

Fifty Years of Western Kentucky Prehistoric Ceramics

Kit W. Wesler

Abstract

Berle Clay's M.A. thesis on ceramics in the Tennessee-Cumberland region of Kentucky dates to 1963, but we can count fifty years from the completion of a manuscript on the Tinsley Hill site in 1961. The thesis established the foundation for a regional sequence for Western Kentucky. Since then a number of projects have added considerable data. However, several problems remain, such as the reconciliation of sub-regional schemes (e.g. Tennessee-Cumberland versus Mississippi River), insufficient data for characterizing Woodland period complexes, and the chronology of the transition from grog to shell temper. A suite of new thermoluminescence dates from ceramics at Wickliffe (15Ba4) offers a new perspective on the persistence of grog-tempered sherds into the Mississippi period.

In 1961, Berle Clay wrote a report on the 1960 excavations at the Tinsley Hill site. I do not know if I can say that it launched his career, but the 1961 date makes a convenient, even if wholly contrived, point at which to look back over five decades of analyses of western Kentucky ceramics. My use of "western Kentucky" here refers to the Jackson Purchase area of Kentucky, including Ballard, Calloway, Carlisle, Fulton, Graves, Hickman, Marshall and McCracken Counties.

Clay's (1963) thesis marks his attempt to compile a ceramic sequence for western Kentucky. In some ways, it has stood up well. Unfortunately, this is partly because we have so few data with which to revise it. We have considerably more information about Mississippi period ceramics, but not so much about Woodland ceramics. We face the same problem that he encountered in 1963, which is that we must refer to sequences developed in neighboring regions. This situation also means that investigators look in different directions for their reference sequences, depending on where their own backgrounds lie, and so we lack a consistent set of terms and types by which we can synthesize an indigenous regional sequence.

I can suggest a remedy for the later part of the sequence, but not for the early part, and I can only emphasize the need for systematic excavated data from midden and feature contexts within the region as the potential solution.

Clay (1963) placed a complex of ceramics from the Roach site in the earliest position. The complex was characterized by sand-tempered plain wares and by sherds with a pinched decoration below the rim, the type Alexander Pinched. The next complex was represented by a set of sherds from the Birmingham site, which he related to the Southern Illinois Baumer types, mixed sand and clay tempered with cord-marked and fabric-impressed surfaces. Third, Clay placed the Driskill #1 complex, dominated by the clay-tempered Baytown Plain and Mulberry Creek Cord-Marked types although with a couple of sand-tempered types included (Clay 1963:128-132). This is recognizably an Early, Middle, Late Woodland sequence, a relatively straightforward, largely temper-based progression (Table 1). If only it had stayed so simple.

Early-Middle Woodland ceramic complexes

Recent commentators agree that western Kentucky Early Woodland ceramics are variants of the mineral-tempered types that characterize most of the mid-South (Applegate 2008; Kreisa

and Stout 1991). Vessels tend to be fabric- or cord-marked. Analysts still most commonly call on the southern Illinois Baumer type to identify western Kentucky specimens.

Table 1. Clay's (1963) Woodland ceramic sequence.

Period	Complex	Temper	Characteristic types
Early Woodland	Roach #1	sand temper, plain and pinched	Alexander Pinched
Middle Woodland	Birmingham #1	sand and clay temper	Baumer Cord-Marked and Fabric Impressed
Late Woodland	Driskill #1	predominantly clay temper	Baytown Plain, Mulberry Creek Cord-marked

Baumer ceramics were defined by the University of Chicago's Black Bottom field work in the 1930s (Cole 1951). Baumer ceramics were described as "consistently coarse, crude..." but thin sherds representing "one ware and one primary shape of vessel," being deep jars with flat bases. Temper included clay, sand, grog, limestone grit, and gravel—this is a veritable temper tantrum. 75% of the sherds were fabric impressed, 20% plain, and 5% cordmarked (Cole 1951:189). Phillips, Ford and Griffin (1951:432) correlated Baumer with Tchula of the Lower Mississippi Valley, Adena from central and northern Kentucky, and "early fiber-, sand-, and limestone-tempered pottery horizons of the Tennessee River Valley."

This is where we run into trouble. Following the Tchula period, Phillips, Ford and Griffin (1951:81) wrote that "throughout the Tennessee valley from eastern Tennessee to Paducah, it is the early limestone plain types associated with early fabric- and cord-marked that correspond to the early Baytown," which is generally considered to be Late Woodland in western Kentucky. In similar vein, Muller (1986:31-32) wrote that the "latest Baumer and earliest Lewis [Late Woodland in southern Illinois] ceramics are for all practical purposes the same." That is, the Early Woodland gets entangled with early Late Woodland, and what the heck happened to a Middle Woodland?

