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**Edited by
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Richard V. Williamson,
and
Richard D. Davis**

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Cover: View of the Shrull Lime Kiln, Logan County.

PREFACE

Since its creation in 1966, the Kentucky Heritage Council has taken the lead in preserving and protecting Kentucky's cultural resources. To accomplish its legislative charge, the Heritage Council maintains three program areas: Site Development, Site Identification, and Site Protection and Archaeology. Site Development administers the state and federal Main Street programs, providing technical assistance in downtown revitalization to communities throughout the state. It also runs the Certified Local Government, Investment Tax Credit, and Restoration Grants-in-Aid programs.

The Site Identification staff maintains the inventory of historic buildings and is responsible for working with a Review Board, composed of professional historians, historic architects, archaeologists, and others interested in historic preservation, to nominate sites to the National Register of Historic Places. This program also is actively working to promote rural preservation and to protect Civil War sites.

The Site Protection and Archaeology Program staff works with a variety of federal and state agencies, local governments, and individuals to assist in their compliance with Section 106 of the National Historic Preservation Act of 1966 and to ensure that potential impacts to significant cultural resources are adequately addressed prior to the implementation of federally funded or licensed projects. They also are responsible for administering the Heritage Council's archaeological programs, which include the agency's state and federal archaeological grants; organizing this conference, including the editing and publication of selected papers; and the dissemination of educational materials, such as the Kentucky Before Boone poster. On occasion, the Site Protection and Archaeology Program staff undertakes field and research projects, such as emergency data recovery at threatened sites.

This volume contains papers presented at the Twenty-First Annual Kentucky Heritage Council Archaeological Conference, which was held at Cumberland Falls State Resort Park, Corbin, Kentucky. Heritage Council staff that assisted with conference proceedings included Site Protection Program Manager Thomas N. Sanders, as well as Staff Archaeologists David Pollack, Sarah E. Miller, and Charles D. Hockensmith, and administrative assistant Yvonne Sherrick.

Of the 25 papers presented at the Twenty-First Annual Heritage Council Archaeological Conference, seven are included in this volume. The eighth paper was contributed by Charles D. Hockensmith. As in years past, these papers provide a cross-section of archaeological research conducted in Kentucky. Some of the papers are the products of the research interests of the participants, such as those by Hockensmith, Hammerstedt, and Schroeder. Other papers were produced as part of Section 106 related compliance projects or state funded undertakings. These include papers by Pullins and O'Conner, Miller, Wetzel, Bergman et al. and Martin. Figure 1 illustrates the general locations of major sites and project areas discussed in this volume.

I would like to thank everyone that participated in the Twenty-First Heritage Council archaeological conference as well as other Heritage Council archaeological conferences. Without your continued support, these conferences would not have been as successful as they have been. Finally, I would like to thank E. Nicole Mills, Richard V. Williamson, and Richard D. Davis for agreeing to edit this volume. Their efforts are greatly appreciated.

David Pollack,
Site Protection Program Manager
Kentucky Heritage Council

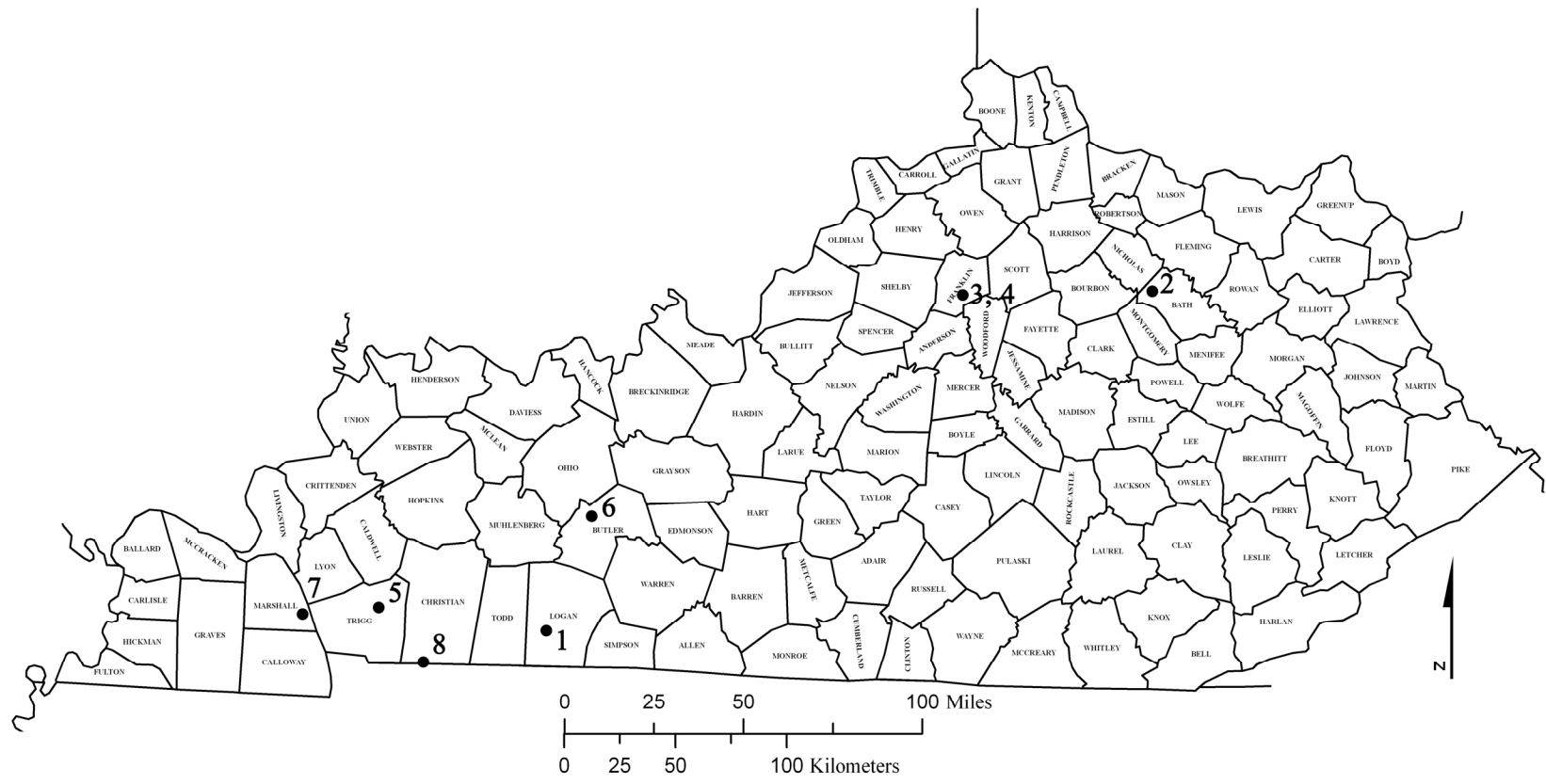


Figure 1. Location of Sites Discussed in this Volume: 1) Shrull Lime Kiln; 2) Duckworth Farm; 3 and 4) Old Frankfort Cemetery; 5) 15Tr289; 6) Annis Village; 7) Jonathan Creek, and 8) Fort Campbell.

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ANGELLY PHASE MOUND CONSTRUCTION AT JONATHAN CREEK

By

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ABSTRACT

The Mississippian-era mound and village site of Jonathan Creek was partially excavated from 1940 to 1942. On-going studies of the collections, maps, photographs, and notes are providing new insights into the life history of a small mound at the site. The events that occurred on the mound are reconstructed with reference to architecture, earth moving activities, mortuary activities, associated features, and an AMS radiocarbon date, and indicate a substantial Angelly Phase presence.

INTRODUCTION

Antiquarians and archaeologists working in the Eastern Woodlands of North America during the nineteenth- and early twentieth-century concentrated their interests and efforts on documenting visually prominent ancient earthworks, many of which subsequently were destroyed as a consequence of development and reservoir projects while others were preserved as part of our national heritage. Such eminent sites have lent their names to local phases and regional archaeological cultures, and some have even reached a level of prominence that extends beyond the disciplinary confines of anthropology. Today, the names of many of these sites, like Cahokia, Angel, and Wickliffe, are sprinkled across the pages of introductory archaeology textbooks, reverberate in lecture halls at college campuses across the country, and resonate among New Age adherents.

