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Caddo Archeology Journal

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From the Editor

With approval from the Editorial Board, the current volume of the *Caddo Archeology Journal* has been reformatted in order to be more in-line with other regional and national journals. As current editor, I am excited about the new format and feel that these changes will be beneficial to the long-term success and professionalism of the journal and hope that readers will enjoy the new layout.

In addition to the layout changes, a new section on Current Research has been added. Contributions to this section were compiled by Timothy K. Perttula and represent some of the current projects of Caddo researchers. This is a welcomed addition and I hope to see additional short reports of current research by scholars throughout the Caddo Area in future volumes.

I am grateful to reviewers who allocated time and effort to review the articles in the current volume and I look forward to submissions for the next volume.

Duncan P. McKinnon, Editor

The *Caddo Archeology Journal* is devoted to the anthropology, history, geography, and current activities of the Caddo Nation, an American Indian group with a historical range covering the four-state area of Texas, Louisiana, Arkansas, and Oklahoma. The *Caddo Archeology Journal* began as the *Caddoan Archeology Newsletter* in 1989 and in 1996 the name changed to simply *Caddoan Archeology*. In 2003 the name of the journal was changed to *Caddoan Archeology Journal*, and in 2006 the name was changed again to *Caddo Archeology Journal*.

Timothy K. Perttula was founder and editor from 1989 until 1993 when Lois Albert became editor. Perttula resumed his editorial role in 2002 until George A. Avery became editor in 2010. Duncan P. McKinnon is the current editor beginning in 2016. Stephen F. Austin State University is currently publishing the journal. The *Caddo Archeology Journal* is published once a year in the Spring.

Members of the Caddo Conference Organization receive a copy of the journal and access to digital copies on the Caddo Conference Organization website (http://www.caddoconference.org/). Print backorders can be ordered by contacting the journal editor or at the Caddo Conference Organization meeting.
The *Caddo Archaeology Journal* publishes:

- Articles directly related to the interpretation and evaluation of Caddo archeology and history that provide relevant consideration of an issue or theoretical position.

- Preliminary, review, and updated regional summaries of anthropological and historical work conducted within the Caddo region or has linkages to Caddo studies.

- Technical and methodological reports that are comprehensible to most readers and provide new insights into evaluating Caddo archeology.

- Book reviews related to Caddo publications on history, geography, ethnography, anthropology, and current activities of Caddo Nation.

Information for Authors

Articles should not exceed 10,000 words in length, including references. Reports should not exceed 5,000 words including references.

Please submit the following to dmckinnon@uca.edu
- a PDF file of the complete submission (following American Antiquity style)
- OR a Word file containing the complete paper (i.e., including abstract, tables and figures)
- OR a Word file containing the text, references, table and figure captions, plus an individual file of each figure (600 dpi) and/or table. Excel file of tables is preferred.

After submission, papers will be sent out to a minimum of two reviewers. Reviewer comments are requested within 30 days.

Erratum

How the Ji'Kmaqn Came to Spiro: Possible Additions to the Inventory of Sound-Making Instruments Depicted in the Spiro Shell Engravings, by James A. Rees, Jr. (Volume 26, 2016) was missing several references in the references cited. Editor Duncan P. McKinnon sincerely apologizes for this oversight. The missing references are listed here.

Lankford, George E.

2007a Some Cosmological Motifs in the Southeastern Ceremonial Complex. In *Ancient Objects and Sacred Realms: Interpretations of Mississippian Iconography*, edited by F. Kent. Reilly, III, and James F. Garber, pp. 8-38. University of Texas Press, Austin.

2007b The Path of Souls: Some Death Imagery in the Southeastern Ceremonial Complex. In *Ancient Objects and Sacred Realms: Interpretations of Mississippian Iconography*, edited by F. K. Reilly, III, and J. F. Garber, pp. 8-38. University of Texas Press, Austin.

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2010 The Musicians of Spiro: An Inventory of Sound Making Instruments Depicted in the Spiro Shell Engravings. *The Arkansas Archeologist* 50:25-49

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The Prairie Caddo Model and the J.B. White Site

Ross C. Fields
Prewitt and Associates, Inc.

This article summarizes an hypothesis—called the Prairie Caddo model—presented in a research module published in 2006 to help explain some obvious connections in material culture between Caddo sites in east Texas and sites in central Texas. Harry J. Shafer prepared this module, entitled People of the Prairie: A Possible Connection to the Davis Site Caddo*, as an outgrowth in part of excavations that Prewitt and Associates, Inc., performed at the J. B. White site in 2002 for the Texas Department of Transportation. Following the summary of the hypothesis is a synopsis of the results of the excavations at J. B. White and an assessment of the utility of that model for interpreting those results. The excavation data are not consistent with the idea that the people who lived on the Blackland Prairie at the east edge of central Texas between A.D. 1000 and 1300 were Caddo groups who served as a supporting population for the ceremonial center at the George C. Davis site, as the Prairie Caddo model would suggest. Rather, they appear to have been local hunter-gatherers who interacted regularly with the east Texas Caddo. This interaction included providing the Caddo with arrow points and knives, which apparently were highly prized by elites who lived, died, and were buried at the Davis site.*

Introduction

In 2006, the Archeological Studies Program (at that time, led by Nancy A. Kenmotsu and G. Lain Ellis) of the Texas Department of Transportation's (TxDOT) Environmental Affairs Division published a monograph authored by Harry J. Shafer entitled *People of the Prairie: A Possible Connection to the Davis Site Caddo* (Shafer 2006; available at http://counciloftexasarcheologists.org/wordpress/wp-content/uploads/PrairieCaddoModule.pdf).The publication, which was intended to help guide future archeological research in the eastern part of central Texas, laid out Shafer's hypothesis that Caddo groups occupied portions of central Texas, i.e., the Edwards Plateau margin and prairies beyond to the east, between about A.D. 1000 and 1300. At its core, this research module sought to provide an explanation for similarities in material culture that Shafer saw between some Late Prehistoric sites in central Texas and Caddo sites in east Texas, particularly the civic-ceremonial center at the George C. Davis site in Cherokee County.

This monograph was the culmination of many years of observation, thought, and analysis Shafer had given to the subject, starting with visits to central Texas sites in his youth in the 1950s, followed by abundant hands-on experience with materials from the region through association with the Texas Archeological Research Laboratory and his 1973 Ph.D. dissertation on the lithics from the George C. Davis site, followed by maturation of an interpretive perspective gained from research outside Texas (Mesoamerica and the U.S. Southwest). He presented an early version of this hypothesis in a paper delivered at the 2003 meetings of the Texas Archeological Society. Fortuitously, Prewitt and Associates, Inc., had undertaken data recovery excavations at a site (J. B. White, 41MM341) that was relevant both geographically and temporally to Shafer's model in 2002, and analysis of the information from that site, which was ongoing through 2006, was able to benefit from Shafer's ideas. This is what spurred TxDOT to provide funding and support (through Prewitt and Associates) to Shafer so that he could fully articulate his ideas in print

Although there was communication between Shafer and Prewitt and Associates staff about his research module and our interpretations of the J. B. White site between 2003 and 2006, the two efforts were not truly integrated. Shafer concluded that J. B. White fit the expectations of his model, but we reached a different conclusion. We presented that conclusion in the technical report on the excavations (Gadus et al. 2006:177–182) and in an abbreviated fashion in an exhibit on the Texas Beyond History website (http://www.texasbeyondhistory.net/jbwhite/index.html). I reiterate the argument here to provide an outlet for discussion of this topic beyond the gray literature generated by cultural resources management projects.