In 1986, Butler and Jefferies suggested that Baumer ceramics should be subsumed into the Crab Orchard complex, centered in southern Illinois, reaching to the Cairo Lowland during the Middle Woodland and which "probably includes most of the Kentucky Purchase." Where Phillips, Ford and Griffin's (1951) Tennessee Valley ceramic region reached to

Paducah, Butler and Jefferies proposed that by A. D. 1 Crab Orchard can be distinguished from expressions to the south and east. They annexed Clay's Birmingham complex. They suggested that temper changed gradually, grit or grit-and-clay giving way to clay later, and also tracked change through gradual thinning of vessel walls and a late decline of fabric marking.

Recent researchers seem to agree that Baumer may be a regional variant of Crab Orchard, and that Crab Orchard extends into Middle Woodland. Phrases such as "not well differentiated" (Muller 1986) and "particularly difficult ... to define" (Kreisa and Stout 1991) recur in attempts to differentiate Early and Middle Woodland. It's a muddle.

Contextually and chronologically, perhaps the best Crab Orchard assemblage comes from the Rose Hotel site in Elizabethtown, Illinois. Wagner and Butler (1999) place the ceramic collection between 100 BC and AD 1, although some earlier ceramics may be involved. 99.8% of the total assemblage is limestone tempered. Roughly half of the sherds are cordmarked, slightly less than a third fabric-marked, the rest plain except for about 1% decorated. The investigators note that much of the fabric-impression is actually cord-wrapped dowel or paddle edge impressions. Of the decoration, 70% is pinched, with a single row below the rim—which sounds a lot like Alexander Pinched, except for the limestone temper. Earlier Crab Orchard sites have a higher proportion of fabric impression. Wagner and Butler allow that temper probably reflects local resources, which brings up the question of whether temper should be a defining factor in type assignment within temporal horizons.

It appears, then, that we should expect a Woodland sequence characterized by changing proportions of temper based on local resources and changing proportions among plain, cord-marked and fabric-impressed surfaces, with a little pinched decoration throughout the Early Woodland to about AD 100. By the Middle Woodland, cordmarking should dominate, and by the late Middle Woodland, grog temper should dominate.

So, what do we actually have in western Kentucky? Perhaps the best set and analysis of Early Woodland sherds come from a site in Marshall County (15M1134), recovered in a combined Phase II/Phase III project by Schenian and Mocas (1993). The sherds are cord-wrapped dowel impressed. Mocas did the ceramics study, and he identified a "Baumer phase Woodland component." He called it a regional variant of Crab Orchard, following Butler and Jefferies (1986), and referred to Clay's Birmingham complex. All of this is based on an assemblage of 20 sherds large enough to analyze. Most usefully, Schenian and Mocas obtained a radiocarbon date on a feature with Baumer ceramics. Mocas also provided a guide to the literature, allowing a compilation of

western Kentucky radiocarbon dates for similar ceramics (Table 2, Figure 1; calibration using CALIB 6.1, [Reimer et al. 2009; Stuiver and Reimer 1993]).

Of the sources cited for these dates, two are unpublished reports, one is a limited-circulation report, one is a paper presented at a conference, and only two are published, both in summary articles. The data are hard to find.

The dates as reported range from 2320 to 1875 BP with sigma ranges of up to 185 years. Calibrated, they range at 2σ between 758 BC and AD 546, which is pretty much the entire Early and Middle Woodland. However, the seven dates are statistically the same at the 95% confidence level, and average to a 2σ range of 358-90 BC.

Based on these dates, we may place Baumer-like ceramics at (very roundly) 500-1 BC. This implies that Clay's sand-tempered plain and pinched complex belongs to the earlier Early Woodland period. Unfortunately all of this applies to the lower Tennessee-Cumberland area, and we do not have comparable data for the central and western parts of the Purchase. But provisionally we can affirm the Clay (1963) sequence for the Early Woodland period.