Early efforts to classify and describe these sites and their material culture led to the establishment of inferential frameworks that persist in popular publications and even scholarly reviews. But, in a number of cases, the original archaeological interpretations were based on impressions of the evidence or on analyses of small and often biased samples of artifacts, especially pottery. Even when more comprehensive analyses were conducted, they were carried out within the explanatory standards of the times, which emphasized classification and description, functionalism, culture history, and chronology building (Trigger 1989; Willey and Sabloff 1993). In particular, the short chronology that existed prior to the first applications of the radiocarbon technique led many

archaeologists to base their inferences about archaeological materials on analogies with living or ethnohistorically documented Native Americans with the result that regional similarities and differences in material culture traits often were explained by invoking relatively simplistic notions of migration and diffusion (e.g., Webb 1952; Kluckhohn 1936; Rouse 1958).

Today, we have many new methods of analysis, expanded typologies and classification systems, and fresh questions to apply to our investigations of ancient Mississippian societies. Inferential frameworks that involve a consideration of the diversity of chiefdoms, the nature of relations among potential rivals and allies, the actions of individual leaders, shifting landscapes of power, population movements, and the impact that all of these can have on the establishment of communities and their evolution over time have come to replace old normative and culture-historical models of chiefdoms, diffusion, and migration. Collections that would be impossible to duplicate today sit on the shelves of museums, universities, and research institutes. Over the past decade or more, many archaeologists have turned their attention to these old collections, often linking their efforts with new fieldwork targeted at acquiring specimens that were not routinely collected a century ago, expanding the coverage of old projects, and obtaining controlled samples of artifacts (e.g., Hammerstedt 2005; King 2003; Milner 1998; Schroeder 1997, 2005; Welch 2006). These reinvestigations are changing our perceptions of many of these prominent places, even though inferential ambiguities may still arise from the available evidence.

The Jonathan Creek site may not appear on the pages of introductory text books, but it is one of those places that has taken on iconic significance in the archaeology of the lower Tennessee, Cumberland, and Ohio valleys and the central Mississippi Valley, lending its name to an archaeological phase (Butler 1991; Clay 1979, 1997) and being referred to in most publications on the Mississippian Period in the Ohio Confluence region and western Kentucky (e.g., Butler 1991; Clay 1979, 1997; Cobb and Butler 2002; Lewis 1986, 1990, 1991, 1996; Moore 1915; Pollack 2004; Wesler 2001). My ongoing research on the collections, maps, notes, and photographs from this site is directed at refining the occupation history of the site and clarifying its role in the dynamic regional Mississippian sociopolitical landscape. In this paper, I focus on the events surrounding the construction, use, and abandonment of a small mound at Jonathan Creek. The ceramic assemblages from two major contexts -- mound fill and an associated trash pit -- and a radiocarbon date on charred wood that was part of the mound summit architecture provide some insights into the nature and timing of these activities.

HISTORY OF INVESTIGATIONS AT JONATHAN CREEK

Jonathan Creek was a prominent community along the lower Tennessee River in Mississippian times (*c.* A.D. 1000-1500). The site was first documented in the late nineteenth-century by a geologist, Robert Loughridge (1888:193), who identified six earthen mounds arranged around an open plaza, a layout similar to other town-and-mound centers in the Eastern Woodlands (Figure 1; Lewis and Stout 1998). A seventh

mound was identified in the floodplain of Jonathan Creek, but its relationship to the other mounds at the site is unclear. C. B. Moore also stopped at the site in the early twentieth-century, referring to it as the Henson Place, and reported that the mounds had been severely impacted at that time by more than a century of plowing (Moore 1915). When his test excavations failed to turn up any artifacts, he moved on.

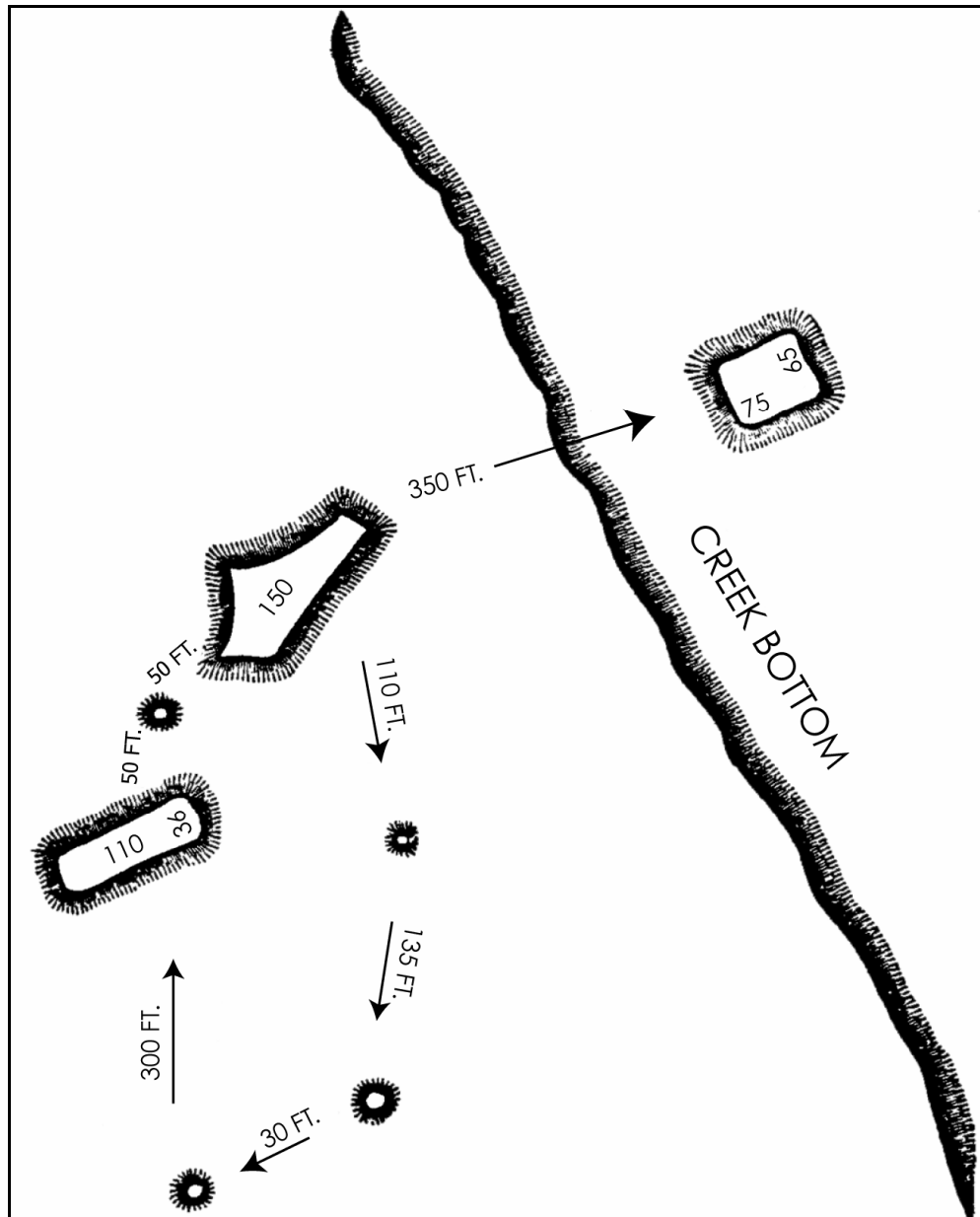


Figure 1. Loughridge's (1888) Map of the Jonathan Creek Site.