The Prairie Caddo Model

As Shafer (2006:1) notes, "The idea that the Late Prehistoric peoples who occupied the area of the Middle Brazos and its tributaries— especially the Leon and Bosque Rivers and their tributaries— might be Caddo came from my realization that there was an assemblage in the Late Prehistoric period in central Texas that did not fit the currently applied Toyah and Austin systematics... Furthermore, there appeared to be ties in

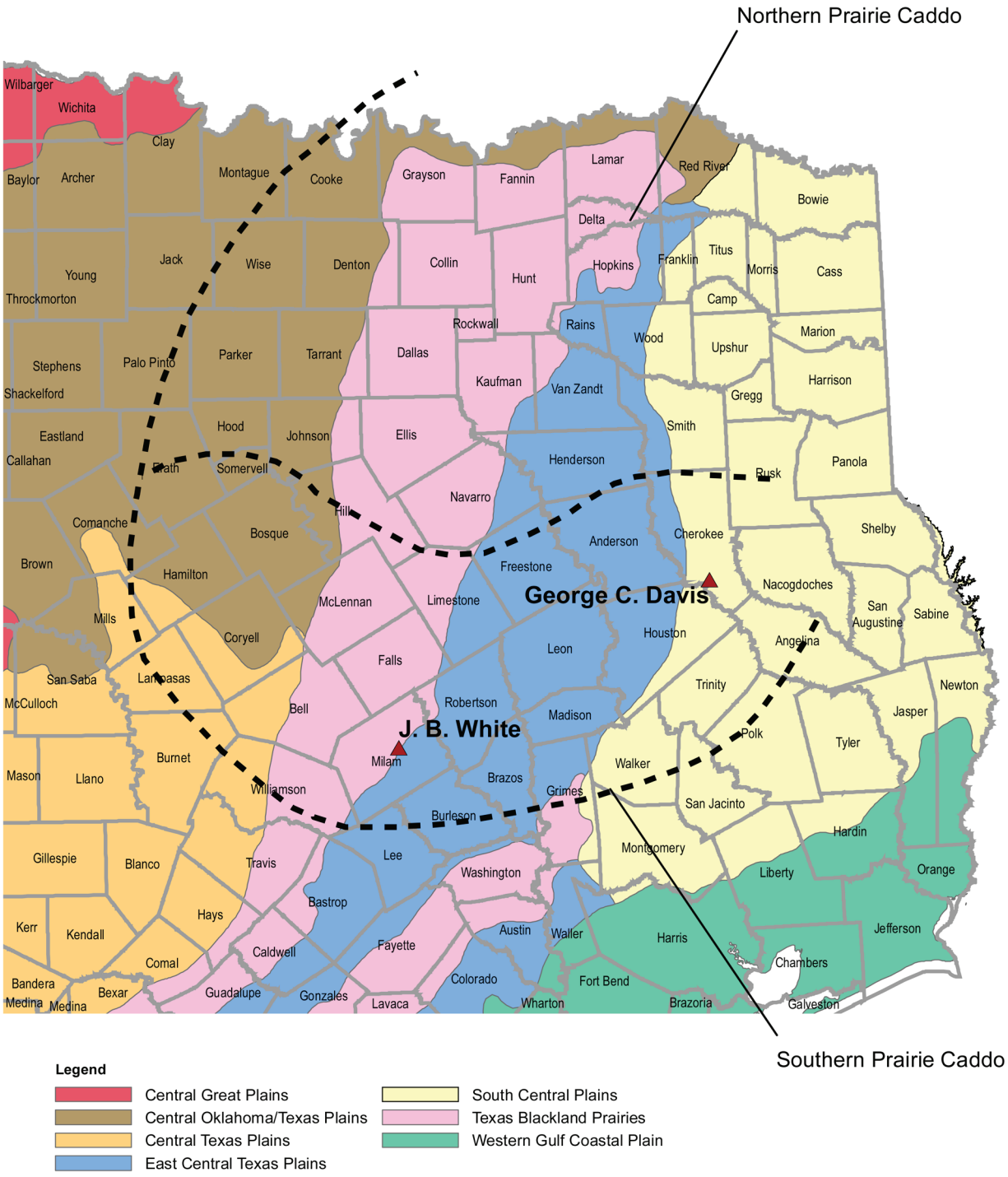

Figure 1. Map showing the geographic extent of the area encompassed by the Prairie Caddo model and the locations of the George C. Davis and J. B. White sites. Map adapted from Level III Ecoregions from Omernik, J. M., Ecoregions of the conterminouse United States, 2003. Available through the Texas Parks and Wildlife GIS Lab: http://www.tpwd.state.tx.us/landwater/land/maps/gis/data_downloads/

this central Texas assemblage with the George C. Davis site, especially with regards to the ceramics, arrow point styles, and Gahagan bifaces.[1] These similarities suggested to me that a possible connection between the two was perhaps more than merely the result of trade and exchange." A third impetus for this idea was the view of "the George C. Davis site as a regional ceremonial center

[1] Dee Ann Story (1990:364) had made these observations as well.

that served as a magnet to attract, and perhaps to maintain some jurisdiction over, outlier villagers that sustained the ceremonial center" and the long-held perception that the immediate area of the site lacked archeological evidence of the substantial population required to maintain such a center (Shafer 2006:2, 32). Shafer (2006:32–33) knew, of course, that geophysical surveys starting in the early 2000s had found a surprisingly large number of buildings at the site, raising the possibility of a much larger resident population than was suspected up to that point, but he did not concur with this interpretation, instead believing that these were buildings used for short periods of time based on the absence of middens.

In short, the Prairie Caddo model proposes the following: (1) part of the population that supported and contributed to ceremonial activities between A.D. 1000 and 1300 at the George C. Davis site lived on the Blackland Prairie and eastern Edwards Plateau, extending Caddo territory as much as 300 km west of the site; (2) these western Caddo peoples were largely hunter-gatherers who may have augmented their subsistence pursuits with agriculture at some times and in some places; (3) these groups provided prairie resources, including Gahagan bifaces and Bonham-Alba arrow points made of central Texas cherts, to the elites who lived at the ceremonial center; (4) these western groups provided a "defensive buffer to the vulnerable frontier position of the Davis site"; (5) permanent Caddo occupation occurred in "portions of the central Brazos valley with intermittent and interdigitated Caddo presence in the peripheries to the west and south", leading to the latter being "contested territories" between Caddo and non-Caddo groups; (6) western Caddo peoples regularly traveled to the George C. Davis site to participate in feasting associated with ceremonies, with "such events provid[ing] stimulus and mechanisms for style display and material exchange" and "stimulat[ing] production and patterning in certain kinds of material culture [that] was centered at the George C. Davis site"; (7) the settlement pattern created by the western Caddo groups consisted mostly of small campsites where artifact assemblages might not look very Caddoan, but also larger villages with ceramic-rich assemblages; and (8) Prairie Caddo peoples obtained mostly utilitarian pottery vessels when they visited the Davis site for ceremonies and carried them back westward, where they used them, chiefly in their larger villages, for domestic purposes" (Shafer 2006:1, 3, 7, 9, 10, 26, 32–34, 40, 41).