Table 2. Early Woodland radiocarbon dates from Western Kentucky.

site	AD/BC	BP	\pm	cal @ 1σ	cal @ 2σ	reference
15M1134		2170	70	360-118 BC	384-53 BC	Schenian and Mocas 1993
15M168	90 BC	2040	180	356 BC - AD 331	418 BC - AD 406	Allen 1976
15M168	AD 75	1875	185	53 BC - AD 385	234 BC - AD 546	Allen 1976
15Ca50	150 BC	2100	130	354 BC - AD 22	403 BC - AD 142	Gatus and Yonk 1982
15Lv97	110 BC	2060	60	165-0 BC	205 BC - AD 69	O'Malley et al. 1983
15Lv98	360 BC	2310	90	511-168 BC	754-168 BC	Nance 1985
15Tr33	370 BC	2320	95	524-207 BC	758-173 BC	Mocas 1977
Average*		2153.93	34.60	351-117 BC	358-90 BC	CALIB 6.0.1

*samples are statistically the same at the 95% confidence level

T = 11.41247

$\chi^2(.05)=12.6$

degrees of freedom 6

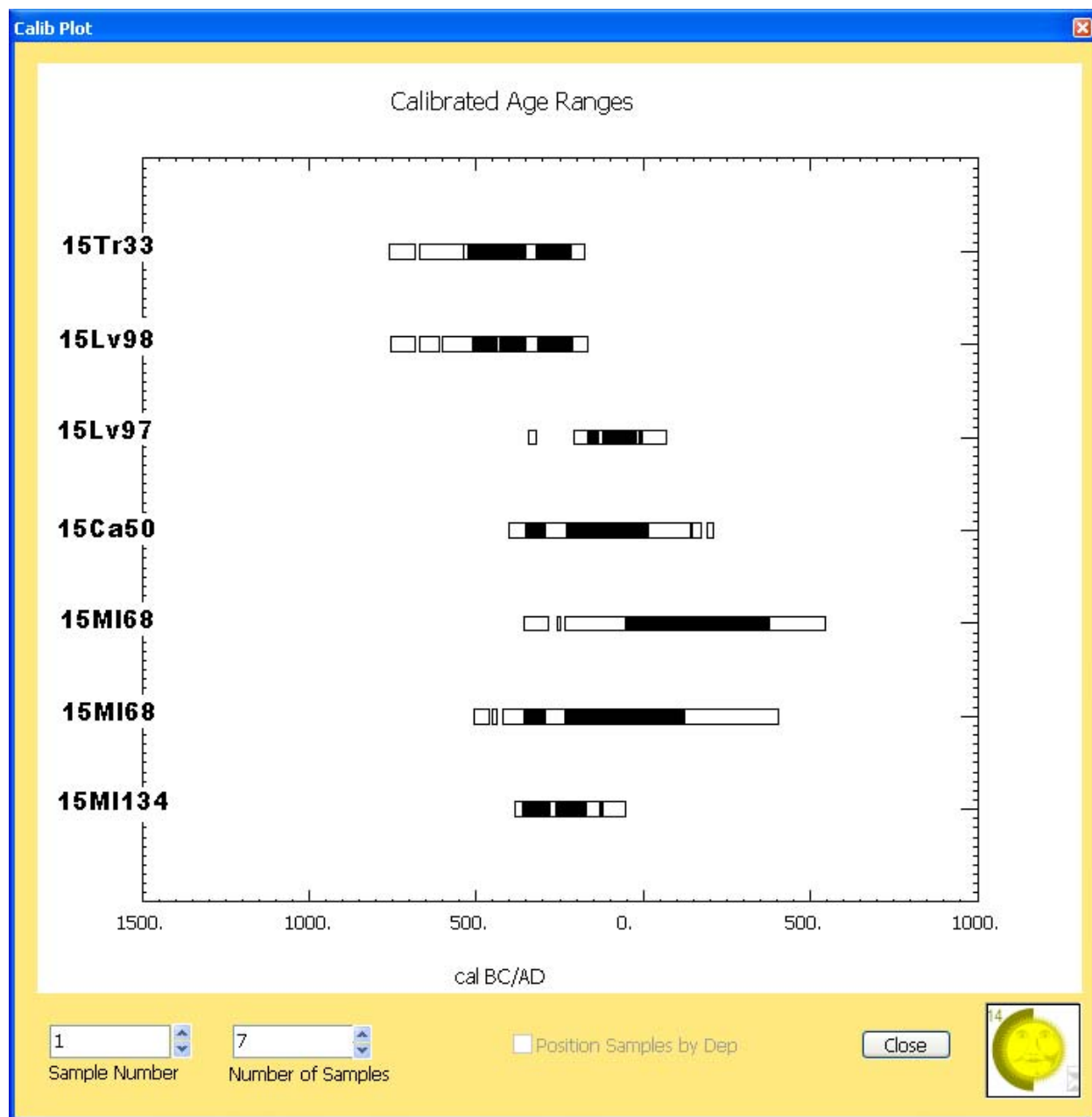


Figure 1. Early Woodland radiocarbon dates from Western Kentucky. Produced by CALIB 6.1, (Reimer et al. 2009; Stuiver and Reimer 1993).