In the late 1930s, the federal government authorized the construction of a dam along the Tennessee River about 25 km north of Jonathan Creek that eventually submerged the site beneath the waters of Kentucky Lake. Mitigation excavation of the site began in the

fall of 1940, but the project was prematurely terminated in the spring of 1942 when the Civilian Conservation Corps (CCC) laborers and site supervisors were mobilized for World War II. The archaeologists involved with the project were able to excavate the mound in the floodplain and the southern portions of the site, encompassing the two small mounds that appear at the bottom of Loughridge's map (Figure 1). In addition to the mounds, the CCC excavations uncovered eight separate walls constructed around the ancient community and 89 structures built in a variety of architectural styles including single-post circular structures, single-post square or rectangular structures, wall-trench structures, and pithouses – basins with interior wall trenches (Figure 2). Elsewhere, I have suggested that the community of Jonathan Creek grew over time and, as the town expanded, a dramatic reorganization of space was undertaken (Schroeder 2005, 2006). This included a transformation of secular space into a sacred ritual precinct by the construction of a small mound that was the nucleus of mortuary ritual and other activities, a process that may be linked to the ascent and expansion of chiefly leadership strategies and power at Jonathan Creek.

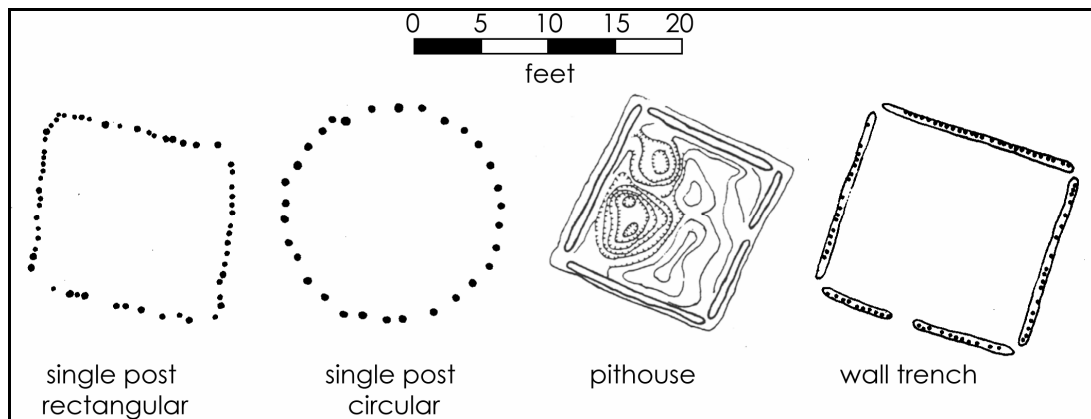


Figure 2. Structure Types at Jonathan Creek (adapted from Webb 1952:54, 57).

JONATHAN CREEK ARTIFACTS AND ARCHITECTURE

A brief report on Jonathan Creek was published in 1952 that has remained the definitive work on the site (Webb 1952). Unfortunately, the report is incomplete in its treatment of both features and artifacts. The material cultural analyses in the report are based on a very small fraction of the roughly 134 cubic feet of objects recovered during the excavation. Only 150 stone artifacts (Webb 1952:87) and 2,685 ceramic sherds and other items (Webb 1952:109) were tabulated in the report. Moreover, the contexts from which the inventoried objects came are not known, except that the ceramics did not come from the plowzone.

Attempts to determine the contexts of artifacts have been further complicated by the feature numbering system used in the field. Because of the large size of the site, it was divided into 5 separate excavation blocks, designated A-E (Figure 3). Only units A, B, and C are outlined on Figure 3. The excavations in Units D were conducted to the south

and the Unit E excavations encompassed the mound in the floodplain. Within each excavation block, feature numbers were assigned beginning with the number 1. This led to considerable duplication of feature numbers that has frustrated all the researchers who have tried to work with these materials (e.g., Wolforth 1987). Furthermore, catalog numbers, which were assigned to only a small proportion of the materials retained from the excavation, also were duplicated from one excavation unit to another. Rim sherds and other diagnostics were pulled from their original bags and curated separately, often without catalog numbers and sometimes without any designation of the excavation unit from which they were recovered. Finally, most of the artifacts from the excavation were not washed until the mid- to late-1990s. These circumstances complicated previous attempts to determine the spatial distribution of trash across the site and to use temporally distinctive ceramic types to tease apart the construction sequences at the site.

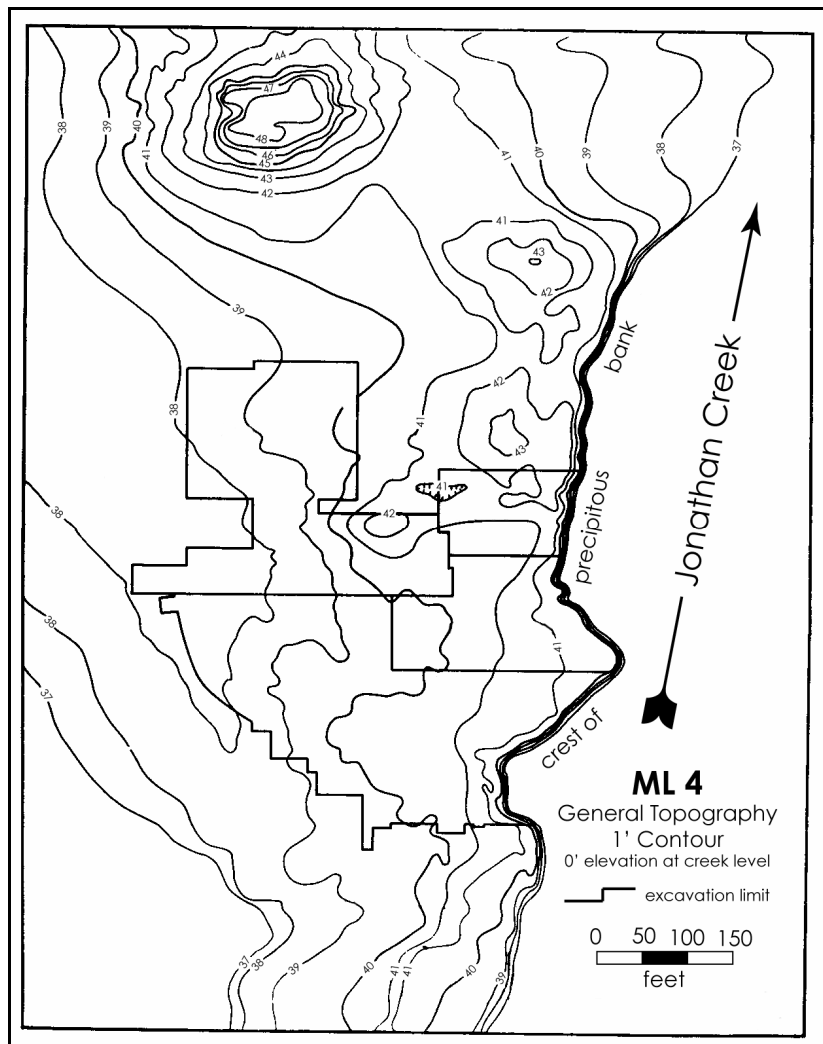


Figure 3. Topographic Map of the Jonathan Creek Site Showing Excavation Units (adapted from Webb 1952:11).

Because of the difficulties posed by the incomplete artifact inventory and the lack of stratigraphy at the site, previous researchers and I initially relied on architectural relationships to draw inferences about chronology at the site, and then supplemented this approach with analyses of samples of ceramics. According to Webb (1952:70-74), the first residents of the community lived in wall-trench structures and pit houses. Later, Webb suggested that a second occupation of the site started out small, by people who lived in the square single-post structures. However, I have found that Webb's characterization of wall trench houses as early and single post structures as late cannot be supported by the field notes and maps (Schroeder 2005), a point also made by Berle Clay more than 25 years ago (Clay 1979). Clay went on to suggest that the pithouses at the site might represent a second and much later occupation of the site. However, Lynne Wolforth (1987) was unable to confirm this proposition when she conducted a comparative study of ceramics associated with pithouses and structures made in other architectural styles. In short, the origins of structure architectural variability are ambiguous, but do not appear to be solely a consequence of time.