The Prairie Caddo model was considered to apply to a great swath of the eastern part of Texas, extending from the Red River down to roughly Austin and College Station. As indicated above, however, the argument focused strongly on the south part of the region, i.e., Cherokee County where the George C. Davis site is and points westward. This was termed the "Southern Prairie Caddo" area (see Figure 1).

The analysis presented to support the model took an approach based on identification of technological styles represented in four kinds of material culture: early Caddo pottery, deer metapodial beamers, Bonham-Alba arrow points, and Gahagan knives (Figure 2). Shafer (2006:10–24) examined the distributions of these kinds of artifacts (and a fifth, bone needles, which likely were associated technologically with beamers) to demonstrate connections between east Texas Caddo sites and sites in central Texas, and he followed this with suggestions for how to test hypotheses arising from the model and an extended discussion of why the George C. Davis site in particular is relevant to the model.

The J. B. White Site

The J. B. White site (41MM341) is at the eastern edge of the Blackland Prairie in central Milam County, Texas, just southeast of the town of Cameron and about 100 km northeast of Austin (see Figure 1). It occupied a low rise in the modern floodplain of the Little River and contained partially stratified, multicomponent prehistoric materials encased in the upper 90 cm of a late Holocene alluvial soil buried beneath 40–50 cm of nearly sterile alluvium (Figure 3).

The excavations focused on broad exposure in three blocks, a large main one and two smaller ones to the east and south, of the remains of a series of Late Prehistoric occupations in the upper 50 cm of the buried soil. Archeological remains were present below this (at 50–90 cm in the buried soil) but were not targeted because they were so sparse. The excavations, which consisted of 4 backhoe trenches and 217 m^2 of manual excavations, found 50 interpretable cultural features consisting of surface hearths, pit hearths, processing pits, mussel and snail shell lenses, burned rock concentrations, and possible postholes. The Main and East Blocks both contained diverse feature assemblages, unlike the South Block which had almost exclusively baking pits (Figure 4). Not recorded as features in the field but treated as such during data analysis because they indicate spatially restricted loci of particular activities were 10 concentrations of lithic reduction debris in the Main Block representing discrete episodes (or sets of episodes) of stone tool production (Figure 5). The collection of artifacts and other cultural materials was large, consisting of 303 shaped chipped stone tools; 494 expedient stone tools; 168 cores; 39,872 pieces of unmodified debitage; 30 stone tools modified by grinding or battering; 30 bone tools or modified bones; 4 ceramic sherds; 6,540 pieces of vertebrate faunal remains; more than 58.2 kg of invertebrate faunal remains; 1.6 kg of macrobotanical

Figure 2. Examples of the four main kinds of material culture used in formulating the Prairie Caddo model and maps showing their distributions.

Figure 3. View to the southeast of the J. B. White site during excavation. The tall highway bridge that crosses it emphasizes the floodplain setting.

remains; 163.0 kg of burned and unburned rocks; and 30.0 kg of burned clay.

The cultural deposits in all three blocks occurred as patchy lenses of artifacts and ecofacts associated with intact features. Because the lenses were not widely separated within the alluvium and because the excavations were done in arbitrary 10-cm levels, it was not possible to segregate them into a neat series of sequential occupations. But it was possible to separate the 40-cm-thick primary deposit into two analytical units, an earlier one (Analysis Unit 2) dating to A.D. 800/900–1100 and a later one (Analysis Unit 1) dating to A.D. 1100–1300. Below these units were sparser cultural materials relating to an occupation in the A.D. 600s and maybe 700s (Analysis Unit 3)[2]. The excavation data were analyzed and interpreted on two levels. One used the three analytical units noted above to look at components broadly defined— that is the ca. 200-year-long spans of time that could be identified most consistently and most reliably across the Main Block and between it and the East and South Blocks. These analysis units were useful for characterizing the occupations in terms of the ranges of features and tool types used (and hence activities) and the subsistence resources utilized and for looking at how these did or did not change through time. On a finer level, interpretation of the spatial distributions of some of the remains revealed that some remnant patterning relating to the arrangement of activities was preserved, providing insights into site structure and function.

It was observed during excavation of the Main Block and in analysis that the lithic reduction debris piles often co-occurred with materials such as burned rocks, mussel shells, and animal bones, and that surface hearths were positioned adjacent to these material concentrations. The co-occurrence of food refuse, tools, tool manufacturing debris, and hearths in semidiscrete concentrations lends itself to an explanation akin to the workshop-habitation site formation model of Stevenson (1985). This distributional pattern was clearest in Level 8, assigned to Analysis Unit 2, which contained five surface hearths: Features 8, 25, 30, 35, and 40 (Figure 6). Features 8 and 25 were 4 m apart in the southeastern part of the block, and Features 30, 35, and 40 were 3–4 m apart in the northwestern part. The two groups of hearths were 7–8 m from one another. Features 8, 35, and 40 were within or on the edges of concentrations of various materials, while Features 25 and 30 were not. The fact that Features 25 and 30 were off by themselves suggests they had different use histories than the other hearths or were used for different purposes.

This configuration and the distances between hearths and between the groups hints at some consistency in the placement of cooking and heating facilities that would seem unlikely if the materials in Level 8 represented many occupations over a long span of time. Rather, this layout is what would be expected if the features were created during a single occupation, or perhaps multiple occupations that were separated by short intervals, such that the remains of the last occupation were still visible.

The concentrations of materials near Features 8, 35, and 40 were similar in some ways, but the differences between them suggest they were not fully equivalent to one another. For example, large concentrations of mussel shells pointing to processing of mussels were present only around Feature 8, where they were recorded as features. A small concentration of shells was present 2 m southeast of Feature 35, but it was not large or obvious enough to get a feature designation. Mussel shells were not abundant near Feature 40. Instead, *Rabdotus* shells were especially common there, with one large concentration south of the hearth recorded as a feature. Analysis of the shells indicated that the snails almost certainly were procured for food. Much smaller snail concentrations were 1.5 m southeast of Feature 8 and 3.5 m southeast of Feature 35. Concentrations of animal bones, also representing discarded food debris, covered extensive areas south and southeast of all three hearths. Within these were spirally fractured bones suggesting marrow extraction.

One thing that the Feature 35 area had that the others did not was overlapping concentrations of burned clay, burned rocks, and burned rock shatter ca. 2.5 m southeast of the hearth. Since burned rock shatter was almost nonexistent in the hearths, these burned materials probably do not represent hearth cleaning. Instead, they may represent a small heating or cooking feature that was not distinctive enough to be recognized and recorded as a feature during excavation. The Feature 35 area also had extensive, partly overlapping concentrations of burned rocks and burned clay east and south of the hearth that could represent materials removed from Feature 35 or

[2] The chronology of the analytical units was determined based on 36 radiocarbon dates.

