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Prehistoric Ceramics from the Browning Site (41SM195A)

Mark Walters

Archaeological work at the Browning site (41SM195A) in eastern Smith County, Texas, has shown that it is a stratified site with two very distinct occupations: an early nineteenth century assemblage of artifacts in the upper zone overlying a buried prehistoric occupation (Walters 2004a, 2004b). This occupation appears to be confined to the Woodland time period (ca. 500 B.C. to A.D. 800) with little evidence of any earlier or later prehistoric activity. The Woodland period in East Texas is a time of important cultural changes, "the most obvious (and most important?) of which is pottery-making and the bow and arrow" (Story 1990:243-249).

The main focus of the prehistoric occupation at the Browning site occurs in an organically enriched darker soil zone that is the result of either a continuous human occupation or frequent revisiting of this location, what Waters (1996) has described as archaeo-sediments resulting from human activity. This darker soil occupies the center of the landform and covers approximately 500 m². It contains charred wood, charred nut shell, lithic debris from stone tool manufacture/maintenance, and small amounts of burned and unburned animal bone. Other artifacts in this distinct soil zone include small dart points, mostly varieties of Gary; arrow points, mostly of the Friley and Steiner types; ground stone tools; and ceramics, primarily plain grog-tempered wares.

Early work at the site included the excavation of 6.546 m³ of archaeological deposits from 10 1 x 1 m test units plus 22 shovel tests, resulting in the recovery of numerous historic and prehistoric artifacts, including eight Woodland period sherds (Walters 2004a, 2004b). To date, excavations at the Browning site have totaled 20.4 m³ of archaeological deposits from 41 1 x 1m test units. The total amount of sherds associated with the Woodland occupation now totals 40 pieces. Those sherds, which are described in some detail and compared with other known sites, are the focus of this article. These

sherds are scattered evenly across the occupation area in low densities.

STRATIGRAPHY

To shed some light on the sequence of events at the Browning site, specifically the introduction of new technology—such as the advent of the bow and arrow or the introduction of pottery—I compare the relative depth of pottery sherds, arrow points, and dart points in the archaeological deposits. To do this, I am assuming that the archaeological deposits on the landform are uniform in depth across the site, which they are not, resulting in some compression of the archaeological deposits in certain areas where the soils are thinner. However, 65% of the sherds are found from 20-40 cm bs, whereas 58% of the dart points are found at the same depths. By comparison, 57% of the arrow points also are found from 20-40 cm bs, with an additional 26% found from 40-50 cm bs. Thus, vertical stratification in the Browning site archaeological deposits indicates no significant differences in the depth of the dart points, arrow points, and ceramics, suggesting that these material remains are of the approximate same age in the Woodland period component; the number of arrow points found below 40 cm bs also suggests that at the time of the initial occupation of the site, the Woodland period group had already adopted arrow points.

ASSOCIATED STONE TOOLS

Friley and Steiner are the most commonly recognized types of arrow points of the 35 arrow points that have been collected at the Browning site to date. Other stone tools include flake tools, seven ferruginous sandstone ground stone tools, and 12 dart points, with small Gary points the most common type (Webb et al. 1969). Dr. Harry Shafer is

conducting a detailed analysis of the lithic artifacts from the site.

The 47 arrow and dart points occur at a density of 2.3 per m³. Recent excavations (11.35 m³) at Leaning Rock (41SM325), a nearby Caddo site that dates to the mid 14th century, yielded a total of 12 arrow and dart points or only 1.06 points per m³ of archaeological deposits (Shafer 2007). This difference suggests that through time in this part of East Texas, from the Woodland period through the Middle Caddo period, stone artifacts decrease as a percentage of the total artifacts in archaeological assemblages, probably because of an increased reliance by local populations on plant foods (especially maize) through time.

DATING OF THE BROWNING SITE

A sample of charred nutshell (C13/C12=-25.3) (6.9 grams) collected from near the bottom of the archeological deposits in Unit 1 (40-50 cm bs) was submitted for radiocarbon dating by Beta Analytic, Inc. The conventional age of the sample (Beta-170727) is 1310 ± 70 B.P. The calibrated intercept is AD 685, and at two sigma, there is a 95% probability that the calibrated age of the charred nutshell falls between AD 625 to 880.