A CONVENTIONAL VIEW OF THE CERAMIC CHRONOLOGY AT JONATHAN CREEK

Occupation histories of sites in the Eastern Woodlands have, more commonly, been accessed through reference to ceramic assemblages. For sites excavated prior to routine application of the radiocarbon dating technique in the 1950s, pottery generally is the only source of information that can be used to determine chronological placement. Building on the work of Phillips, Ford, and Griffin (1951) in the Lower Mississippi valley, R. Berle Clay developed a ceramic chronology for the Lower Tennessee and Ohio River confluence region (1963, 1979; also see Butler 1991; Muller 1986:183-185) that was based on his analysis of excavated assemblages from two distinct and stratigraphically separated deposits at the Tinsley Hill Site, which is situated along the Cumberland River at a distance of 26 km northeast from Jonathan Creek. Clay defined the Jonathan Creek Phase on the basis of the earlier assemblage and the Tinsley Hill Phase on the basis of the later assemblage. He noted a gap between the two phases, later designated as the Angelly Phase, which was characterized on the basis of excavated assemblages from three sites in the Black Bottom of the Ohio Valley (Riordan 1975). Clay and Brian Butler have since refined the associated dates (Butler 1991; Clay 1997). In the sequence presented by Butler (1991:266-267), the Late Woodland Douglas Phase spans A.D. 850-1000. Douglas Phase ceramic assemblages are dominated by plain sherds tempered with grog, with some cordmarked grog-tempered ceramics, and plain, polished, or slipped sherds tempered with grog and shell also occurring (Butler 1991: 266; Muller 1986:143-144). The Douglas Phase does not appear to be represented to any substantial degree in the assemblage from the Jonathan Creek Site. The first fully Mississippian phase defined in the sequence is the Jonathan Creek Phase, which Butler dates to *c.* A.D. 1000-1100/1150. The Angelly Phase is pretty securely dated to A.D. 1200-1300, although Clay (1979:19) has indicated that it probably starts somewhat earlier, *c.* A.D. 1150, closing the gap between it and the Jonathan Creek Phase in Butler's chronology. The Tinsley Hill Phase dates to A.D. 1300-1450. The final phase in the sequence, Caborn-Welborn, continues

into the early historic era and is spatially confined to the confluence of the Ohio and Wabash rivers (Pollack 2004). No distinctive Caborn-Welborn materials are present in the Jonathan Creek collection and so this phase is not discussed further.

Ceramic assemblages associated with each of the Mississippian phases relevant to the Jonathan Creek site (Jonathan Creek, Angelly, and Tinsley Hill) are dominated by shell-tempered pottery with plain surfaces (Mississippi Plain and Bell Plain types together account for 90%+ of all assemblages; Clay 1963; Wolforth 1987). In terms of other kinds of surface treatments, all phases have modest amounts of fabric impressed sherds (Kimmswick Fabric and Tolu Fabric) and small numbers of sherds with a red film on the surface (Old Town Red or Varney Red). Jonathan Creek Phase assemblages stand out as distinctly different from both Angelly and Tinsley Hill Phase assemblages because of the absence of other kinds of decoration, such as incising and painting. However, decorated sherds constitute less than 2% of the total ceramic assemblages for both Angelly and Tinsley Hill phases (Clay 1979:116; Pollack and Railey 1987:94; Wolforth 1987:103; see also Hilgeman 2000:222 for Angel; Wesler 2001:81-82 for Wickliffe). Notably, when assemblage size is small there is a good chance that decorated sherds will not be present, a point also made by Butler (1991) and Clay (1997). Consequently, decoration may not be the most appropriate attribute to rely on when trying to determine the phase, or phases, represented at a site, unless tens of thousands of sherds from contemporaneous contexts are available.

One ceramic attribute that archaeologists working in the region have found to be more temporally useful than surface treatment is handle form (Butler 1991; Clay 1963, 1979; Hilgeman 2000:125-163, 212, 214-215, 218; Orr 1951:331; Phillips, et al. 1951:152; Pollack and Railey 1987; Riordan 1975; Smith 1969; Wesler 1991). Loop handles are found on some jars associated with Early Mississippian Jonathan Creek Phase assemblages, while loop and strap handles occur in roughly equal numbers in Angelly Phase jar assemblages, and wide strap handles dominate Tinsley Hill Phase jar assemblages (Butler 1991:266; Hilgeman 2000; Phillips, et al. 1951; note: Hilgeman 2000:129, 215 associates loop handles [thickness:width = 0.75-1.0; Hilgeman 2000:129] with A.D. 1100-1200, strap handles [handle thickness:width = 0.1-0.38; Hilgeman 2000:129] with A.D. 1300-1450, and two types that are intermediate between loop and strap [handle thickness:width = 0.39-0.74] with A.D. 1200-1325 at the Angel Site in Indiana).

Furthermore, the presence of certain vessel types may also be helpful. Jars, bowls, and pans occur in all phases, while hooded water bottles are associated with Angelly Phase and, to a lesser extent, Tinsley Hill Phase assemblages. Plates are also found in Angelly Phase and Tinsley Hill Phase assemblages. Long- and short-neck bottles are found in Tinsley Hill Phase assemblages. Finally, the metrics of certain vessel types change over time as well (e.g., the width of plate rims increases over time, etc.) and may be useful for creating chronological sorting of assemblages.

Prior to my work with the collections, the largest number of sherds to be systematically examined from the Jonathan Creek Site is 2,758, of which 44 (1.6%) were

painted or incised (Wolforth 1987:103). In Clay's (1963) analysis of a smaller sample of 622 sherds from Jonathan Creek, he found no incised or painted sherds. In the assemblage analyzed by Webb (1952) only 0.2% of the sherds were incised or painted. These and other archaeologists, who have looked at the Jonathan Creek collections to draw an impressionistic assessment of the ceramic assemblage, have commented on the abundance of plain, shell-tempered sherds, which characterizes all Mississippian phases in the region, especially when small sample sizes are examined, and they have all concluded that the major occupation of the site occurred during the early Mississippian Jonathan Creek Phase (Butler 1991; Clay 1979, 1997; Wolforth 1987). The majority of the handles illustrated in Webb's report (1952:97, 101-102) are loop handles, also supporting the Early Mississippian characterization of the assemblage. However, everyone with an interest in the site also has noted that there was a later occupation (Clay 1979:117; 1997:23; Wolforth 1987:117), which is represented by small numbers of the incised sherds, slipped, painted, and negative painted sherds, hooded water bottles, bottles, and plates (see Webb 1952 for illustrations of some of these) that are considered characteristic of the Tinsley Hill Phase, although most of these attributes are also present in Angelly Phase assemblages.

In brief summary, the conventional view of the Jonathan Creek site has been that it was a substantial Early Mississippian, Jonathan Creek Phase, town, occupied sometime between A.D. 1000 and 1100/1150, deserted for a period of time, and then reoccupied after A.D. 1300, during the Tinsley Hill Phase, by a small group of people who abandoned the site by A.D. 1450 (Butler 1991; Clay 1979, 1997; Wolforth 1987).

A SHORT HISTORY OF A SMALL MOUND: AN ALTERNATIVE VIEW OF THE OCCUPATION HISTORY OF JONATHAN CREEK

THE SMALL MOUND

My recent analysis of materials from Jonathan Creek does not support the conventional view of the occupation history of the site and instead indicates a substantial presence during the Angelly Phase (Schroeder 2006, 2007). At this time, I cannot address the nature of the occupations at the site during the Jonathan Creek and Tinsley Hill phases, but as work on the collections progresses, the complex history of the site should become clearer. My inference of an Angelly Phase occupation is well demonstrated by the sequence of activities in an area of the site where a substantial amount of structure rebuilding and spatial reorganization occurred (Figure 4). In this part of the site, there was a small mound with three large, superimposed, and overlapping wall-trench structures on its summit (Features 30, 31, and 37), which archaeologists excavated in arbitrary levels. Two of these (Features 30 and 31) are the largest buildings excavated at the site. Grouped together nearby were more than a dozen burials, most with their heads oriented to the west. Based on Webb's (1952) report, it seems that he did not recognize the existence of this small mound, and may not have been familiar with the field notes, photographs, and profile maps produced during excavation of the site area that encompassed the mound.

