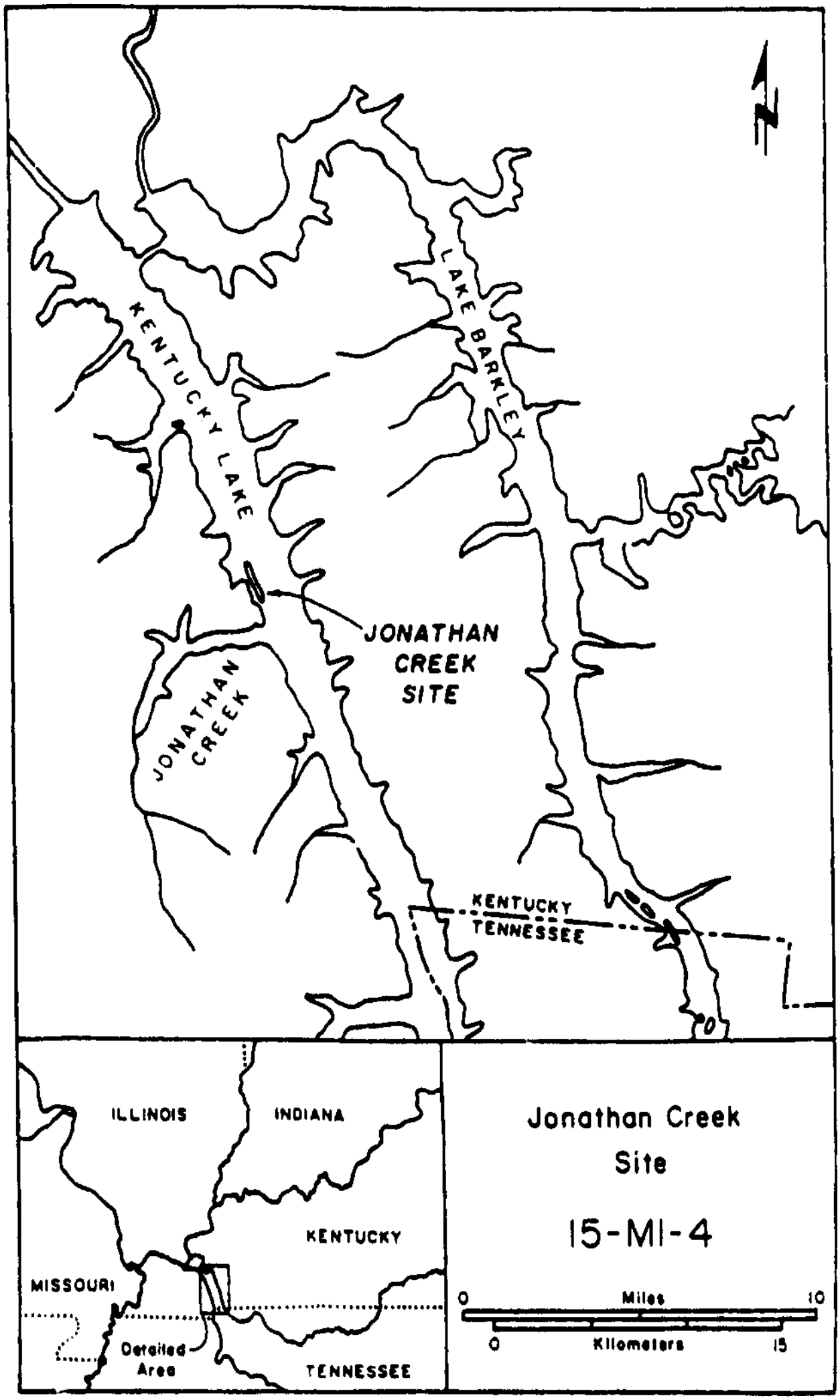


Figure 2-- The Tennessee-Cumberland Region Showing the Location of Jonathan Creek. From Wolforth (1987).

At this time the site is only accessible by boat. However, most of the Jonathan Creek village area is inundated and totally inaccessable in the summer (Wolforth 1987). A silt loam characterizes the soils of this area (Humphrey et al. 1973). Currently the seasonal inundation of the site only allows for the growth of water-tolerant species of the Salicaceae family, such as the cottonwood and the willow.