What about the Middle Woodland? Sussenbach and Lewis (1987:93) described a small excavation at Indian Camp Lake (15Ce19), in Carlisle County. They reported Crab Orchard ceramics at the base of the plowzone, but grog-tempered ceramics mixed with Crab Orchard sherds below. The Crab Orchard ceramics had grog-and-grit and grog-

and-bone temper. So, we can suggest that the Middle Woodland here is much like the Southern Illinois variant, with grit trending toward grog. The investigators obtained a radiocarbon date, but it was too early to characterize a Woodland component.

But wait, there's more. Mainfort and Carstens (1987) mapped and surface-collected a

geometric mound in Fulton County (15Fu37), the southwestern corner of Kentucky. Mainfort, following his work at Pinson Mounds in Tennessee, brought to Western Kentucky a whole new set of types, notably Furrs Cordmarked, which is the “dominant Middle Woodland ceramic type throughout much of western Tennessee” (Mainfort 1986:35). Furrs Cordmarked is sand-tempered and commonly has a folded rim, and has a companion plain ware called Baldwin Plain.

At the Fulton County site, Mainfort and Carstens (1987) attributed 28% of the mound ceramics to the sand-tempered Furrs Cordmarked type. From the enclosure, a similar percentage had mixed sand and clay. Most of the

ceramics had minor to moderate grog and little sand. They could be referred to the types Baytown Plain and Mulberry Creek Cordmarked, though thinner-bodied than the later Late Woodland variants of those types.

What do we make of these assemblages? Is there something different going on in the south than in the north, across western Kentucky? Or only in the southwest corner? Or are we only seeing a different typology from a researcher with a different background? Unfortunately, we do not have enough data to address these questions, and a full characterization of Western Kentucky’s Middle Woodland ceramics awaits further research.

Late Woodland to Mississippian transition

Traditionally, grog-tempered types that can be placed nicely within the Baytown series—Baytown Plain, Mulberry Creek Cord-marked and Larto Red-Filmed—are taken to mark Late Woodland sites in the region. There are a number of sites represented in the Murray State University Archaeology Laboratory collections, mostly unpublished surface collections, that produce predominantly grog-tempered ceramics. Most researchers are comfortable assigning sites with nearly pure components of these types to the Late Woodland period. However, as noted above, Crab Orchard ceramics trend towards grog temper by the later Middle Woodland, so that sites with Baytown series ceramics should also be designated Middle-to-Late Woodland.

But the transition from Late Woodland to Mississippian poses problems. There are two issues that persist: one, whether we can distinguish an early or emergent Mississippian ceramic complex, and second, an apparent continuity of grog-tempered ceramics through the Mississippi period.

Sussenbach tested the Marshall site (15Ce27) in Carlisle County (Sussenbach and Lewis 1987), and found ceramics that appear to reflect the transition from grog to shell temper. I found a midden at the base of the Rowlandtown mound (15McN3), in McCracken County, with ceramics very similar to Sussenbach’s description of Marshall site sherds (Wesler

2006). The sherds are almost evenly divided between cordmarked and plain surfaces. The temper is mixed grog and shell, but more grog than shell. Because of the presence of some shell, the ceramics may be referred to the types Mississippi Plain and Crosno Cordmarked, but an analyst could make an equally strong argument that they are Baytown Plain and Mulberry Creek. They are more highly fired than the Baytown series sherds at Wickliffe, however, without the chalky feel of the Baytown ceramics from elsewhere in western Kentucky and described by the original typologists (Philips, Ford and Griffin 1951).

Allen’s (1976) work at Dedmon (15Ml168), in Marshall County, is also relevant. Baytown series ceramics were by far the majority, with a significant number of shell-tempered Mississippian types in only one of the trenches. He described ceramics much like those at Rowlandtown and at Marshall. Allen proposed new variety names. Sussenbach also proposed new variety names. I chose not to contribute to variety proliferation. A single analyst needs to describe the Marshall, Rowlandtown and Dedmon ceramics, to see if a coherent type description can establish an emergent Mississippian type complex. Other ceramics may help characterize the complex, for instance trace numbers of Yankeetown Filleted.