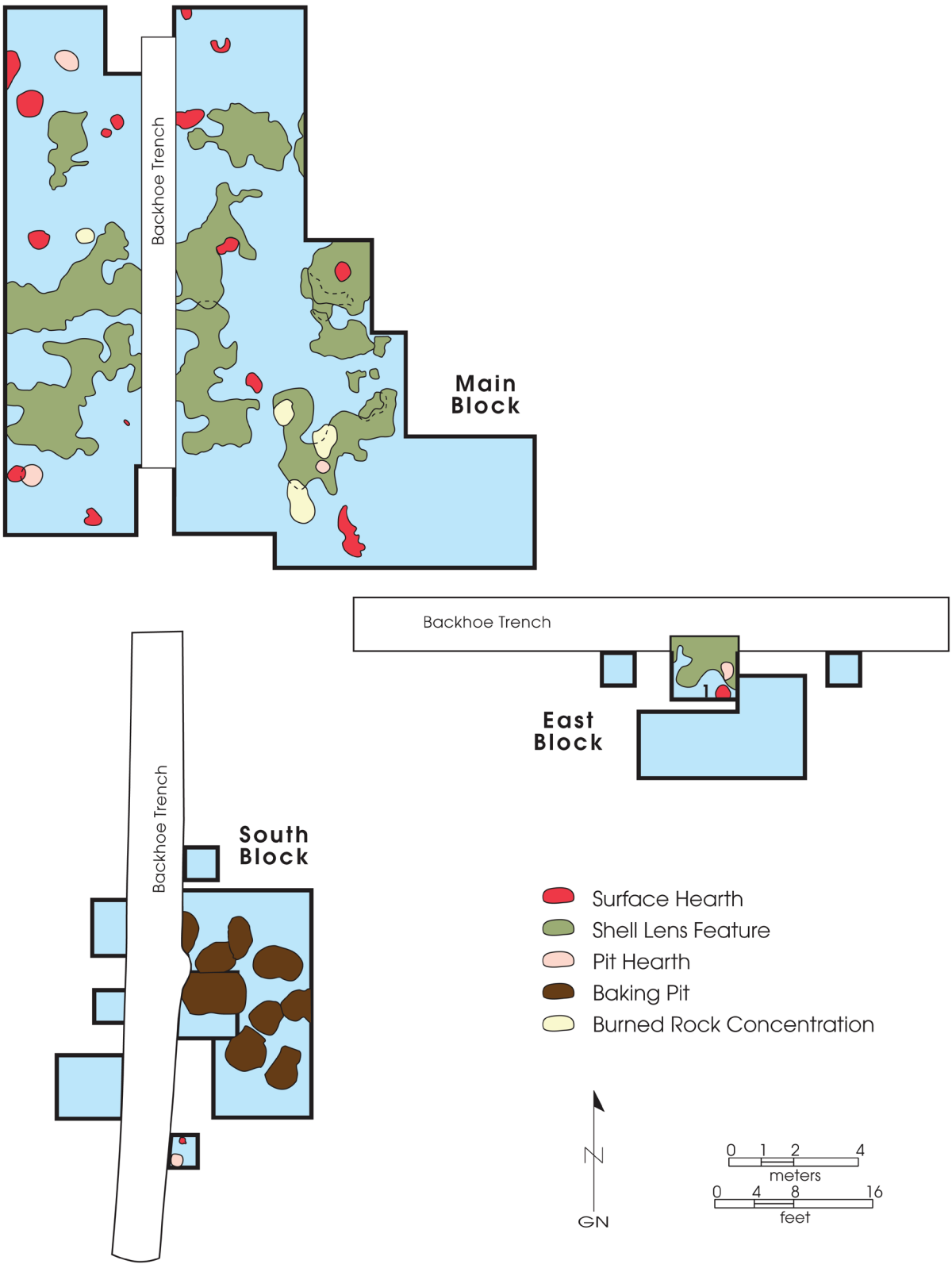

Figure 4. Plan of the excavations at the J. B. White site showing cultural features.

Figure 5. Two examples of materials from lithic reduction debris piles at the J. B. White site. The upper one (from Pile 5) shows an arrow point broken during manufacture (lower left) and matching debris. The lower one (from Pile 1) shows two views of an almost completely reconstructed cobble (missing only one interior flake) and a broken arrow point (middle) found nearby that likely was made from that flake.

perhaps reflect activities centered beyond the block to the west. Non-overlapping areas of concentrated burned rocks and burned clay occurred around the other two hearths and also could indicate cleaning out of cooking features.

All three hearths were near concentrations of lithic reduction debris. Pile 7 was spread out mostly on the south side of Feature 8, with its core about 2 m southeast of the hearth. The core of Pile 6 was ca. 1.5 m south-southeast of Feature 35; this pile was part of an extensive concentration of debitage that stretched southeast of the hearth and ran west to the edge of the block and probably beyond. Pile 10 was south and east of Feature 40. As with the other two areas, its core was ca. 2 m from the hearth, in this case south-southwest of it. Based on the analyzed debitage from Piles 6 and 7, both formal tool production and flake production for use as expedient tools generated the piles, and it is surmised that this is the case with Pile 10 as well.

Not reflected on Figure 6 is the fact that the overwhelming majority of the formal chipped stone, ground or battered stone, and bone tools (67 percent in Level 8) and expedient stone tools (79 percent) were within the main parts of the debris scatters (i.e., the areas where multiple classes of debris tend to be especially abundant). This indicates that most activities associated with tools occurred in close proximity to the areas marked by the hearths and surrounding debris scatters. The higher percentages for expedient tools probably is a function of the selection of flakes from the lithic reduction debris piles for immediate use followed by discard on the spot.

These distributions of food remains, tools, and debris from lithic tool production around hearths indicate that both workshop and living-related activities were performed in the same areas. The remains in Level 8 may not be from a single occupation, but the concentrations can be interpreted as representing a series of occupations with similarly structured activities that likely occurred within a restricted time frame. The configuration of these workshop-habitation areas arcing around a space ca. 4–5 m in diameter where artifact densities were uniformly low could even suggest that they were placed relative to a shade tree or other fixed feature, or perhaps just to leave open space between them, although this interpretation obviously would require that all the hearth areas relate to a single occupation. The central, empty area could even have contained a structure, although there is no positive indication of this, and the scarceness of all classes of cultural materials there argues otherwise. Structures almost certainly were built at the site, but the available evidence does not tell us where they were or what they looked like.

The limited excavations in the East Block indicated that the cultural deposits there were much like those in the Main Block. This was not the case for the South Block, however. The South Block was placed over a concentration of processing pit features, which were distinct from the features elsewhere on the site in terms of their larger size and greater intensity of burning. The highly fragmentary nature of the burned rocks, along with the fact that the processing pits intersected one another, suggest that this area was used repeatedly for the same purpose, apparently processing of both animal and plant foodstuffs. Based on their level of origin and the radiocarbon dates, these processing pits appeared to be associated with Analysis Unit 1. They represent a distinct kind of activity area that contrasts with those sampled by the Main Block, and the addition of these activities during the later occupations may relate to increased intensity of use during that time. Test units (not shown on Figure 4) and trenches revealed that the area between the blocks was relatively devoid of cultural materials in the levels relating to these occupations, and hence the activities associated with these processing pits were isolated from the activities that produced the workshop-habitation areas in the Main Block by about 10 m of empty space.