Previous Archaeological Research

Large, multi-mound centers, such as Wickliffe (15Ba4), Turk (15Ce6), Adams (15Fu4), and O' Byam's Fort (15Fu37) were among the earliest reported sites in Kentucky (Loughridge 1888, Moore 1916; Thomas 1894) Of these sites, only Wickliffe (King 1936, 1937, 1939) and Jonathan Creek (Webb 1952) were extensively excavated prior to the early 1980s.

In 1983, the University of Illinois began a long-term research program in the region. Initial investigations focused on several large Mississippian towns, including the Adams, Sassafras Ridge, Turk, and

Wickliffe sites (Edging 1984, 1985; Lewis 1983, 1985, 1986, 1987a; Lewis and Mackin 1984; Stout 1984, 1985, 1988). In 1985 the focus of the research expanded to include the entire prehistoric and historic archaeological sequence of the region (Sussenbach and Lewis 1987) and to include the investigation of settlement patterns (Kreisa 1987a, 1987b, 1988; Sussenbach and Lewis 1987).

Regional Chronology

Clay (1981) has outlined the general prehistory of the region, Lewis (1983, 1986, 1987a, b) has described the changes during the Mississippi period, and Sussenbach et al. (1986) and Sussenbach and Lewis (1987) have detailed the Middle and Late Woodland periods.

Figure 3 presents part of the working regional sequence currently in use by Western Kentucky personnel. This chronology treats periods and phases as primarily temporal units with fixed arbitrary boundaries. They are not intended to be units of cultural similarity and hence need not be