Oxidizable Carbon Ratio (OCR) samples were also collected from Unit 1. The OCR samples were collected in a column starting at 11 cm bs and continuing at 10-15 cm intervals levels to 56 cm bs. The OCR dates from the midden zone (26-46 cm bs) indicate that the sediments comprising the midden began to form after about A.D. 145, with the dates of ca. A.D. 357-815 indicating when the Browning site was most intensively occupied in prehistoric times.

A second radiocarbon sample (a charred nutshell, 13C/12C=-24.0) was submitted in 2008 to Beta Analytic (Beta-244134) for AMS dating from Unit 33, 39 cm bs. The conventional age is 830 ± 40 B.P. The calibrated intercept is AD 1220. At two sigma, there is a 95% chance that the age falls between AD 1160 to 1270. Based on the artifacts collected from the Browning site and the other supporting radiocarbon and OCR dates, this date appears to be several hundred years too young. Experience has shown that multiple dates (ca. 10 or more) are needed to accurately date prehistoric occupations. Hopefully, more dates can be obtained down the road that will form a better picture of the

age span when the Browning site was occupied by prehistoric peoples. Toward that effort a plain rim sherd from Unit 38, 28 cm bs, has been submitted in October 2008 to the University of Washington for thermoluminescence (TL) dating.

PREHISTORIC CERAMICS FROM THE BROWNING SITE

From excavations to date, a total of 40 prehistoric sherds have been collected from the Browning site. This is a density of 0.98 sherds per m² and 1.96 sherds per m³. The 40 sherds, including two rims, have an average thickness of 6.5 mm, with a range from 4.2 mm to 11.3 mm; 11 sherds are less than 5 mm thick. No recognizable bases have been collected.

Surface treatment

The sherds are well-made and 85% have exterior/interior smoothed surfaces. Three (7.5%) of the sherds are smoothed only on the exterior surface, and one (2.5%) sherd is burnished on the exterior surface. Two (5%) sherds are eroded, prohibiting any positive identification regarding surface treatment.

Temper

Twenty-eight (70%) of the sherds are grog-tempered. Another 15% have grog/hematite temper. Four (10%) have a combination of grog and bone as tempering agents; none of these sherds have an abundance of bone. Two (5%) sherds have no discernible temper.

Sixteen (40%) of the sherds have a sandy paste evidenced by the visual appearance of varying amounts of quartz grains in the clay matrix, although there is not enough sand present to make the sherds feel "gritty." Some amounts of sand are to be expected in the clay paste of local ceramics, as most clay sources in the area are primary clays derived from the sandstone parent material underlying this portion of East Texas.

Firing

Twenty-six (65%) of the sherds have been fired and cooled in a reduced oxygen atmosphere. Thirteen (32.5%) were fired in a reducing atmosphere, and then allowed to cool in the open air. One sherd (2.5%) was completely oxidized during firing.

Hardness

Ten sherds collected at random from the Browning site collection have hardness values that range from 2.5 to just over 4.0 on the Moh scale, with a mode of 3.2. This compares to Williams Plain sherds, which tend to be soft and chalky, with a mode of 2.5. (Schambach 1998:24). Sherds from local Caddo sites average 3.3 in hardness (Walters 2008:46-48).

Decoration

With a plain to decorated sherd ratio of 5.67, six (15%) of the sherds at the Browning site are decorated. Three body sherds have single straight incised lines, while two sherds had two parallel straight incised lines; the distance between the incised lines ranges from 12.2-13.0 mm. The decorated rim, from Unit 37, 10-20 cm bs, has a single straight horizontal incised line on it that is 8.0 mm below the lip, 1.5 mm wide, but does not overhang.

Vessel Form

Unfortunately, the small number and size of the 40 sherds contribute little information on the types of vessels made and used at the Browning site. Nevertheless, all of the sherds indicate that the vessels were made using coil construction, and all but two sherds have evidence of smoothing on the exterior and/or interior surfaces, indicating that the sherds are from vessels that are open containers, namely jars and howls, as opposed to bottle forms, whose walls could be readily smoothed.