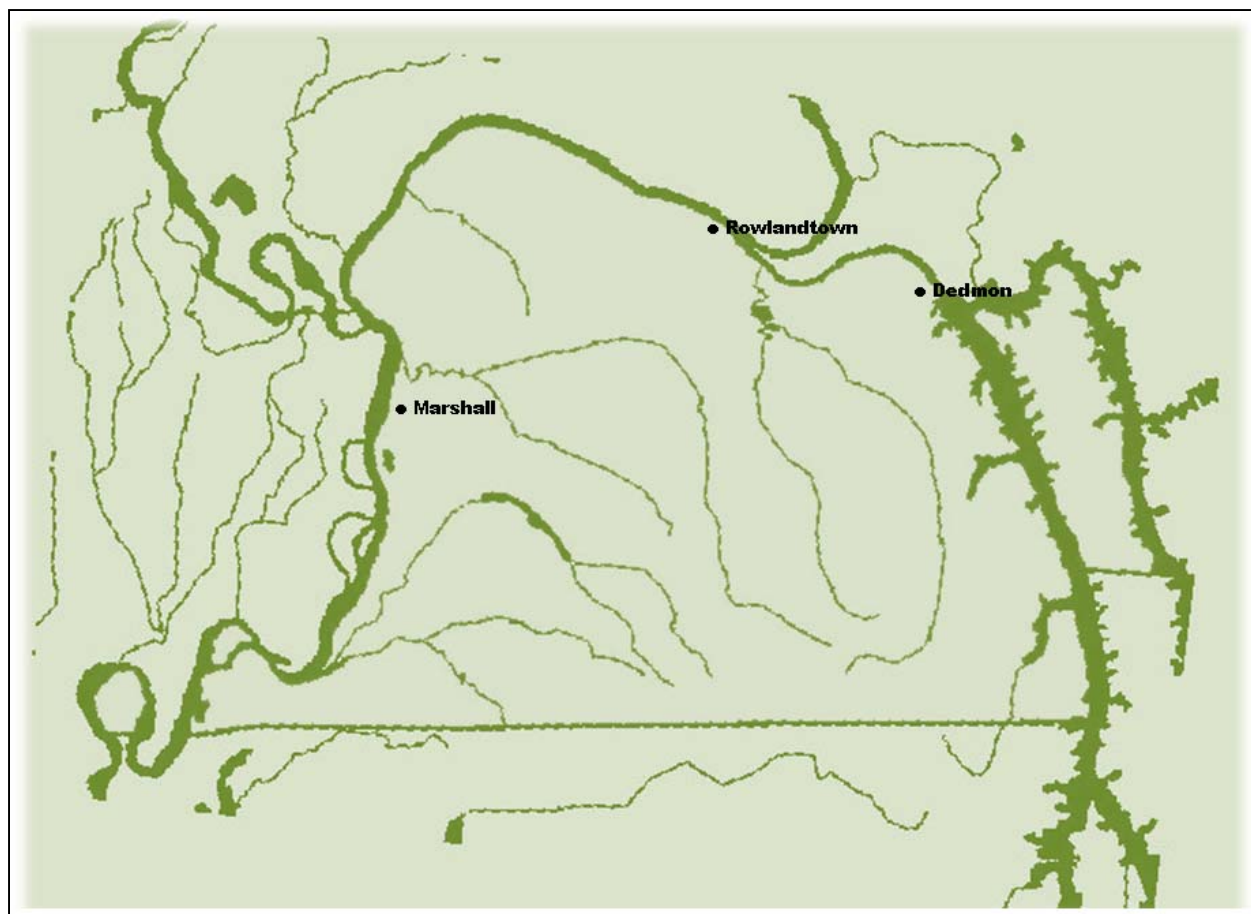


Figure 2. Sites with late Woodland-Mississippi period transitional ceramics.

Mississippian ceramic assemblages

For the Mississippian period, Clay's (1961, 1963) analysis of Tinsley Hill helped set the pattern. He originally suggested three sequential complexes with increasingly numerous shell-tempered types. Since then, excavations have proceeded at quite a few Mississippian sites along the Mississippi and Ohio Rivers, the Chambers site up the Clarks River, and sites in the Black Bottoms of Illinois. There are a couple of sites along the Tennessee-Cumberland Rivers and farther east to throw into the mix, as well (Figure 3).

The Mississippian projects have been reported in three chronological schemes, which at first glance seems an embarrassment of riches (Figure 4). The Lower Tennessee-Cumberland sequence follows Clay (1979), and incorporates the Black Bottom data. The Jonathan Creek and Tinsley Hill phases are drawn from Clay's (1963) original work, and the Angelly phase is interpolated based the Black Bottom sequence. Pollack and Railey's (1987) excavation at the Chambers site (15MI109) on the Clark's River adopted this scheme comfortably.