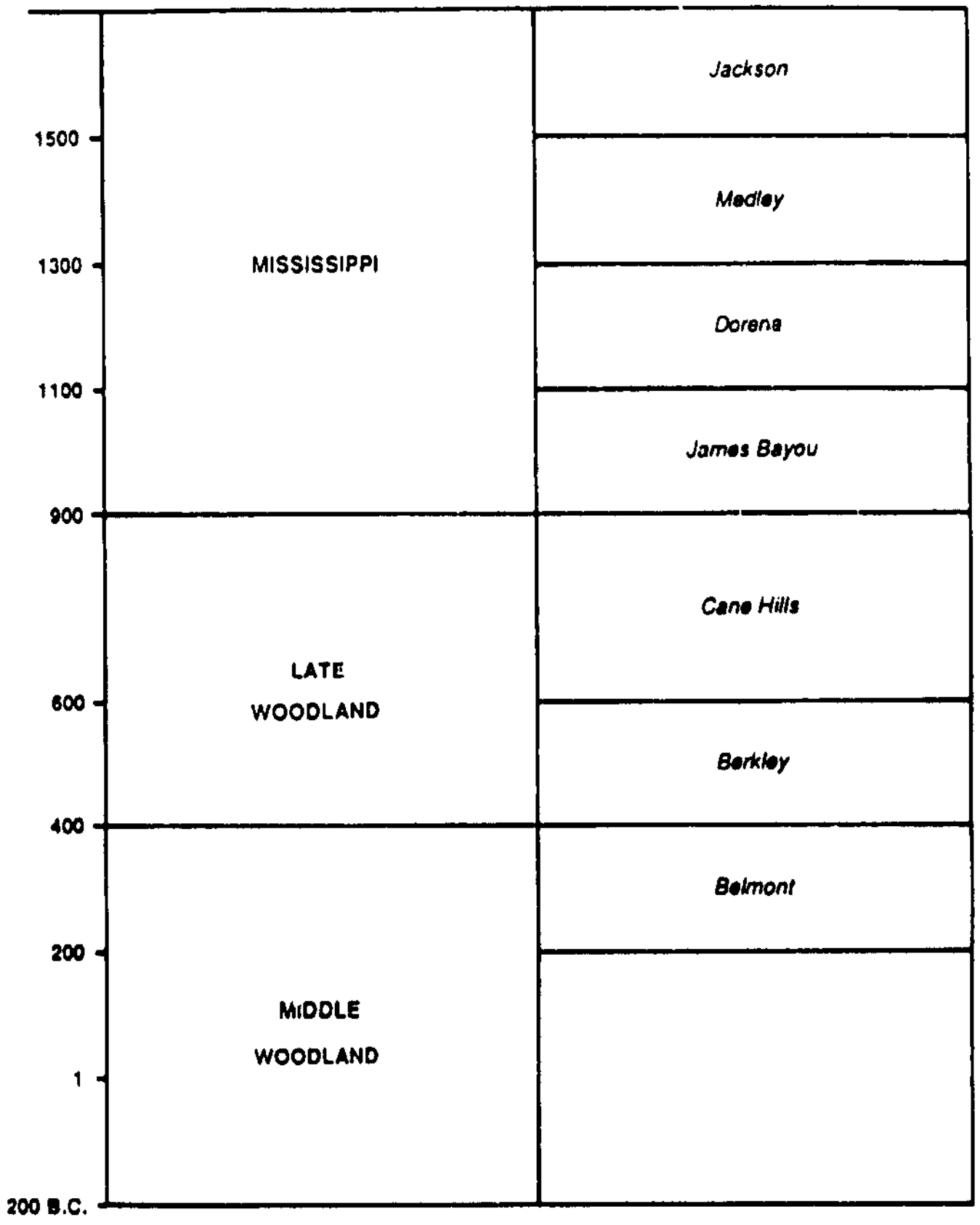


Figure 3--Working Regional Sequence for Western Kentucky. From Lewis (1986).

based upon specific material culture assemblages (Lewis 1987b). Although these boundaries are not based on cultural criteria, such data are considered in the construction of the phase and are useful in spatial comparisons. It is important to note that cultural criteria do not figure as key criteria of the temporal dimensions of the phase definitions (Sussenbach and Lewis 1987).

METHODS

To test for a trend in ceramic thickness of Mississippi Plain ceramics (from the Twin Mounds site, Units I and III), several measurements were taken from each body sherd. The minimum and maximum wall thicknesses were recorded, and the mean was calculated and recorded. The means were plotted by level per excavation unit on a simple graph to find the sherd thickness range for each level. The levels were then combined and graphed by time component per site (Twin Mounds and Marshall), with an average of the means and the minimum and maximum thicknesses plotted (Figure 4).

Following Sussenbach and Lewis (1987), when comparing the percentages of plain ceramics with those with other surface finishes, plain or undecorated types (e.g., Bell Plain, Mississippi Plain, Baytown Plain, Wickliffe Thick) were lumped into one category for analysis. This was done to somewhat duplicate the comparison done by Sussenbach and Lewis (1987). The only difference between that comparison and this one is that Sussenbach and Lewis compared plain sherds with cordmarked and

red-slipped sherds, and in this monograph, the latter two forms are lumped into one category. The data from the Jonathan Creek, Sassafras Ridge, and Wickliffe sites were compared together, and the Marshall site data was then compared to them.

ANALYSIS AND RESULTS

Average Wall Thickness

Table 1 shows the time components for each site. Table 2 lists the mean sherd thickness by level for Twin Mounds Units I and III and for Marshall Unit I. Figure 4 shows the results of the comparison.

Thickness of Mississippi Plain ceramics does appear to increase through time, from an average of 5.2 mm during the James Bayou phase, to an average of 6.6 mm during the Dorena phase (an increase of 1.4 mm), to an average of 6.4 mm during the Medley phase (a slight decrease of 0.2 mm, which isn't substantial enough to dismiss the theory of the increase). Looking at individual units of sites, Marshall I has the largest increase of thickness through time, of 1.7 mm. At Twin Mounds, however, the increases are much smaller: 0.7 mm increase at Twin Mounds III, and 0.2 mm increase at Twin Mounds I. Twin Mounds I has by far the largest data set, with 1169 sherds, Twin Mounds III has 271 sherd[illegible]data set, and

Table 1--Site Components.