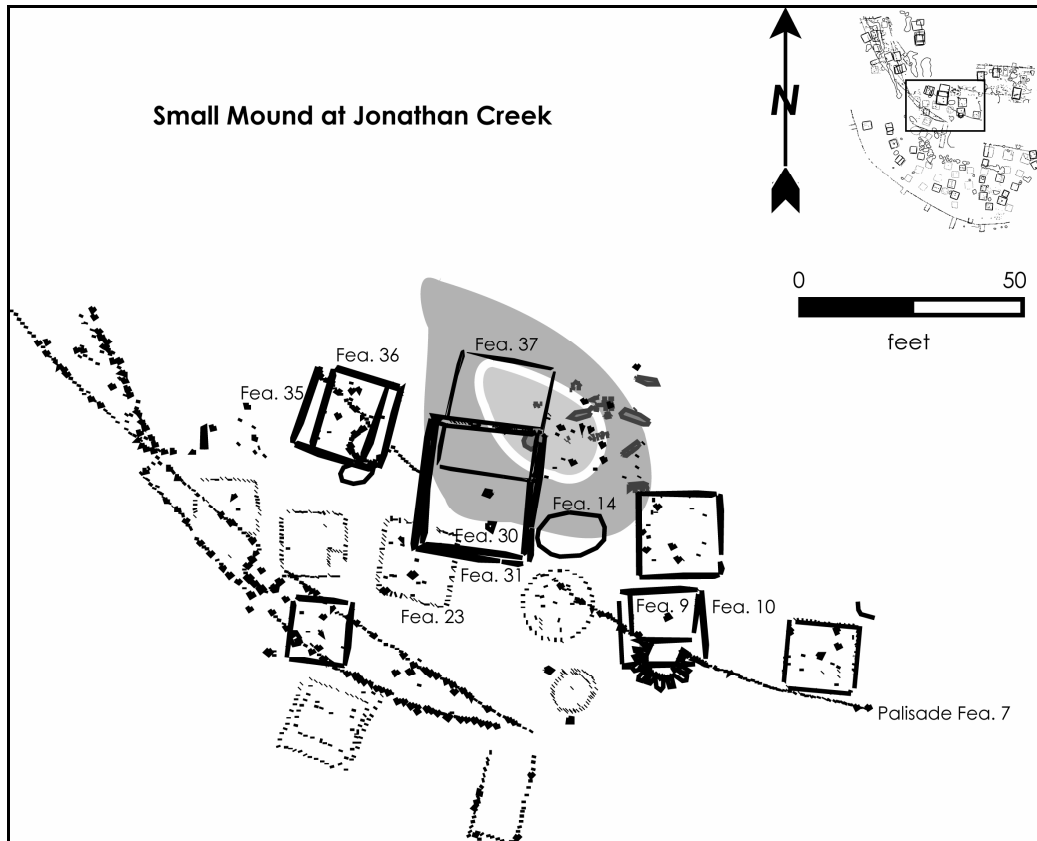


Figure 4. Map of Small Mound and Nearby Walls and Architectural Features.

Among the first structures built in this portion of the site were several wall trench houses (Features 9, 10, 35, and 36). After these houses had been dismantled, palisade Feature 7 was constructed across this area. A single post structure (Feature 23) also was built in this area, but how it relates in time to palisade Feature 7 and wall trench house Features 9, 10, 35, and 36 is unknown. It is clear, however, that sometime after Feature 23 was abandoned and after palisade Feature 7 had been dismantled, a low earthen mound was constructed in this area, covering over a burial of a single individual and a post-mold containing a fragment of a Ramey knife made of heat-treated Mill Creek chert. The burial of a single individual, deposition of the Ramey knife, and subsequent initiation of mound construction signal a dramatic change in the activities conducted in this part of the site from secular and domestic to ritual and sacred. The mound was topped by a wall-trench structure (Feature 37), which was used for a time, dismantled, and then replaced by a larger wall trench structure (Feature 30). This second wall-trench structure was destroyed by fire. It was replaced by a third wall-trench structure (Feature 31) that was constructed on the exact same spot, perhaps after adding a thin layer of earth to the mound. This third wall-trench structure also burned and was never again rebuilt. The fires that destroyed the two final structures built on top of this mound may have been accidents, or they may have been set intentionally after a decisive defeat in battle or upon the death of a particularly beloved leader as depicted in a sixteenth-century engraving of Timucua Indians mourning a dead chief (LeMoyne in Laudonniere, quoted in Fundaburk

1958:102). Or, the fires may have been set by enemies intent on destroying a symbol of leadership and desecrating the burial place of revered ancestors (see similar descriptions for Pacaha, Cofitachequi and Anilco in Varner and Varner 1951:292-293, 437-438, 493). Whatever the reasons for the destruction, and they are not entirely clear, the last conflagration signaled the end of the use-life of the mound and the possible beginnings of site abandonment.

AN ASSOCIATED MIDDEN PIT

On the south slope of the small mound, excavators encountered a large trash pit (Feature 14), described in the field notes as having layers of rubble, charcoal, ash, and red-fired streaks, but excavated as a single unit. The collections from Feature 14 are dominated by ceramics, but the field notes also describe large quantities of lithics and some animal bone, most of which were discarded in the field. At sites elsewhere in the Southeast, archaeologists have noted that large refuse pits associated with mounds may be the consequence of activities conducted on the mound and tend to have distinctive regional or site-specific patterns of location (Smith and Williams 1994). For example, at sites across the northern half of Georgia archaeologists found a consistent pattern of mound slope midden features on the northeastern side of mounds, which they have interpreted as the consequence of domestic, feasting, renewal events, other ritual activities conducted on the mound summit, or noted may relate to a desire to have fetid piles of waste downwind from mound-top residential structures or away from the plaza (Smith and Williams 1994:32-34).

CERAMICS

Six-thousand one-hundred and eighty-eight fragments of pottery, including 311 rim sherds (Table 1, Table 2), were recovered from the layers of mound fill, mound structures, and the large trash pit (Feature 14) on the south slope of the small mound. In terms of temper, coarse sized shell temper, associated with the Mississippi paste type, clearly dominates the assemblages (Figure 5). Bell paste, with fine fragments of shell, less than 1 mm in size (Phillips, et al. 1951:122), constitutes a smaller percentage of the assemblages. Other temper types, such as grit, grog, grit-grog, and temperless pastes, were recovered in small numbers from the mound fill and Feature 14. The ceramic assemblage from the mound stands out for having a higher percentage of fine shell temper and a lower percentage of coarse shell temper than the trash pit, and for having a higher diversity of temper types than the assemblage in the trash pit. Based on temper, the ceramic assemblages from the mound fill and trash pit resemble what would be expected in any Mississippian ceramic assemblage in the region, with a higher representation of fine wares in the mound fill.

When surface treatments between the two assemblages are compared, no significant differences are apparent -- the ceramics in the mound fill and trash pit Feature 14 are dominated by plain and eroded surfaces and other kinds of surface treatments, including red, brown, buff, and black slips, decorated sherds (incising with a plain, black, or eroded surface), negative painting, polished surfaces, fabric impressed, and modeled effigy

FEA. 14 PIT RIMS				MOUND RIMS			
TEMPER	COUNT	WEIGHT (g)	RELATIVE ABUNDANCE (% COUNT)	TEMPER	COUNT	WEIGHT (g)	RELATIVE ABUNDANCE (% COUNT)
Grog	-	-	-	Grog	1	4.2	1.03
Fine Shell ¹	26	233.1	12.15	Fine Shell ¹	28	159.7	28.87
Coarse Shell ¹	188	3756.1	87.85	Coarse Shell ¹	68	1388.3	70.10
TOTAL	214	3989.2	100.00	TOTAL	97	1552.2	100.00
SURFACE	COUNT	WEIGHT (g)	RELATIVE ABUNDANCE (% COUNT)	SURFACE	COUNT	WEIGHT (g)	RELATIVE ABUNDANCE (% COUNT)
Plain	129	1822.2	60.28	Plain	66	1177.3	68.04
Red, Brown	3	61.5	1.40	Red, Brown	1	53.3	1.03
Black	16	426.0	7.48	Black	1	0.8	1.03
Eroded	20	214.8	9.34	Eroded	21	146.6	21.65
Decorated	3	14.1	1.40	Decorated	-	-	-
Fabric impressed	34	1332.2	15.89	Fabric impressed	5	103.1	5.15
Black and buff	1	13.5	0.47	Black and buff	-	-	-
Buff slip	-	-	-	Buff slip	1	9.9	1.03
Polished	4	51.7	1.87	Polished	-	-	-
Unknown	4	53.2	1.87	Unknown	2	61.2	2.06
TOTAL	214	3989.2	100.00	TOTAL	97	1552.2	100.00
VESSEL TYPE	COUNT	WEIGHT (g)	RELATIVE ABUNDANCE (% COUNT)	VESSEL TYPE	COUNT	WEIGHT (g)	RELATIVE ABUNDANCE (% COUNT)
Mississippian Jar	138	2058.4	64.48	Mississippian Jar	55	1075.6	56.70
Bowl	16	283.4	7.48	Bowl	21	145.9	21.65
Hooded Bottle	5	78.2	2.34	Hooded Bottle	4	151.2	4.12
Pan	52	1557.9	24.30	Pan	9	156	9.28
Bottle	1	6.3	0.47	Bottle	3	7.3	3.09
Plate	2	5.0	0.93	Plate	5	16.2	5.15
TOTAL	214	3989.2	100.00	TOTAL	97	1552.2	100.00