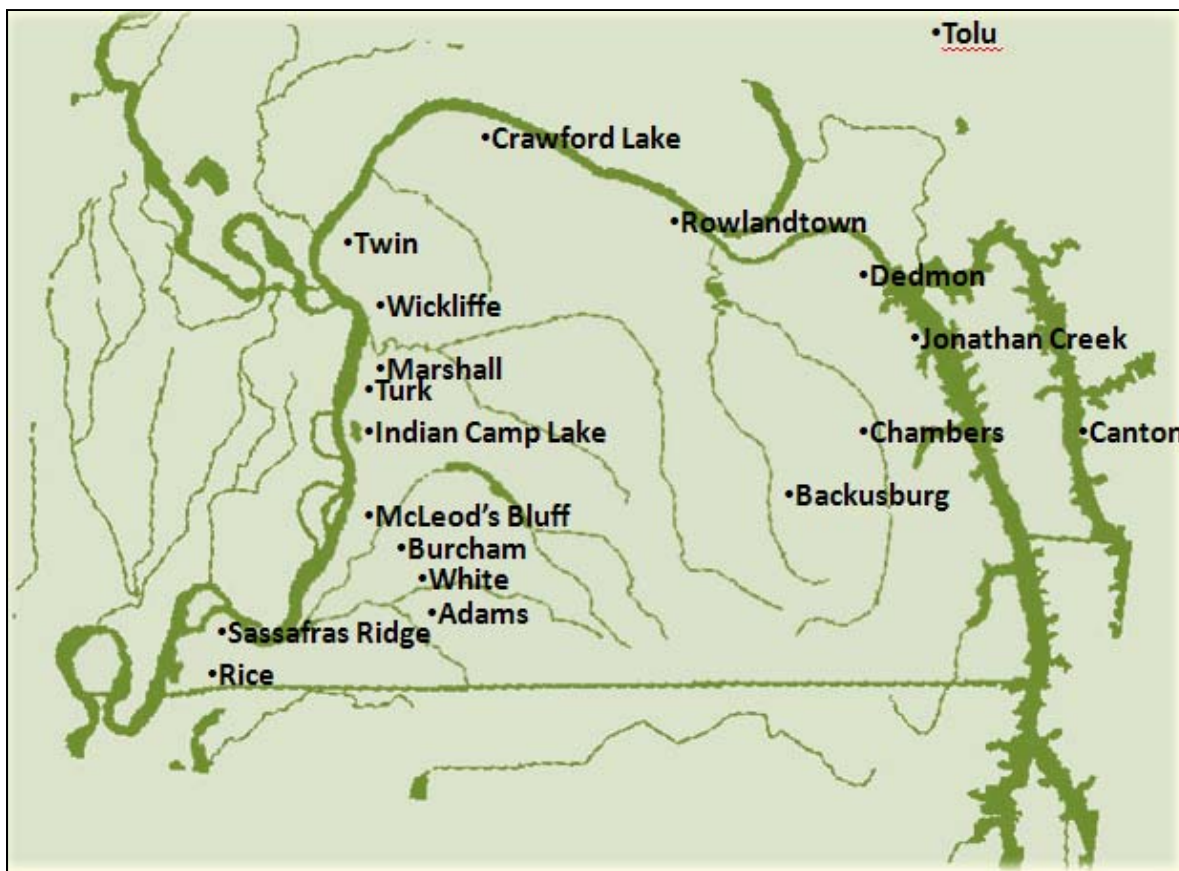


Figure 3. Excavated Mississippi period sites in western Kentucky.

	WICKLIFFE	LOWER TENN-CUMB. & KINCAID	ANGEL	WEST KENTUCKY PROJECT
AD 1600			Caborn-Welborn	Jackson
AD 1500				
AD 1400	??	Tinsley Hill	Angel 3	Medley
AD 1300	Late Wickliffe	Angelly	Angel 2	Dorena
AD 1200	Middle Wickliffe		-----	
AD 1100	Early Wickliffe	Jonathan Creek	Angel 1	
AD 1000-	??	Douglas?	? Yankeetown	James Bayou

← Late Woodland Cultures →

Notes:
 1. Wickliffe/Lower Tenn-Cumberland/Angel from Clay, Hilgeman and Wesler 1991.
 2. West Kentucky project sequence from Lewis 1990b.

Figure 4. Chronological schemes for the Lower Ohio Valley and Western Kentucky.

On the Mississippi River side of the Purchase, however, there were two independent developments. I developed a ceramic chronology at the Wickliffe site (15Ba4), which I named Early, Middle and Late Wickliffe because I consciously applied it only to that site—I did not define phases (Wesler 2001). Lewis (1986) adopted another scheme based on two hundred-year increments, which did not fit well with the Wickliffe ceramics sequence. The many projects conducted through the West Kentucky project, directed by Lewis, used this scheme.

The Lewis (1986) scheme was explicitly directed towards units that privileged chronology as the principle dimension. Following the Willey-Phillips (1958) system, units based first on chronology are periods, and units defined first on content—such as ceramics—are phases. Therefore in my view the James Bayou, Dorena, Medley, and Jackson entities are periods, and are not relevant to this discussion of ceramic complexes.