No identifiable bases were recovered so it could not be determined if the vessel bases were flat or rounded. One sherd from Unit 27 (30-40 cm bs) may be a portion of a base as part of the sherd has a slight curve and thickened from 7.0 mm to 8.61 mm.

One small rim (Unit 37, 10-20 cm bs) has a direct or vertical profile with a rounded but slightly exterior folded lip. No estimate of orifice diameter was possible, although the smoothing of both interior and exterior surfaces indicate it is from an open container. Sherd thickness tapered from 3.9 mm at the lip to 4.9 mm on the vessel body wall where the break occurred. This is typical of coil construction where the vessel is built from the bottom up, resulting in vessel walls that become thinner with height.

The second rim (Unit 38, 28 cm bs) is from what appears to be a plain carinated bowl. The break occurs

just below the carination point but enough remains of the rim to indicate a sharp 30-40° angle from the rim and the remainder of the body of the vessel. The rim is direct and tapers from 3.9 mm thick at the lip to 6.0 mm at the carination point on the vessel wall. The orifice diameter of the carinated bowl is 18.0 cm. This sherd has been submitted for TL dating.

Instrumental Neutron Activation Analysis (INAA)

Two sherds from the Browning site were submitted for INAA (Walters 2004a, 2004b). Both sherds were assigned at the time to the Titus chemical group (Descantes et al. 2003:Table 5; Perttula 2002:92-94), suggesting that the sherds were from vessels made from local clays.

COMPARISON WITH OTHER WOODLAND SITES

The Broadway site (41SM273) is located in central Smith County, Texas, some 10 miles west of the Browning site. A late Woodland period occupation (dating after ca. A.D. 500/600) was identified from the work there (Perttula and Nelson 2004:155-161), as were later Caddo components. In this report, Perttula defines a Mill Creek Culture, in the Sabine River basin of East Texas, that is contemporaneous with the Fourche Maline and Mossy Grove cultures to the south and north (Figure 1). At the Broadway site, the few ceramics associated with the Woodland occupation were primarily grog-tempered, but with significant amounts of bone and hematite. The sherds at Broadway averaged about 7 mm in thickness, not much different from the average thickness of 6.5 mm from the Browning site. Approximately 13% of the sherds were decorated with simple incised elements and tool and fingernail punctations compared to 15% of the sherds at the Browning site that have incised decorations. Stone tools associated with the Woodland occupation at Broadway include small dart points, mostly of the Gary type, and Steiner/Friley arrow points.

The Herman Bellew site (41RK222) is located some 20 miles southeast of the Browning site. Extensive excavations there defined a Woodland occupation that dated between 200 B.C. and A.D. 800. Ceramics at the Herman Bellew site were sparse, averaging 1.3 sherds per m² compared to 0.98 sherds per m² at the Browning site. Most of