¹ Both the Fine Shell and Coarse Shell categories include some sherds with grit or grog or grit-grog mixed in with the shell

**Table 2. Summary Data for Body Sherds from Small Mound and Associated Pit Feature 14.
FEA. 14 PIT BODY SHERDS**

FEA. 14 PIT BODY SHERDS				MOUND BODY SHERDS			
TEMPER	COUNT	WEIGHT (g)	RELATIVE ABUNDANCE (% COUNT)	TEMPER	COUNT	WEIGHT (g)	RELATIVE ABUNDANCE (% COUNT)
Grit	-	-	-	Grit	2	20.3	0.10
Grog	11	26.4	0.28	Grog	29	112.6	1.45
Fine Shell ²	411	1238.2	10.58	Fine Shell ²	508	1956.8	25.48
Coarse Shell ²	3460	18321.7	89.11	Coarse Shell ²	1449	7650.6	72.67
Grit-Grog	1	1.9	0.03	Grit-Grog	4	15.1	0.20
No Temper	-	-	-	No Temper	1	1.4	0.05
	-	-	-	Woodland (grit)	1	5.1	0.05
TOTAL	3883	19588.2	100.00		1994	9761.9	100.00
FEA. 14 PIT BODY SHERDS				MOUND BODY SHERDS			
SURFACE	COUNT	WEIGHT (g)	RELATIVE ABUNDANCE (% COUNT)	SURFACE	COUNT	WEIGHT (g)	RELATIVE ABUNDANCE (% COUNT)
Plain	2024	11236.5	52.12	Plain	917	5689	45.99
Red, Brown	17	154.6	0.44	Red, Brown	23	166.3	1.15
Black	233	2092.5	6.00	Black	91	616.6	4.56
Cordmarked	-	-	0.0	Cordmarked	1	9.1	0.05
Eroded	1388	3463.5	35.74	Eroded	824	2279.8	41.32
Decorated	29	212.0	0.75	Decorated	28	161.9	1.40
Negative Painted (Red on Black)	-	-	-	Negative Painted (Red on Black)	2	2.8	0.10
Red slip over cordmarked	10	96.2	0.26	Red slip over cordmarked	-	-	-
Fabric	166	2121.9	4.27	Fabric	48	423.6	2.41
Modelled effigy	-	-	0.0	Modelled effigy	6	44.7	0.30
Black and buff	3	41.4	0.08	Black and buff	2	51.4	0.10
Buff slip	2	45.1	0.05	Buff slip	17	146.4	0.85
Polished	8	42.4	0.21	Polished	31	160.8	1.55
Black and brown	-	-	0.0	Black and brown	3	4.4	0.15
Unknown	3	82.1	0.08	Unknown	-	-	-
	-	-	-	Woodland (eroded)	1	5.1	0.05
TOTAL	3883	19588.2	100.00		1994	9761.9	100.00

² Both the Fine Shell and Coarse Shell categories include some sherds with grit or grog or grit-grog mixed in with the shell

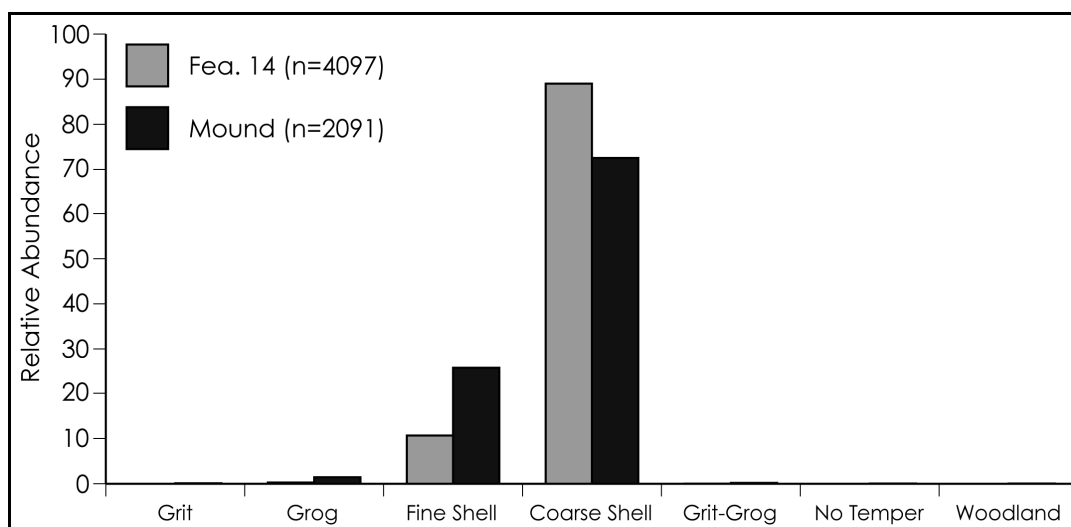


Figure 5. Bar Chart Comparison of Ceramic Temper Types for Fill From Small Mound and Feature 14.

vessels sherds, account for only roughly 13% of each assemblage (Figure 6). Decorated sherds, in particular, account for 0.78% of the Feature 14 assemblage and 1.34% of the small mound fill assemblage. This indicates that these two contexts do not conform to the pattern expected of a Jonathan Creek phase assemblage, in which decoration should be absent. However, the assemblages do match with what would be expected from an Angelly or Tinsley Hill Phase assemblage, with decorated sherds accounting for less than 2% of the assemblage.

The diversity of vessel types recovered from the mound fill and Feature 14 also fit well with the expectations for an Angelly or Tinsley Hill Phase assemblage, with jars, bowls, and pans, which are found in all Mississippian phases, as well as hooded water bottles, plates, and bottles, which are associated with Angelly or Tinsley Hill phase assemblages (Figure 7). Certain vessel types are more common in the mound fill than in the trash pit, particularly bowls, hooded water bottles, bottles, and plates, while typical domestic vessels, like jars and pans, are more common in the trash pit. The handles on jars vary through time in terms of the ratio of handle thickness to handle width. Eleven handles were intact enough to make these measurements and the ratios indicate that loop handles, narrow and wide intermediate handles, and strap handles are present (Table 3). These data are consistent with an assemblage that dates to the Angelly Phase, perhaps with some of the discarded sherds having originated in Jonathan Creek Phase contexts.

In short, the majority of the ceramic data from the small mound and associated trash pit indicate that these features post-date the Jonathan Creek Phase and probably are associated with the Angelly Phase. One final line of evidence lends further support to an interpretation that these features should be associated with the Angelly phase. Wood charcoal from one of the two burned wall-trench structures on top of the small mound was retained by the excavators and, perhaps because of the sudden termination of the

project, it was never treated with any kind of preservative. An AMS radiocarbon date was obtained on a sample of the outer rings of one piece of charred wood. This date (Beta-180075, 780±40 BP) calibrates out to a calendrical 2-sigma range of A.D. 1190 - 1290 (1-sigma range of A.D. 1230-1280, intercept = A.D. 1260; Stuiver et al. 1998), spanning the Angelly Phase.