This leaves us the Wickliffe versus Lower Tennessee Cumberland distinction, which threatens to divide the Purchase down the middle. In 1991 Clay, Sherri Hilgeman and I compared the Lower Tennessee-Cumberland, Wickliffe, and Angel sequences, and found a number of common horizons (Figure 4). Early Wickliffe, Jonathan Creek and Angel 1 share a lot in common. Middle-Late Wickliffe, Angelly, and Angel 2 also have a great deal in common. Middle and Late Wickliffe are distinguished on the bases of changes in proportions of red-filming versus incising and the presence of flared bowls, as opposed to plates, in the Middle Wickliffe period. Hilgeman (personal communication 1991) thought there might be a similar flared bowl horizon at Angel, and Lewis had already pointed out that O'Byam Incised *variety* Adams, the flared bowl variety, seemed to precede the plates, *variety* O'Byam. I suggest that an earlier and later Angelly can be distinguished along the same lines. More important, I suggest that the Lower Tennessee-Cumberland model be applied across the Purchase, so that Early Wickliffe henceforth may be identified with the Jonathan Creek phase, and Middle and Late Wickliffe be

identified with the Angelly phase, with the provision that at early-late division of Angelly should be investigated. We do not need a ceramic boundary between the Tennessee and the Mississippi Rivers. At Wickliffe, we do not have much that can be connected to the Tinsley Hill phase, but that observation does not preclude Tinsley Hill occupations at other far western sites.

As a minor matter, there is a small set of shell-tempered, cord-marked sherds in most of the Mississippian sites in the region. Ceramic analysts looking in from the Mississippi Valley tend to call them Crosno Cord-Marked, while those looking from the Tennessee-Cumberland perspective call them McKee Island Cord-Marked. The name Crosno Cord-Marked apparently was coined by Stephen Williams (1954:98-100), but he did not provide an official type definition (cf. Wesler 2001:67). McKee Island Cord-Marked belongs to the Guntersville Basin of Northern Alabama and environs (Heimlich 1952; Webb and Wilder 1951). Since Crosno Cord-Marked belongs to the northern lower Mississippi Valley, and since most of the Mississippian type names used by western Kentucky archaeologists are drawn from the same set of types (Phillips, Ford and Griffin [1951] and Phillips [1970] being the authoritative compendia), perhaps the term Crosno Cord-Marked should be preferred.

There remains a problem that Barry Lewis noted at least 20 years ago: that all of the Mississippian sites have small but consistent assemblages of grog-tempered sherds throughout their sequences. This raises questions about the standard Late Woodland/grog and Mississippian/shell tempered dichotomy that is normally accepted—quite aside from the Marshall, Rowlandtown and Dedmon ceramics that seem transitional. Some sites, like Adams and Twin Mounds, have both Late Woodland and Mississippian components, so that having a few grog-tempered sherds kicked up into Mississippian deposits does not present a problem. At Wickliffe, though, numerous test units have yet to define a Late Woodland deposit (Wesler 2001). Was the Late Woodland occupation destroyed during the Mississippian period, and churned into the general

midden? Or is there something more interesting going on?

Lafferty's (et al. 2002) results from the Hillhouse site in Southeast Missouri raise a serious issue. The Late Woodland deposits, dated to before AD 1000, yielded grog-tempered ceramics. By the thirteenth-century, shell temper had increased only to about 10% of the ceramics. By traditional temper-based chronologies, the radiocarbon dates were too late. Vessel forms, site layout and lithic data, however, argue for a Mississippian context in agreement with the dates.

Lafferty pointed out that two previous projects had encountered a similar apparent discrepancy. At both the Pettit site in Southern Illinois (Webb 1992) and the Oliver site in western Tennessee (Mainfort and Lawrence 1994), deposits characterized mainly by grog-tempered ceramics produced dates that would be expected of Mississippian sites, that is, sites characterized by shell-tempered ceramics. In both cases the analysts and the archaeological community rejected the radiocarbon dates in favor of the prevailing temper-based model. (Pettit dates ranged widely, including two in the Middle Woodland period, four in the Late Woodland period, none in the AD 800-1000 span, and six in the Mississippi period). Recently, Welch (2010) found considerable overlap in thermoluminescence dates on grog- and shell-tempered sherds at Shiloh Mounds, Tennessee, suggesting "that grog-tempered pottery was made for two or three centuries after shell-tempering was already common at Shiloh" (2010:16).