JAMES BAYOU PHASE (A.D. 900-1100)

Jonathan Creek
Marshall--Unit I: 41-60 cm below surface
Twin Mounds--Unit III: 20-40 cm below surface

DORENA PHASE (A.D. 1100-1300)

Marshall--Unit I 0-40 cm below surface
Sassafras Ridge
Twin Mounds--Unit I 60-190 cm below surface
Wickliffe

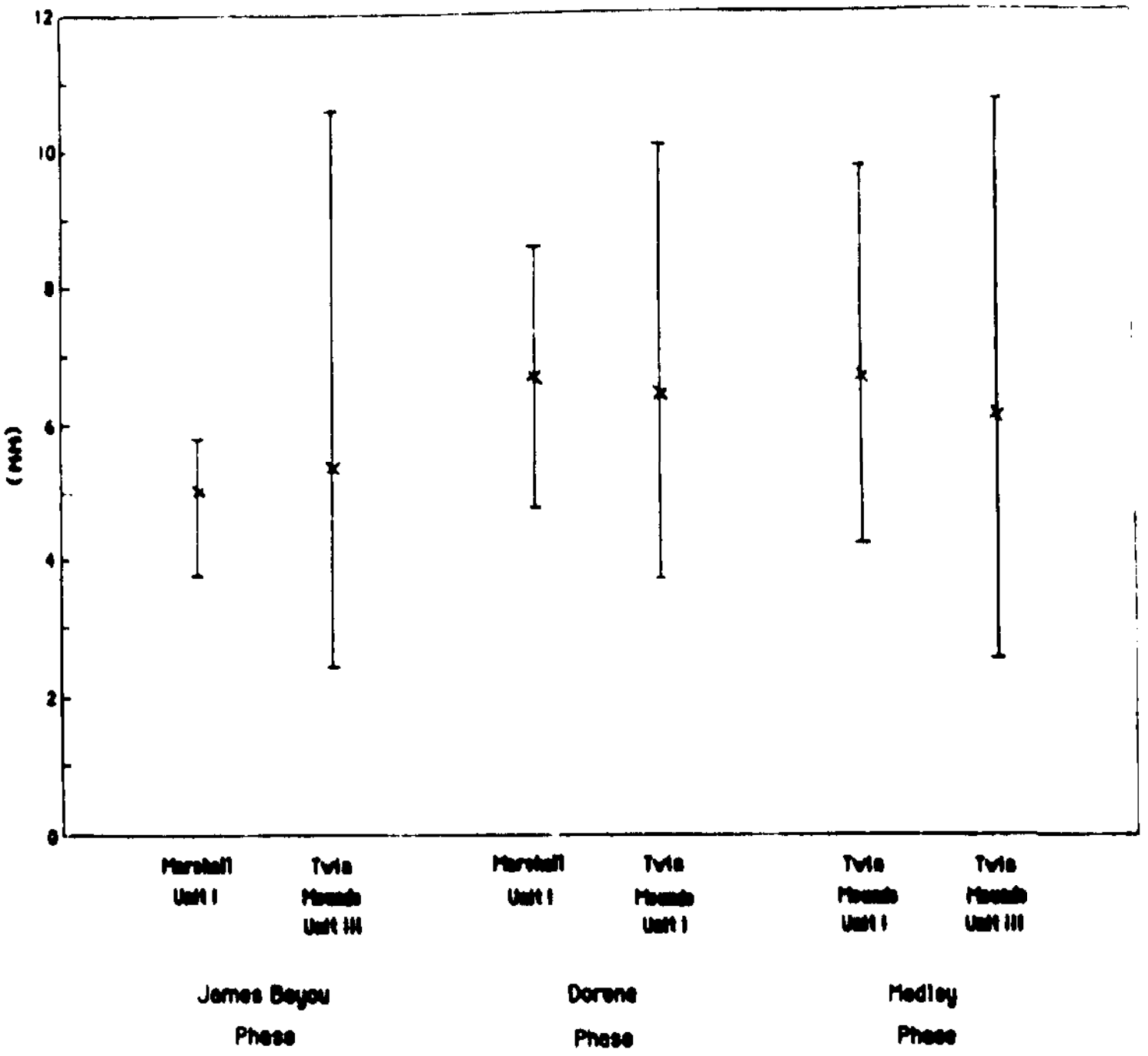
MEDLEY PHASE (A.D. 1300-1500)

Sassafras Ridge
Twin Mounds--Unit III 0-19 cm below surface

Table 2--Mean Sherd Thickness for Twin Mounds Units I and III and for Marshall Unit I.