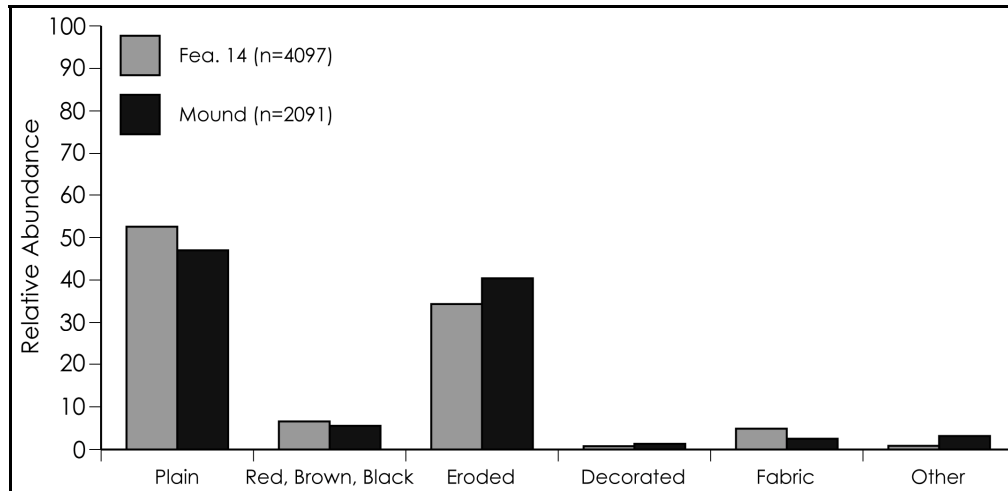


Figure 6. Bar Chart Comparison of Ceramic Surface Treatments for Fill of Small Mound and Feature 14.

The ceramic assemblages from the small mound and Feature 14 also differ in ways that are worth considering. The ceramics from Feature 14 are dominated by jars and pans. In contrast, the mound fill assemblage is dominated by bowls, plates, hooded bottles, and bottles. Fine-shell temper accounts for only 10.67% of the Feature 14 assemblage, while 25.63% of the small mound ceramic assemblage is composed of fine-shell temper. The assemblage from Feature 14 contains 0.78% decorated sherds. Although the numbers are small, the mound fill assemblage has nearly twice the abundance of decorated sherds, with 1.34% of the assemblage consisting of decorated types. Overall, the ceramic assemblage from the small mound is dominated by technological wares and vessel types that are commonly associated with serving and cooking, while wares and vessel types associated with cooking and storage are more abundant in the Feature 14 assemblage (cf. Blitz 1993; Hally 1986; Steponaitis 1983). Certainly, the assemblage from Feature 14 compares fairly well with the quotidian assemblages sampled by Wolforth (1987), who analyzed ceramics from domestic contexts at Jonathan Creek and found relative proportions of coarse-tempered Mississippi wares around 92%, and relative proportions of fine-tempered Bell wares around 7.8%. The ceramic contents of Feature 14 indicate that at least some of the activities that occurred on top of or near the small mound involved the deposition of domestic cooking and storage vessels down the slope of the mound into a large trash pit (note: elsewhere in the Southeast, such refuse pits are not associated with mortuary mounds [Smith and Williams 1994:30], indicating that the relationship between domestic, ritual, and mortuary activities at Jonathan Creek may not have been as clearly separated spatially as at other sites).

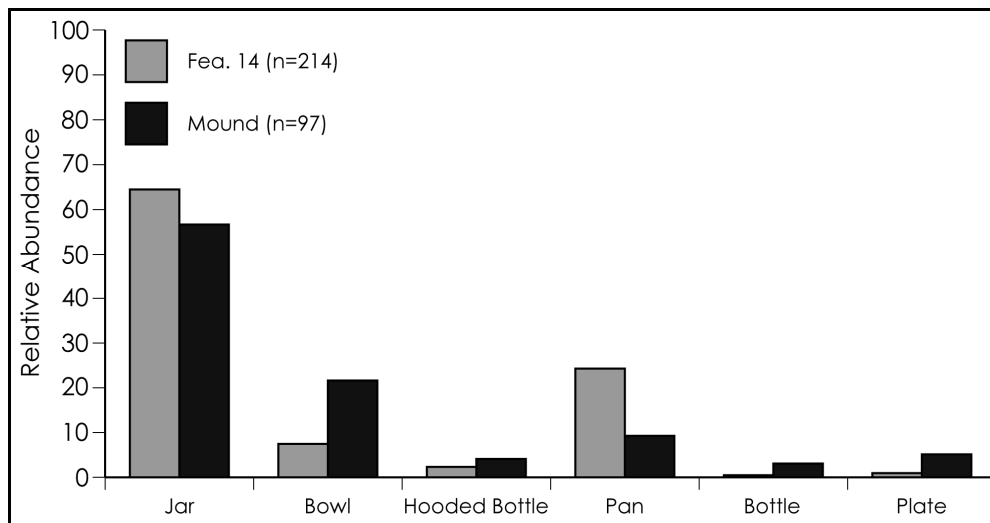


Figure 7. Bar Chart Comparison of Ceramic Vessel Diversity for Fill of Small Mound and Feature 14.

Table 3. Handle Ratios for Jars from Small Mound and Associated Pit Fea. 14

VESSEL NUMBER	HANDLE THICKNESS	HANDLE WIDTH	HANDLE RATIO	HANDLE TYPE	CONTEXT
53	1.02	2.83	0.36	Strap	Mound
71	1.4	1.7	0.82	Loop	Mound
72	1.2	1.4	0.86	Loop	Mound
73	0.6	1.2	0.50	Wide Intermediate	Mound
74	0.9	1.1	0.82	Loop	Mound
94	0.93	1.14	0.82	Loop	Mound
102	-	1.66	0.00	Unknown	Fea. 14
111	0.75	1.47	0.51	Wide Intermediate	Fea. 14
161	0.8	1.2	0.67	Narrow Intermediate	Fea. 14
291	1.46	1.63	0.90	Loop	Fea. 14
292	1.03	2.7	0.38	Strap	Fea. 14
232	0.84	1.1	0.76	Loop	Fea. 14

SUMMATION

This research clearly demonstrates the potential of old collections to answer new questions and augment our understanding of one significant site in the archaeological literature on the Southeast. The construction, rebuilding, and final destruction of the small mound, its associated trash pit, and other nearby features provided several insights into the occupation history of the Jonathan Creek Site. Webb (1952) suggested that wall-trench houses were associated with an early occupation and single-post structures were part of a later occupation – a proposition that is not supported by my reanalysis of the data. The origins of structural variability at the site are ambiguous, but it is clear that the diversity of structure forms cannot be accounted for by change over time. However, it is

also clear that the configuration of the community did shift over time. The district where the low mound is located was, at one time, residential, and at another time it was on the very margins of the town. Later, it was transformed into a sacred space through the burial of an individual, subsequent construction of a mound, and burial of nearly a dozen individuals in the mound. Several stages of rebuilding occurred, at least one in the wake of a major conflagration on top of the mound that destroyed the summit architecture. At least some of the activities that were conducted on top of the mound led to the disposal of trash down the southeast side of the monument. The ceramic debris within the trash pit resembles domestic assemblages elsewhere on the site, while the pottery in the mound fill has more fine wares (Bell paste), a higher diversity of vessel types, and more bowls and plates than were found in the trash pit. The differences between these two assemblages may indicate that at least some of the activities conducted on the mound did not end up being represented in the associated trash pit. A final fire appears to mark the end of the use-life of the mound, and also may have portended the imminent demise and abandonment of the community. Based on the characteristics of the ceramic assemblages from the mound fill and trash pit, and a radiocarbon date from one of the burned structures on the mound summit, the events surrounding the construction and subsequent use of the mound occurred during the Angelly Phase. Jonathan Creek and Tinsley Hill Phase occupations may be present in other areas of the site but, in light of the data presented here, it is difficult to sustain the argument that the site was abandoned during the Angelly phase.

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REFERENCES CITED

Blitz, John H.

- 1993 Big Pots for Big Shots: Feasting and Storage in a Mississippian Community. *American Antiquity* 58:80-96.

Butler, Brian M.