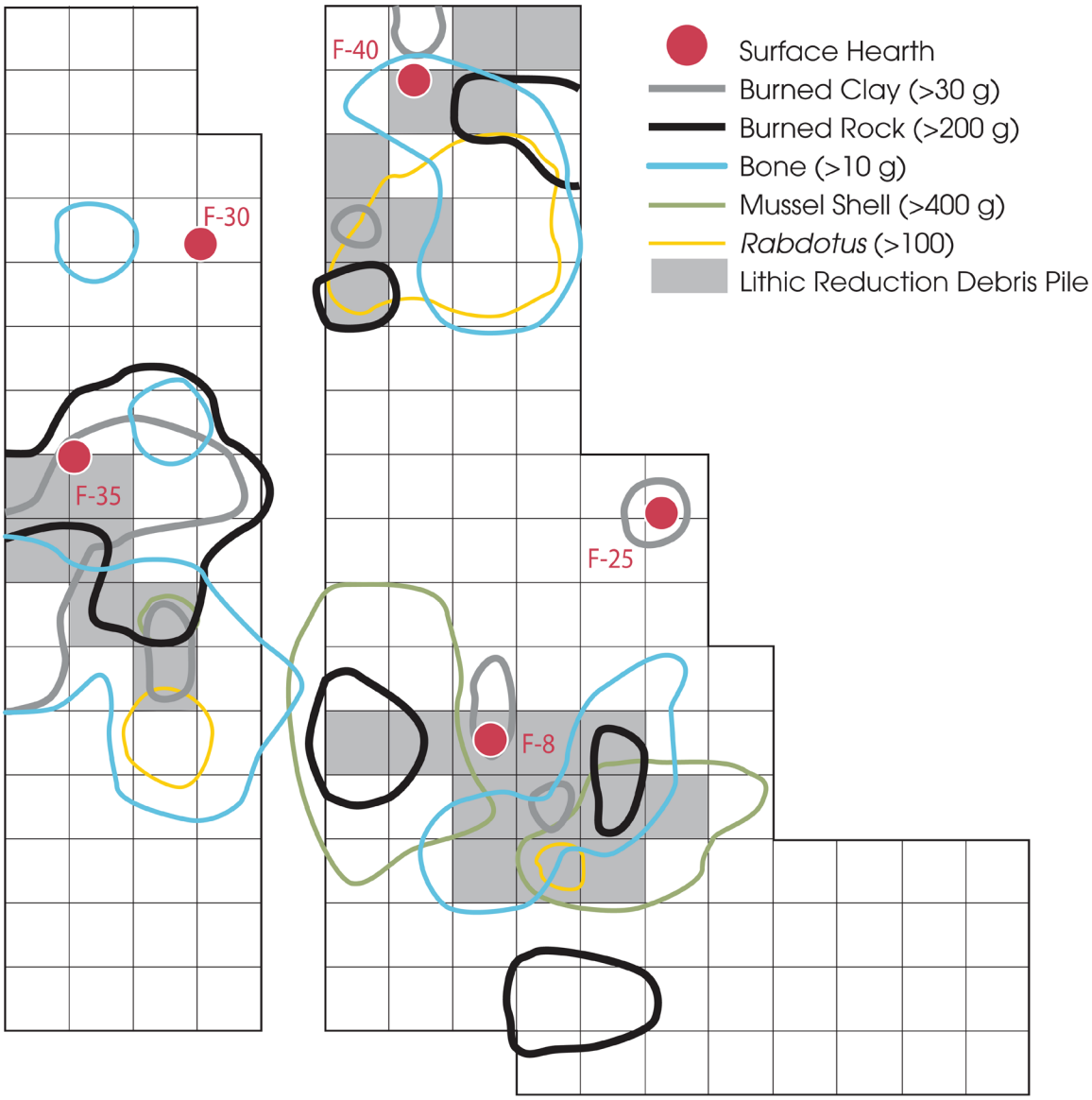

Figure 6. Plan of Level 8 in the Main Block at the J. B. White site showing hearth locations and material distributions.

Among the many kinds of artifacts recovered, four groups in particular are relevant to the Prairie Caddo model: ceramics, bone needles, arrow points, and Gahagan bifaces. Only 4 small ceramic vessel sherds were found. None can be identified with certainty as Caddo ceramics, and in fact one sandy paste specimen is surely not from a Caddo vessel. Further, their associations are unclear. They could go with the sparse cultural materials in the uppermost deposits of the site that were stripped off before the block excavations began (13 sherds found in these upper deposits during testing in 2000 by archeologists with the University of Texas at San Antonio were thought to relate to a Toyah phase occupation), or they could go with the occupations represented by Analysis Units 1 and 2. Even if the latter is true, though, it is clear that ceramic vessels played virtually no role in activities performed at the site.

The excavations did not yield any metapodial beamers, but among the 30 bone tools and worked bone fragments were 6 fragments representing 3 bone needles (Figure 7), as well as debris indicating onsite manufacture of needles. Shafer (2006:15) notes that "bone needles are an added material element for a technological system incorporating metapodial beaming tools that might

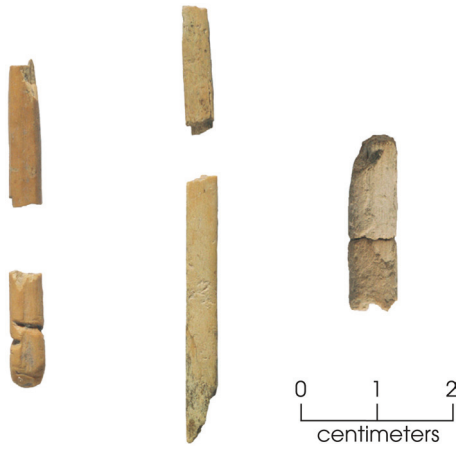

Figure 7. Bone needles from the J. B. White site.

suggest sewing tailored garments", and their presence at J. B. White is one of the pieces of evidence that could be used to identify it as a Prairie Caddo site.

More compelling, though, are the arrow points, all of which likely were manufactured at J. B. White judging from their frequent association with the lithic debris reduction piles. Eight of the typed specimens are Perdiz, and 16 are Albas (Figure 8); the other 26 are Scallorns. Most of the Perdiz would have been classed as Bonham-Alba by Shafer and thus would be consistent with his Prairie Caddo assemblage. Further, many of the Alba points have finely worked recurved blades and are indistinguishable technologically and in terms of raw materials from the numerous examples from the George C. Davis site (Shafer 1973:196–204). That arrows with Alba points were significant cultural and social markers is demonstrated by their use as burial offerings at Davis. The occurrence of Alba points in jumbled clusters and clusters of aligned points suggests they were deposited as containers of unhafted points and quivers of hafted points. Shafer (1973:194–195) illustrates 24 Alba points selected from the 150 recovered from Feature 134. The varied stem and base characteristics of all the Alba points from J. B. White are present in this illustrated group of 24. Similar diversity in form is seen in Alba points from a possible quiver of 28 recovered from Feature 161, Cluster 1, at the Davis site (Shafer 1973:199–202). Such diversity in points from a single instance in time suggests a collection of points fashioned by various knappers, and the presence of arrows from many knappers in a single quiver or container suggests trade in finished arrows or arrow points. Sites on the eastern margin of central Texas, like J. B. White, are where some of these traded items originated.