Lafferty offered an interpretation that challenges the prevailing model: that the radiocarbon dates are correct. In this view, there is a regional co-tradition, in which grog-tempering persists in at least some non-mound villages. If this is the case, the grog-tempered sherds in Mississippian deposits at Wickliffe are contemporary with the Mississippian occupation and are evidence of contact between the Wickliffe villagers and some grog-temper-maintaining non-mound villagers in the region.

If the grog-tempered sherds are contemporary with the Mississippian occupation, then the assumptions about regional consistency in the rates of artifact change are

challenged. Either we must account for a few holdout potters in each village refusing to give up an earlier pottery tradition for hundreds of years, or we must accept previously-rejected radiocarbon dates from the Hillhouse, Pettit, Oliver and Dedmon sites. If these three sites are evidence for villages occupied by Mississippian-period grog-temperers, there is unsuspected ethnic diversity in the region. Sites previously dated to the Late Woodland period on the basis of grog-tempered sherds will have to be reassessed, potentially changing models of settlement pattern and culture change throughout the region. New models may have to be developed to account for ceramic technologies as ethnic or political markers. It is possible that Mississippian culture was to some extent imposed or intruded. In such a scenario, colonial administrators and settlers, or founding splinter groups, established the mound centers as enclaves of mound culture, while surrounding peoples absorbed the new influences only slowly. Shell temper could be something of an ethnic marker, or a badge of identity for those who embraced the mound culture, and the landscape of ceramic tempers would resemble a mosaic or a colonization model rather than an encompassing wave of diffusion (grog temper as an ideology of resistance?). Mississippianist archaeologists have yet to explore ideas of internal frontiers that our colleagues in regions such as West Africa are finding useful, but the co-tradition model suggested by the late persistence of grog temper at Hillhouse, Pettit, Oliver, and even in unambiguously Mississippian sites like Wickliffe, Adams, Turk, Twin etc. point to complexities and dynamics yet to be considered.

With these questions in mind, I recently submitted five sherds from the Wickliffe site to the University of Washington's Luminescence Dating Laboratory. Three sherds belonged to the type Baytown Plain, and two to Mississippi Plain. All five sherds were recovered in 1989 from midden from a single unit, 56-57N0-2W Levels 3 and 4 (Wesler 2001). Unfortunately no adjacent soil sample was saved at the time. In 2009, I removed backdirt from a nearby unit, and recovered a soil sample from the undisturbed midden for submission with the ceramics for background radiation measurement.

Table 3 presents the results. Two shell-tempered sherds were dated to AD 1070±60 and AD 1100±220, which are expected for this type. (Different measurements for the second sample, UW2285, produced somewhat varying dates, but all were within the Mississippi period; Feathers [2011:3] suggests that the oldest date may be the best estimate). Three grog-tempered sherds were dated to AD 350±90, AD 90±100, and AD 1090±60. The late date overlaps with the shell-tempered dates, but the other two are considerably earlier. Although there is some

ambiguity here, the late date may be explained by an earlier pottery fragment being re-fired during the Mississippian occupation. On the balance, the data suggest that the Wickliffe site experienced an earlier, Woodland period occupation as well as a Mississippian occupation, and that the traditional model of pottery chronology is not challenged. The earlier dates for Baytown sherds, in fact, fall into the Middle Woodland period as normally defined (see Middle Woodland discussion, above).

Table 3. Luminescence dates for five Wickliffe sherds (Feathers 2011).

Sample	Age (ka)	% error	Basis for age	Date (years AD)	Type
UW2283	0.94±0.06	6.0	TL/OSL/IRSL	1070± 60	Mississippi Plain
UW2284	1.66±0.09	5.2	TL/OSL/IRSL	350 ± 90	Baytown Plain
UW2285	0.91±0.22	23.9	IRSL	1100 ± 220	Mississippi Plain
	0.54±0.05	9.5	OSL	1470 ± 50	
	0.65±0.05	8.4	TL	1360 ± 50	
UW2286	0.92±0.06	6.6	TL/OSL	1090 ± 60	Baytown Plain
UW2287	1.92±0.10	5.0	TL/OSL	90 ± 100	Baytown Plain

Conclusion

This discussion may be concluded with a couple of summary points. One is that we still need to put a lot of thought into a consistent model of assemblage sequences for western Kentucky, one that articulates with surrounding sequences but that depends on data within the region, not on whether any given investigator has a background in western Tennessee or

southern Illinois, the Cairo Lowland or the Black Bottom. The other is that Berle Clay started us off pretty well fifty years ago, and we can best honor his legacy by continuing the work, thoroughly documenting new data, and analyzing them with a synthetic appreciation for the bigger picture.

Acknowledgments

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