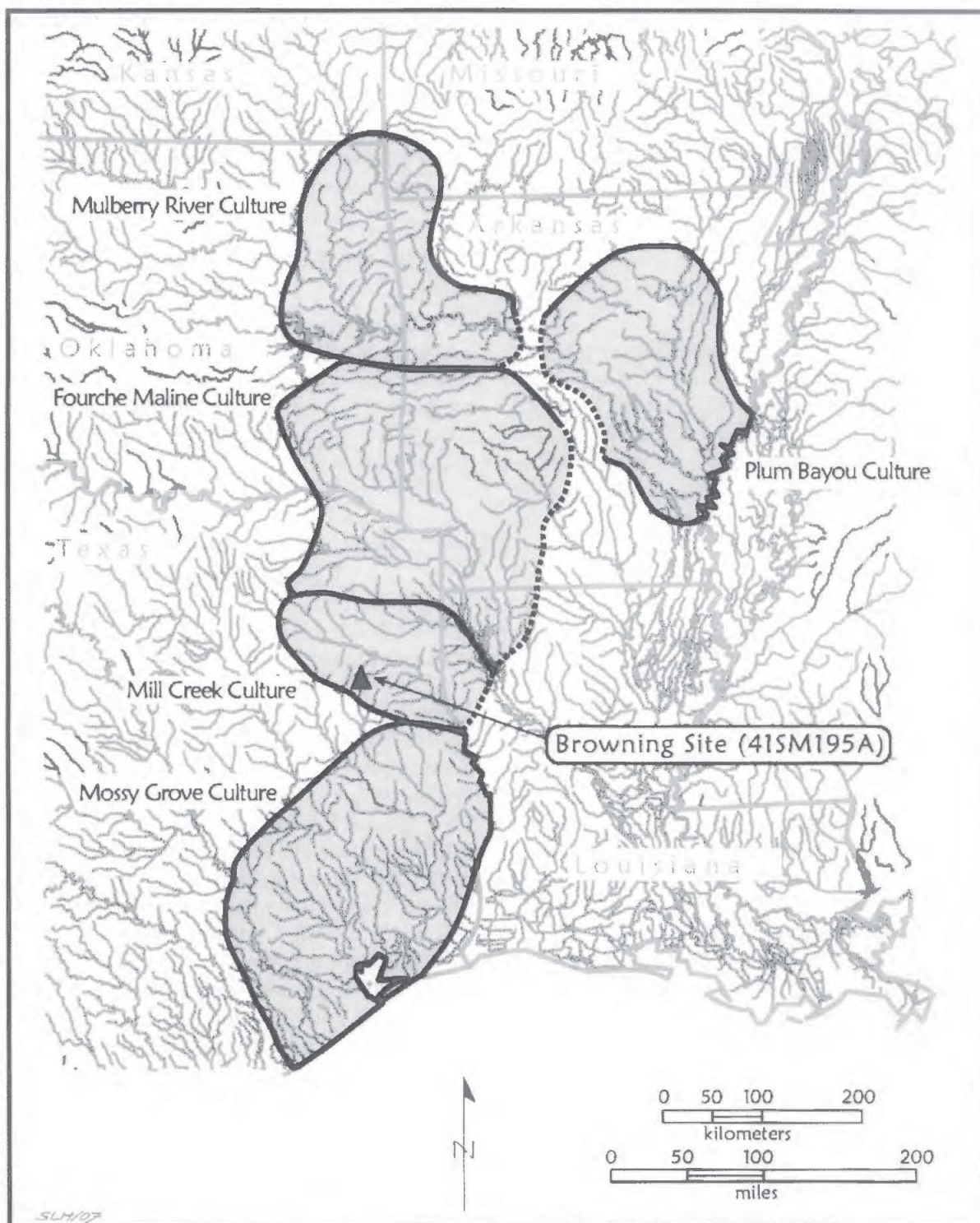


Figure 1. Map of Woodland cultures in the Caddo area, including the Mill Creek Culture, and the location of the Browning site in East Texas.

the sherds at the Herman Bellew site were plain, and with a mix of sandy paste wares, bone-tempered wares, and thinner grog-tempered wares, those being identified with the post-A.D. 400 occupation (Rogers et al. 2001). Decorations on the sherds were primarily simple punctated and incised elements. Associated stone tools included several varieties of Gary points with a few Kent and Ellis dart points, and after A.D. 600/700 there were Friley arrow points.

The Dogwood Trail No. 1 site (16BO574), some 75 miles east of the Browning site, is situated near the edge of the floodplain of a small, unnamed tributary of the Red River in northern Bossier Parish, Louisiana (Girard 2005). The site consists of a scatter of prehistoric pottery and stone artifacts from a single prehistoric component. One radiocarbon date yielded an age of 1484 ± 41 B.P. (UGA00880, wood charcoal, $\delta = -24.8$), with a calibrated age at two sigma of AD 531 to 650, indicating occupation early in the Late Woodland period.

Of the 1205 recovered sherds, only seven (0.6%), were decorated. The rarity of decorations on the pottery distinguishes the collection from later Caddo occupations in Northwest Louisiana and East Texas.