Equally telling is the collection of 31 knives and knife fragments and 24 knife preforms, all made at the site. The more-complete finished tools indicate a bifacial form consisting of a thin, elongated, triangular blade with straight, recurved, or convex edges that are even, finely pressure flaked, and occasionally serrated. Three specimens are classic Gahagan knives, with flaring near- base lateral edges and a concave base, and 4 specimens have the straight lateral edges with straight base characteristic of Friday knives (Figure 9). The conclusions given above about the cultural and social significance of Alba points at the Davis site also apply to Gahagan knives, since they occurred in the same contexts. Like Alba points, many if not all of the Gahagan knives that ended up at the Davis site must have originated on the eastern margin of central Texas.

In sum, the J. B. White looks very much like a general-purpose campsite occupied perhaps mostly during the drier summer months by complete social groups of hunter-gathers long enough each time for a range of procurement, processing, and manufacturing activities to be performed and represented in the archeological record. They took mussels and fish from the Little River and hunted a variety of game, especially deer, on the surrounding floodplain and adjacent uplands. They may have used botanical resources less, although they did consume hardwood nuts and wild onion and false garlic bulbs. One important activity performed at the site was manufacture of stone tools— mostly arrow points, knives, and expedient flake tools— using chert collected from gravel bars in the river. Many of these tools were used in the wide variety of activities that typified daily life there, but some appear to have been made because they would be needed later after people left the site. One anticipated need was for items that would facilitate interaction with their Caddo neighbors to the east.

Does the Prairie Caddo Model Help Interpret the J. B. White Site?

The evidence summarized above and the results of geochemical analyses of Caddo vessel ceramics from numerous sites in central Texas (Perttula et al. 2003:63) show unequivocally that there was substantial movement of pottery westward into central Texas and arrow points and knives eastward into the Caddo homeland during the Late Prehistoric period. The Prairie Caddo model hypothesizes that, during the interval between A.D. 1000 and 1300, this was because the residents of part of central Texas, i.e., the Brazos River valley at and

Figure 8. Alba and Perdiz points from the J. B. White site. (a–n) Alba; (o–v) Perdiz.

east of the Balcones Escarpment, were Caddo people controlled by religious and political leaders tied to the George C. Davis site on the east side of the Neches River in Cherokee County. The data from the J. B. White site do not support this interpretation, however. J. B. White did yield three of the four kinds of items that the model posits as material correlates of a Prairie Caddo social identity (Bonham-Alba arrow points, Gahagan knives, and bone needles as stand-ins for deer metapodial beamers), but it yielded almost no ceramics. This is unlikely to be the result of sampling error or site function. It is true that some unknown portion of the site outside the project

Figure 9. Gahagan and Friday knives from the J. B. White site.

area (which was restricted to the proposed highway right of way) was not examined, but to expect that ceramic sherds could have been deposited only in that area is unrealistic given the extent of the excavations (217 m^2 plus 4 backhoe trenches) and how many times the site must have been occupied over the ca. 400 years that Analysis Units 1 and 2 represent.

The site function argument would hinge on the idea that ceramic vessels may have been used less at floodplain sites such as J. B. White than at more-substantially used base camps situated higher on the landscape. The counter to this is that, when you consider all the evidence and not just the artifacts, J. B. White does not look at all like a special-purpose or limited- function site. It is true that it is in a setting that would not have been conducive to year-round occupation, but the features and cultural materials found indicate a wide variety of activities associated with procurement, processing, maintenance, and gearing-up tasks. The site appears to have functioned as a general-purpose campsite where Native Americans brought subsistence resources and raw lithic materials collected nearby and from more-distant locations. Mussels and lithic cobbles came from the river, which was at or near its current position no closer than 0.4 km from the site, and some of the hardwood nuts and other subsistence resources probably came from upland areas farther away. The Native Americans processed these resources in various ways and consumed them, and then prepared for their next move in the seasonal round. If ceramic vessels were part of the material culture of these people, why would they not have needed them to perform some of these tasks? In this case, parsimony leads to the conclusion that pottery was not part of the material culture, removing one of the linchpins of the Prairie Caddo artifact assemblage.

So, how do we interpret the obvious connections between sites like J. B. White and Caddo sites in east Texas, in particular the George C. Davis site? The keys are Alba and Bonham (or eastern-style Perdiz) arrow points and Gahagan knives. As noted, some of the tools of these forms found at J. B. White are essentially identical in terms of workmanship and raw materials to those found at the Davis site. These similarities suggest that points and knives that ended up as grave goods in burials of the Caddo elite at the Davis site were made in the vicinity of J. B. White, perhaps by people who occupied the site at one time or another or by related groups. The people who lived at J. B. White and westward to the Balcones Escarpment and probably eastward to the Brazos River (an east-west span of about 90 km) had access to high-quality raw materials, and they had the skills to produce finely crafted arrow points and knives. Many such

tools were manufactured at J. B. White, and evidence of reworking and breakage patterns show that many were used and discarded there. The high frequency of manufacture breaks relative to use breaks, however, hints at the importance of gearing-up activities. Whether these activities were in response to anticipated hunting and butchering needs after seasonal abandonment of the site, or in anticipation of having goods for future interactions with people who lived in east Texas, is not known. What does seem certain, though, is that somewhere people involved in the same cultural system that resulted in J. B. White decided it was advantageous to manufacture lithic tools that ultimately would be transported to the Davis site.

The Prairie Caddo model would posit that this decision was made by frontier Caddo people who needed something of value to offer, perhaps as tribute, when they traveled across the Brazos, Trinity, and Neches Rivers for feasting and other communal activities at the Davis site. As noted above, the lack of ceramics at J. B. White and other characteristics of the site argue for a simpler explanation. Instead, based on the information from J. B. White and the Hoxie Bridge site at Granger Lake in Williamson County closer to the Balcones Escarpment (which, like J. B. White, yielded Darl dart points and Scallorn, Alba, and a few Perdiz arrow points along with Gahagan bifaces and a small number of sherds, most of which appear not to represent Caddo vessels; Bond 1978), it appears that the Little River valley and those of its tributaries were used in a consistent fashion from at least A.D. 600 to 1300. During the early part of this interval, these people used both Darl dart points and Scallorn arrow points. This was succeeded by a period where Scallorn points were the chief hunting implement. Alba arrow points were added to the repertoire, perhaps around A.D. 1100, and may have been used along with Scallorn points for a time. Perdiz points (or Shafer's Bonham points) were added toward the end of the interval, by which time the Scallorn form probably had dropped out of favor. All three arrow point forms are similar technologically in terms of their blade treatments, and it appears that this whole sequence was part of a single tradition created by a single cultural group, or maybe a small number of related groups.