Unit	Phase	Level (cm Below Surface)	Mean of Sherd Thicknesses (mm)
Marshall I	Dorena	10	7.00
		20	7.50
		30	6.25
		40	6.00
	James Bayou	50	5.00
		60	5.00
Twin Mounds I	Medley	0	6.66
		18	6.21
		28	6.39
		38	7.66
		58	6.47
	Dorena	68	6.87
		78	6.57
		88	6.76
		98	6.36
		124	5.95
		146	6.80
		165	6.69
		175	5.19
		185	7.16
Twin Mounds III	Medley	10	6.06
	James Bayou	20	5.40
		40	5.35

Figure 4--Results of Marshall and Twin Mounds Thickness Tests



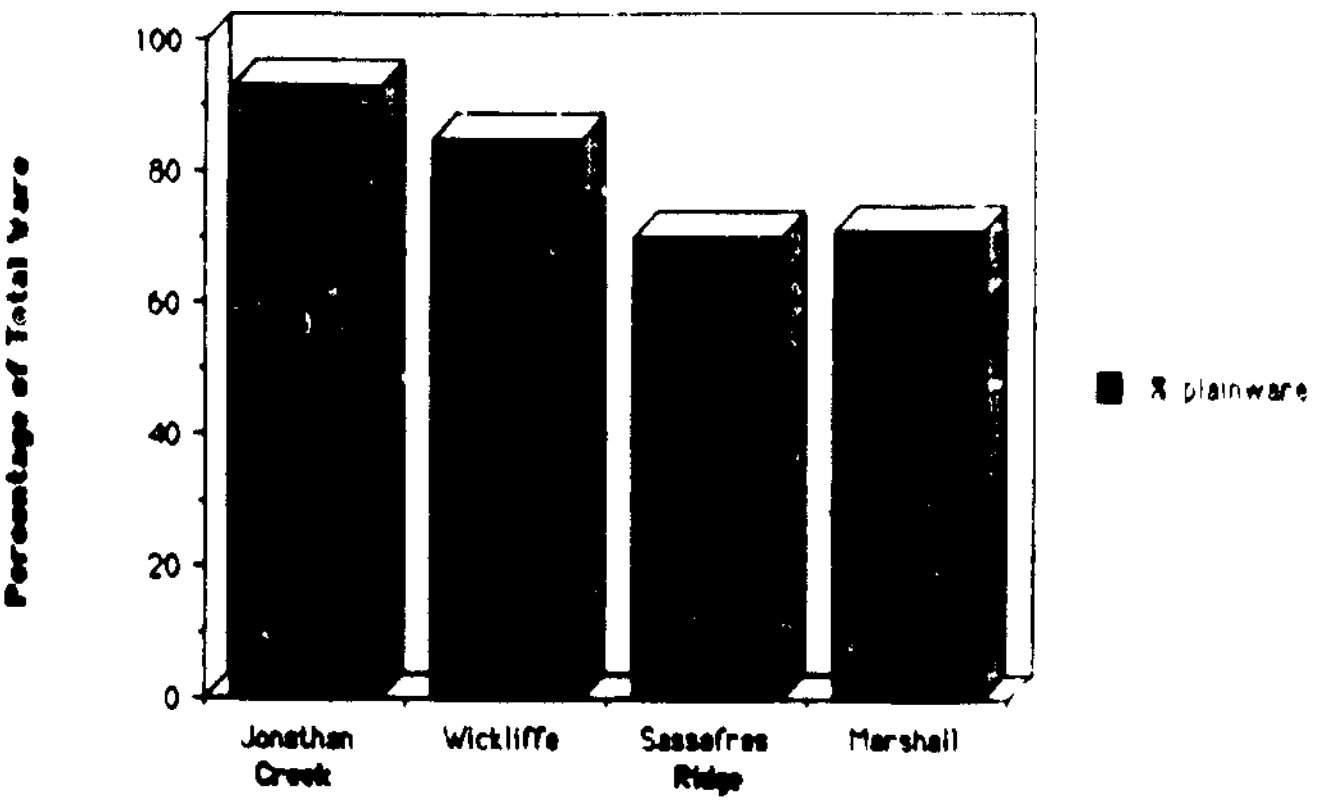
Marshall I has a mere 129 sherds in its data set. Because of its small data set, the Marshall I increase of thickness through time may not be completely reliable. Thus, the small increase found in Twin Mounds I data may be more accurate when assessing whether or not a trend truly exists.