Five of the decorated sherds are body sherds with incised lines that most likely are horizontal. One specimen appears to have either linear punctations beneath a horizontal line or incised lines in two directions. Another specimen has at least one horizontal incised line 7.5 mm below the lip. The sherd appears to be from a bowl and there are two lip lines on the flat vessel lip. Although the surfaces are not polished and the lines do not overhang, the sherd resembles either the *Campbellsville* or *Macedonia* varieties of the type Coles Creek Incised (Phillips 1970:71,75; Girard 2005). Two parallel curvilinear incised lines are present on one small sherd, and the decorative element cannot be ascertained. The final decorated specimen has a series of short curved incised lines or punctations just below the lip.

The mean thickness of the sherds from the Dogwood Trail No. 1 site is high (7.593 mm) relative to most later Caddo sites in the area, but within the lower range reported for the type Williams Plain (cf. Schambach 1998:Tables 4 and 10). Most of the sherds are between 6 and 9 mm thick, with a mode of 7 mm. Sherd thickness is comparable to that from the early occupation at the Festervan site (16BO327) in the Red River floodplain where a mean sherd thickness of 7.32 mm was measured on a collection of 632 sherds. A radiocarbon date from this context

calibrates at 2 sigma to the AD 657-894 interval (Girard 1994). In contrast, Early to Middle Caddo period sites generally have collections with mean sherd thickness less than 7 mm.

The sherds have grog and sand inclusions and 51 (4.2%) also have crushed bone. Three small sherds may be from vessels with relatively sharp-angled shoulders.

All of the six arrow points recovered from the Dogwood Trail No. 1 site are broken or crudely chipped. One probable Catahoula point (Webb 2000:15) has deep corner notches, barbed shoulders, and an expanding stem. Similar arrow point forms have been found in other Late Woodland period contexts at the Fredericks and Onion Island sites (Girard 1994, 2000).

DISCUSSION

The material culture from the Woodland period component at the Browning site is characterized by a large number of stone tools, mostly small Gary dart points and numerous well-made Friley and Steiner arrow points, and only a small amount of mostly plain grog-tempered sherds. Based on only a few absolute dates, the presence of arrow points in apparent association with contracting dart points, and a limited amount of ceramics, it is difficult to accurately understand the place of the Browning site in a Woodland period culture or to determine when or how long it was occupied.

The Browning site falls within the geographic area of the Mill Creek Culture (Pertulla and Nelson 2004). With the small number of sherds, and their general character, the sherds from the Browning site also has cultural traits that have been identified on other Mill Creek Culture components in East Texas. What is very evident is the meager amount of ceramics at the Browning site when compared to later Caddo sites in the area that are distinguished by their sheer volume of sherds. At the Browning site, the sherd density is only 1.96 sherds per m^3 . By comparison, in excavations at the Leaning Rock (41SM325) Caddo site, the sherd density is 280.4 sherds per m^3 (Walters 2008). It is uncertain why there are so few sherds represented at Mill Creek Culture sites compared to that seen on Fourche Maline (Schambach 1998) or Mossy Grove sites (Story 1990), but evidently ceramics played a minor role in the lives of the people that lived at the Browning and other Mill Creek sites.

It is noteworthy that the ceramics at the Browning site closely resemble later Caddo ceramics in thickness, surface treatment, firing, and hardness, and to some extent with respect to vessel decoration, and they would be very hard to separate from the ceramic sherds on any nearby Caddo assemblage. However, with a small amount of sherds, it might be difficult to also distinguish between the Browning site grog-tempered ware and Williams Plain, the principal pottery type in Fourche Maline culture sites, although Williams Plain is defined as having a coarse texture, a relatively soft paste, and are generally thicker (average body sherd thickness=8.0 mm), with heavy disk-shaped or square bases (Schambach 1998:24-26).

Evidence from the Browning site and the Dogwood Trail No. 1 site suggests that the carinated bowl form, usually defined as a Caddo ceramic trait, may have an earlier history than previously thought since possible carinated bowl sherds are present at both these Woodland period components. Carinated bowl sherds have also been identified in a Mossy Grove Culture component in Nacogdoches County in East Texas (Timothy K. Perttula, October 2008 personal communication).

It will be interesting to follow future work at East Texas Woodland sites and see if and/or how the diverse Woodland cultures that have been defined in the area—Fourche Maline, Mossy Grove, and Mill Creek—evolved into what we have defined archaeologically as Caddo culture.

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