Coupled with the consistency in site use over time, this looks very much like a local development among hunter-gatherers who were well adapted to the Blackland Prairie and the ecotonal areas at its east and west margins. Among the resources that these people knew how to exploit were the local chert gravels. By A.D. 1100 or a century or two earlier, they were using these gravels to make not only tools for their own use but also as goods to be used during interactions with the Caddo. This production involved particular tools following specific technological styles, but the evidence for interaction involving lithics not manufactured to such specifications (and not focused so strongly on a single east Texas site) goes much farther back in time, suggesting that this pattern of connections between the eastern margin of central Texas and the eastern part of the state was a persistent one rooted in long-held traditions. This has been documented, for example, at the Jewett Mine in Freestone and Leon Counties, where a number of caches of bifacial and unifacial tool blanks of central Texas materials have been found, and where large quantities of debitage reflecting the staged reduction of central Texas cherts (including some identical to those found at J. B. White) have been identified in sites of various ages, including some dating to Late Archaic and even earlier times (Fields 1995:325). The reasons for this interaction may have changed over time, but the pattern persisted nonetheless.

Contrary to what the Prairie Caddo model proposes, I think that the people who lived along the Little River in early to middle Late Prehistoric times were not ethnically Caddo peoples who provided support for the ceremonial center at the Davis site. Rather, I think they were a local group well adapted to their particular environs who interacted regularly with the east Texas Caddo, probably in simple face-to-face or maybe down-the-line trade relationships with limited dependencies and great group autonomy. The Prairie Caddo module implies the kinds of interaction that would create dependencies and reduce autonomy, with the social elite some 200 km away from J. B. White exercising control over resources and possibly the organization of production associated with those resources. I see no evidence of this at J. B. White, although I acknowledge that the paucity of local comparative data makes it hard to tell for the region at large.

Michael Nassaney (1996:188–228) has explored similar questions in relation to stone tool production associated with Toltec Mounds and the Plum Bayou culture (ca. A.D. 700–950) of central Arkansas. His investigations suggest that maintaining free access to particular resources and resisting specialization within the production process are means for minimizing dependencies. It can be argued that both of these pertain to J. B. White and the surrounding area. Certainly, the sources of the lithic raw materials from which tools were made were widespread, occurring from the Balcones Escarpment east probably all the way to the Brazos River. Their locations within this broad area were generally predictable, but they changed as gravel bars moved and new stream channels were cut. These characteristics suggest that groups local to this part of the Blackland Prairie would have had constantly shifting knowledge about where lithic raw materials could have been procured, ensuring that they had access to them while discouraging

any attempts by others to control access. Evidence from J. B. White also indicates that the chipped stone tool production process was not specialized by segmentation (i.e., one specialist manufacturing preforms and another finishing the tools). The people who occupied J. B. White made Alba points and Gahagan knives (i.e., the tools that were in demand by east Texas elites), but these tools were finished and often used onsite. Manufacture and use of finished tools near the local lithic source suggests that the tools that were carried away from the site were likely finished as well and could have been used for hunting at a future time or as an asset for trade.

What did the groups occupying J. B. White get in return for their well-made arrows and knives? This question is difficult to answer given that much of what could have been received, such as bear fat or salt, is perishable. One benefit of trade for the occupants of J. B. White, though, could have been the establishment and maintenance of cooperative alliances, which could have helped regulate competition among groups. Alliances often have been seen to coincide with evidence of violent death (Sassaman 1995:187). Scallorn points found in the backs of several of the people buried in the Austin phase cemetery at the Loeve-Fox site about 45 km west-southwest of J. B. White could indicate such intergroup conflict (Prewitt 1982:36, 42–43). Alliances aimed, in part, at modulating conflict in the middle Brazos drainage could, in fact, be reflected in the Alba arrow points in the elite burials at the Davis site. The arrows in these contexts appear to be from many different makers, and this, along with the fact that they were bundled together in bags and quivers when they were included as grave offerings, may identify these elite individuals as the architects of alliances that extended far west of the Davis site.

Such alliances could have allowed the Caddo free rein for trips west of their homeland to hunt bison, as well as to procure the coveted arrow tips and knife blades, and congregate with other people for trade at certain locales near the Balcones Escarpment. Early historic accounts frequently mention Hasinai Caddo peoples in the region, sometimes in large encampments representing multiple ethnic groups (see Collins and Ricklis [1994:16–26]). This can be attributed in part to group displacement and the need for mutual defense as new, more-bellicose groups moved in, but Collins and Ricklis (1994:25) point out that there likely was a long tradition of group congregation in the region. Surely, this would have presented opportunities for trade, and such well-known "Prairie Caddo" sites as Chupik, which produced rare items like marine shell beads and a pendant in addition to numerous ceramics (Perttula et al. 2003:13), and Asa Warner, with its large collection of Caddo sherds, might have been places where such trade congregations occurred.

In sum, there certainly was substantial movement of pottery westward into central Texas and arrow points and knives eastward into the Caddo homeland during the Late Prehistoric period. The evidence from the J. B. White site indicates that pottery was not part of the material culture of the people who lived along the Little River on the Blackland Prairie, but Alba and Bonham points and Gahagan knives were. These people were not ethnically Caddo peoples who provided support in the form of tribute or labor for the ceremonial center at the George C. Davis site. Rather, they were local hunter-gatherers who were well adapted to the Blackland Prairie and the ecotonal areas at its east and west margins. One of the things they were adept at was production of particular tools following specific technological styles. Tools of these particular forms were prized by the elites who lived and ruled at the Davis site, who likely obtained them through trade during hunting/trading trips west of their homeland. These trips also may have been intended to establish and maintain cooperative alliances between the Caddo and their western neighbors. Such alliances could have helped regulate competition among groups and cement Caddo influence in the region and access to it.

Acknowledgments

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Patterns of Cranial Trauma at the Akers Site (34LF32) of Southeastern Oklahoma

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Previous work at Wister Valley Fourche Maline sites in southeastern Oklahoma has concluded that the area was a contested landscape with extensive feuding, resulting trophy-taking behavior, and mass burials. Preliminary paleopathological work at the Akers site (34Lf32) suggested that there may have been a high percentage of broken bones, however complete analyses had not been completed. New paleopathological work at the Akers site indicates that 35 percent of the adults buried there had at least one fractured bone at time of death. Furthermore, adult females were more likely to have lower limb fractures and multiple fractures, suggesting different patterns of stress and/or violence for at least some of the adult female population.

Introduction

Previous work at Wister Valley Fourche Maline sites in southeastern Oklahoma has concluded that the area was a contested landscape with extensive feuding, resulting in trophy-taking behavior, burials with embedded projectile points, and multiple mass burials (Rowe 2014). This study examines patterns of interpersonal violence by examining cranial trauma at Akers (34Lf32), a Wister Valley Fourche Maline site. Cranial injuries are often used by bioarchaeologists as a gauge of interpersonal violence (Bogonofsky 2011). Walker (1989), for instance, was able to demonstrate significantly different levels of cranial trauma between different populations and to also show an increase in cranial trauma through time. Sex based differences in cranial trauma have also been demonstrated in both North American (Martin 1997) and South American (Tung 2007) archeological populations. Patterns of cranial trauma at the Akers site suggest that although males and females were equally likely to suffer from cranial trauma, there were differences in the patterning and type of cranial injury, suggesting that males and females were at risk for different types of interpersonal violence.