- 1991 Kincaid Revisited: The Mississippian Sequence in the Lower Ohio Valley. In *Cahokia and the Hinterlands: Middle Mississippian Cultures of the Midwest*, edited by Thomas E. Emerson and R. Barry Lewis, pp. 264-273. University of Illinois Press, Urbana.

Clay, R. Berle

- 1963 Ceramic Complexes of the Tennessee-Cumberland Region in Western Kentucky. Unpublished Master's thesis, University of Kentucky, Lexington.
- 1979 A Mississippian Sequence from Western Kentucky. *Tennessee Anthropologist* 4:111-128.
- 1997 The Mississippian Succession on the Lower Ohio. *Southeastern Archaeology* 16:16-32.

Cobb, Charles R., and Brian M. Butler

- 2002 The Vacant Quarter Revisited: Late Mississippian Abandonment of the Lower Ohio Valley. *American Antiquity* 67: 625-641.

Fundaburk, Emma L.

- 1958 *Southeastern Indians: Life Portraits, A Catalogue of Pictures, 1564-1860*. Luverne, Alabama.

Hally, David J.

- 1986 The Identification of Vessel Function: A Case Study from Northwest Georgia. *American Antiquity* 51:267-295.

Hammerstedt, Scott W.

- 2005 Mississippian Construction, Labor, and Social Organization in Western Kentucky. Unpublished Ph.D. dissertation, Department of Anthropology, Pennsylvania State University, University Park.

Hilgeman, Sherri L.

- 2000 *Pottery and Chronology at Angel*. University of Alabama Press, Tuscaloosa.

King, Adam

- 2003 *Etowah: The Political History of a Chiefdom Capital*. University of Alabama Press, Tuscaloosa.

Kluckhohn, Clyde

- 1936 Some Reflections on the Method and Theory of the Kulturekreislehre. *American Anthropologist* 38:157-196.

Lewis, R. Barry

- 1986 *Mississippian Towns of the Western Kentucky Border: The Adams, Wickliffe, and Sassafras Ridge Sites*. Kentucky Heritage Council, Frankfort.
- 1990 The Late Prehistory of the Ohio-Mississippi Rivers Confluence Region, Kentucky and Missouri. In *Towns and Temples along the Mississippi*, edited by David H. Dye and Cheryl A. Cox, pp. 38-58. University of Alabama, Tuscaloosa.
- 1991 The Early Mississippi Period in the Confluence Region and Its Northern Relationships. In *Cahokia and the Hinterlands: Middle Mississippian Cultures of the Midwest*, edited by Thomas E. Emerson and R. Barry Lewis, pp. 274-294. University of Illinois Press, Urbana.
- 1996 Mississippian Farmers. In *Kentucky Archaeology*, edited by R. Barry Lewis, pp. 127-159. University Press of Kentucky, Lexington.

Lewis, R. Barry and Charles Stout (editors)

- 1998 *Mississippian Towns and Sacred Places: Searching for an Architectural Grammar*. University of Alabama Press, Tuscaloosa.

Loughridge, Robert H.

- 1888 *Report on the Geological and Economic Features of the Jackson Purchase Region*. Kentucky Geological Survey, Lexington.

Milner, George R.

- 1998 *The Cahokia Chiefdom: The Archaeology of a Mississippian Society*. Smithsonian Institution Press, Washington, DC.

Moore, Clarence B.

- 1915 Aboriginal Sites on Tennessee River. *Journal of the Academy of Natural Sciences of Philadelphia*, 2nd Series, 16:170-304.

Muller, Jon

- 1986 *Archaeology of the Lower Ohio River Valley*. Academic Press, Orlando, Florida.

Orr, Kenneth

- 1951 Change at Kincaid: A Study of Cultural Dynamics. In *Kincaid: A Prehistoric Illinois Metropolis*, edited by Fay-Cooper Cole, Robert Bell, John Bennett, Joseph R. Caldwell, Norman Emerson, Richard MacNeish, Kenneth Orr and Roger Willis, pp. 283-359. University of Chicago Press, Chicago.

Phillips, Philip, James A. Ford and James B. Griffin

- 1951 *Archaeological Survey in the Lower Mississippi Alluvial Valley, 1940-1947*. Papers of the Peabody Museum of American Archaeology and Ethnology No. 25. Harvard University, Cambridge, MA.

Pollack, David

- 2004 *Caborn-Welborn: Constructing a New Society after the Angel Chiefdom Collapse*. University of Alabama Press, Tuscaloosa.

Pollack, David and Jimmy A. Railey

- 1987 *Chambers (15 MI 109): An Upland Village in Western Kentucky*. Kentucky Heritage Council, Frankfort.

Riordan, Robert V.

- 1975 *Ceramics and Chronology: Mississippian Settlement in the Black Bottom, Southern Illinois*. Unpublished Ph.D. dissertation, Southern Illinois University, Carbondale.

Rouse, Irving

- 1958 *The Inference of Migrations from Anthropological Evidence*. In *Migration in the New World Culture History*, edited by Raymond H. Thompson, pp. 63-68. University of Arizona Social Science Bulletin 27.

Schroeder, Sissel

- 1997 *Place, Productivity, and Politics: The Evolution of Cultural Complexity in the Cahokia Area*. Unpublished Ph.D. dissertation, Department of Anthropology, The Pennsylvania State University, University Park.

- 2005 *Reclaiming New Deal Era Civic Archaeology: Exploring the Legacy of William S. Webb and the Jonathan Creek Site*. *CRM: The Journal of Heritage Stewardship* 2:53-71.

- 2006 *Walls as Symbols of Political, Economic, and Military Might*. In *Leadership and Polity in a Mississippian Society*, edited by Brian M. Butler and Paul D. Welch, pp. 115-141. Center for Archaeological Investigations Occasional Paper No. 33. Southern Illinois University, Carbondale.

- 2007 *Viewing Jonathan Creek Through Ceramics and Radiocarbon Dates: Regional Prominence in the Thirteenth-Century*. In *Seventy-Five Years of TVA Archaeology*, edited by Todd M. Ahlman and Erin E. Pritchard. University of Tennessee Press, Knoxville, in press.

Smith, Gerald P.

- 1969 *Ceramic Handle Styles and Cultural Variation in the Northern Sector of the Mississippi Alluvial Valley*. Occasional Papers 3. Anthropological Research Center, Memphis, Tennessee.

- Smith, Marvin T. and Mark Williams
 1994 Mississippi Mound Refuse Disposal Patterns and Implications for Archaeological Research. *Southeastern Archaeology* 13:27-35.
- Steponaitis, Vincas P.
 1983 *Ceramics, Chronology, and Community Patterns: An Archaeological Study at Moundville*. Academic Press, New York.
- Stuiver, Minze, Paula J. Reimer, Eduard Bard, J. Warren Beck, G. S. Burr, Konrad A. Hughen, Bernd Kromer, F. Gerry McCormac, Johannes van de Plicht and Marco Spurk
 1998 INTCAL98 Radiocarbon Age Calibration 24,000 - 0 cal B.P. *Radiocarbon* 40:1041-1083.
- Trigger, Bruce G.
 1989 *A History of Archaeological Thought*. Cambridge University Press, Cambridge.
- Varner, John, and Jeannette (translators)
 1951 *The Florida of the Inca*. University of Texas Press, Austin.
- Webb, William S.
 1952 *The Jonathan Creek Village*. Reports in Anthropology No. 7(1). University of Kentucky, Lexington.
- Welch, Paul D.
 2006 *Archaeology at Shiloh Indian Mounds: 1899-1999*. University of Alabama Press, Tuscaloosa.
- Wesler, Kit W.
 1991 Ceramics, Chronology, and Horizon Markers at Wickliffe Mounds. *American Antiquity* 56:278-290.
 2001 *Excavations at Wickliffe Mounds*. University of Alabama Press, Tuscaloosa.
- Willey, Gordon R. and Jeremy Sabloff
 1993 *A History of American Archaeology*. W. H. Freeman, San Francisco, California.
- Wolforth, Lynne M.
 1987 Six House-Basin Structures: The Jonathan Creek Site and Its Depositional History. In *Current Archaeological Research in Kentucky: Volume One*, edited David Pollack, pp. 101-119. Kentucky Heritage Council, Frankfort.