Surface Finish of Sherds

Table 3 shows the plainware percentages per site and Figure 5 shows the graph of this comparison at the Marshall, Jonathan Creek, Wickliffe, and Sassafras Ridge sites.

Sussenbach and Lewis (1987:75) found that plainwares increase from 50% at the base of Unit I of the Marshall site to 80% of the assemblage at the top. This indicated that plainwares increase through time. In the other three sites, however, there is a very clear decrease in the number of plainwares through time as compared to the number of ceramics with other surface finishes: from 93% plainwares at Jonathan Creek, to 85% plainwares at Wickliffe (a decrease of 8%), to 70% plainwares at Sassafras Ridge (a decrease of 15%).

Figure 5--Plainware Percentages



Vessel Form Diversity

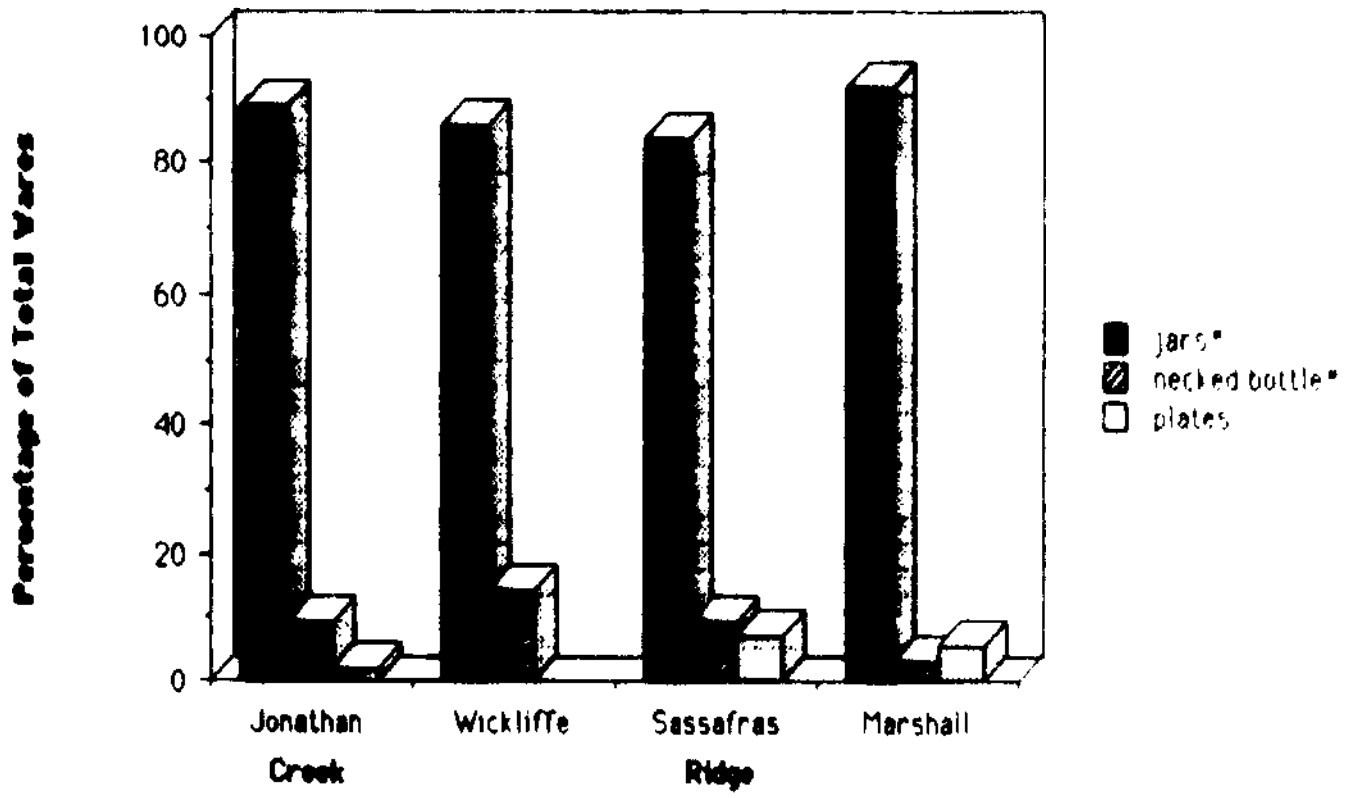
Sussenbach and Lewis (1987:75) found that in the lower levels of Unit I at the Marshall site, jars, bowls, pans, and hooded bottles are present. In the middle portion of this unit, the funnel form appears. Plates are found only in the upper 30 cm of the midden. This shows a general increase in vessel form diversity (Sussenbach and Lewis 1987). On the basis of this, then, it can be inferred that during the earliest phase identified at Marshall, jars, bowls, pans, and hooded bottles are present. During the next phase the funnel form and, perhaps, the necked bottle are present. During the most recent phase identified at Marshall, plates are present. Figure 6 shows the percentages of each of the vessel forms found per site, and Table 3 shows the comparison between the four sites and the percentages of the various wares at each.

If the vessel forms are examined with regards to their time delineation, there does indeed appear to be a trend. Disregarding the Marshall site data (which spans three time periods), the Jonathan Creek site has the highest percentage of jars, etc, the Wickliffe site has the

Table 3 -- Plainware and Vessel Form Percentages at Jonathan Creek, Wickliffe, Sassafras Ridge, and Marshall.

Site	Percentage Plainware	Percentage of Jars, Bowls, Saltpans, and Hooded Bottles	Percentage of Necked Bottles and Funnels	Percentage of Plates	Total Percentage
Jonathan Creek	93	89.0	9.3	1.9	100.2
Wickliffe	85	85.8	14.3	0.0	100.1
Sassafras Ridge	70	83.7	9.3	7.0	100.0
Marshall	71	91.8	2.8	5.5	100.1

Figure 6--Vessel Forms



jars*=jars, bowls, saltpans, and hooded bottles.
necked bottle*=necked bottles and funnels.

highest percentage of funnels and necked bottles, and the Sassafras Ridge site has the highest percentage of plates. Thus, using the criteria of Sussenbach and Lewis, there does indeed appear to be a trend towards an increase in the diversity of vessel forms through time.

CONCLUSIONS

The purpose of this thesis was to test trends noticed by Sussenbach and Lewis at the Marshall site to see if these trends are present at other sites. The trends tested in this monograph that Sussenbach and Lewis (1987) had found are as follows

A An increase in the average wall thickness of Mississippi Plain sherds;

B. An increase in plain sherds relative to cordmarked and red-slipped sherds (note in this monograph, plain sherds are compared to all other sherds); and

C An increase in vessel form diversity.

Only the third original trend, that of vessel form diversity, stands correct when tested with other sites. Although the first trend, an increase in Mississippi Plain ceramic thickness through time, seemingly appears at other sites, the relatively small data set from Marshall may be falsely showing a trend where there is not one. If the unit with the largest data set (Twin Mounds I) is looked at by itself, the average increase in thickness

is only 0.2 mm, hardly an increase at all. It would be more accurate to state that there is no substantial increase, or rather no change at all in thickness of Mississippi Plain ceramics through time. The second trend, that of an increase of plainware through time at Marshall, actually turned out to be the exact opposite of the trend noticed at the other sites, that of a decrease of plainware through time.

Further research could look for reasons for the increase of diversity and the decrease of amount of plainware in the area, and whether these trends exist elsewhere.

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