Background: The Wister Valley, Fourche Maline, and the Akers Site (34Lf32)

Between 1938 and 1941, the Works Progress Administration (WPA) conducted 24 major archeological digs in the Wister Valley (the northernmost valley of the Ouachita Mountains) of southeastern Oklahoma (Rogers 1978). Wister Valley (sometimes called Fourche Machine Valley) is defined by Fourche Maline Creek, which runs in a west to east direction before it eventually merges with the Poteau River, and then turns north to join the Arkansas River (Figure 1). The Wister area is part of the "Trans-Mississippi South," defined by Schambach (1998) as the region west of the Lower Mississippi Valley and east of the Plains, bounded to the north by the Ozark Plateau and to the south by the Gulf Coast swamps. This area is an upland (rather than lowland) forest, which may have facilitated different adaptations and thus different artifact assemblages from more familiar eastern Woodland sites (Schambach 1982:136).

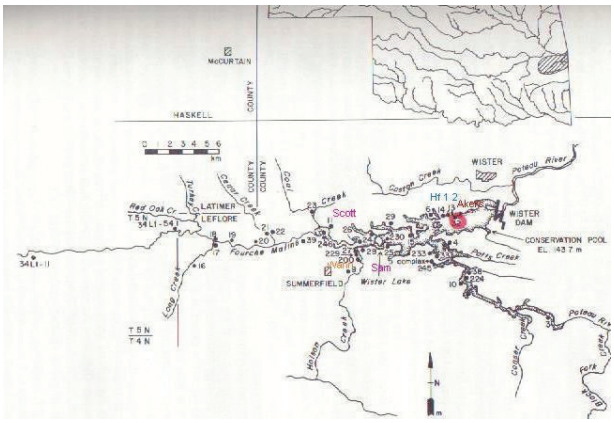

Figure 1. The Wister Area with several Fourche Maline sites, including Akers (34LF32).

Most of the Wister area sites were small mounds with dark soils that lacked stratigraphy. Even though many of the mounds contained burials, the confusing mix of artifacts led the WPA to call them midden mounds, and they were designated as Fourche Maline, after the creek (Newkumet 1941). The term Fourche Maline has since been used to denote a focus (as defined by McKern 1939), an archeological area, a site component, a site complex, a site type, and most commonly, a local cultural phase (as defined by Willey and Phillips 1958). Fourche Maline is thus a problematic label, spanning some 600 years (A.D. 300 to 900) or the late Woodland (Galm 1984). This lack of temporality, has led some researchers to disregard data from these sites. However, while it is true

that fine temporal divisions cannot be gleaned from these sites, they nevertheless can provide general information about long term patterns. A more thorough examination of the concept of Fourche Maline within the context of North American and Caddo archeology can be found in Rowe 2014 (40-49).

The Akers site is the eastern-most site excavated by the WPA in the Wister area (see Figure 1). Although the site is now under the waters of Wister Reservoir, it was completely excavated in 1941 by the WPA under the supervision of Dr. Forest Clements of The University of Oklahoma, and field supervisor Phil Newkumet (Rogers 1978:2). Described as a long, low mound with no visible stratigraphy (Figure 2), the site was excavated in 1-foot levels, as was common at the time (Newkumet 1941). Over 200 individuals and thousands of artifacts were excavated and stored at the Stovall Museum, now the Sam Noble Oklahoma Museum of Natural History (SNOMNH), in Norman, Oklahoma.

Figure 2. The Akers site (34Lf32), during exaction in 1941, photo courtesy SNOMNH.

Previous work at the Akers site demonstrated two striking observations. First, there were nearly twice as many adult female skeletons as adult male skeletons (Rowe 2009:52), and second, subadults showed high rates of skeletal lesions associated with nutritional deficiencies, particularly scurvy (Rowe 2009:75-81). Additionally, valley-wide archival research looking at 14 Fourche Maline Wister Area sites demonstrated that approximately 25 percent of excavated individuals were interred in a multiple burial (Rowe 2014:132). Multiple burials (i.e. burials with more than one individual) are considered "good evidence for intergroup conflict" (Milner 1999:9). Furthermore, burials in the Wister Valley fit the paradigm for feuding as described by Dye (2009), in that the burials demonstrate high rates of embedded projectile points, multiple mass burials, and individuals skulls, suggesting trophy-taking behavior. This study seeks to elucidate patterns of violence at these Wister Valley sites by examining the prevalence and pattern of cranial trauma from adult burials at the Akers site.

Study Methodology and Population

This study examines cranial injuries from the Akers site. In 2008 I requested and received permission from the Caddo Nation and the Wichita and Affiliated tribes to conduct non-destructive analysis of these burials. In 2009 I completed a basic paleodemography for the total burial population as well as paleopathology on the subadults, or children (Rowe 2009). Additional paleopathology on the adults was completed in 2014 (Rowe 2014).

The WPA reported that they excavated 168 burials containing 204 individuals, including 11 children (Newkumet 1941). A minimum of 227 individuals, including 33 subadults, were identified during laboratory analysis (Rowe 2009:50). Standard methods of aging and sexing the remains are detailed in Rowe 2009 and will not be repeated here.

The condition and completeness of the skeletal remains from the Akers site varied enormously. Not all the individuals that were aged and sexed for the 2009 study were used in the current study. For this current study, 97 of the best preserved adult crania from the Akers site were analyzed. Only individuals that could be confidently aged and sexed were selected.

All of the 97 individuals included in this study are aged as "Adult" (minimum 15 years skeletally). Due to general poor preservation and the inherent inaccuracies of aging adult skeletons, age categories are reported in very broad terms. Young Adults (YA) are 15-35 skeletal years, Middle Adults (MA) are 35-50 skeletal years, and Old Adults (OA) are 50+ skeletal years.

Due to both preservation issues and excavation damage, most of the Akers crania are missing the basicrania (underside of the skull) as well as their maxilla (upper jaws), making it impossible to detail facial fractures. I therefore concentrated on trauma to the calvarium (the "round" part of the skull). Additionally, the majority of crania exhibited at least some degree of cultural modification. While some of the modifications appear to have been passive modification from use of a cradle board, other individuals had evidence of active re-shaping including changes to the frontal bone and with marks from pads and or bindings. Because multiple types of modification were observed in the Akers crania, a separate study will consider the types of modification and their cultural implications.

The skeletal remains were examined visually and under magnification of up to 40x using a binocular dissecting microscope. Additional imaging was via the macro lens of a 3.3 megapixel DSC-F505V Sony digital camera.

	YA 15 - 35 Years			MA 35 - 50 Years			OA 50+ Years			Total		
	+	n	*f*	+	n	*f*	+	n	*f*	+	N	*f*
M	2	7	*29*	3	23	*13*	0	10	*0*	5	40	*13*
F	5	29	*17*	5	18	*28*	3	10	*30*	15	57	*23*
***p* values**			*p=.6*			*p=.4*			*N/A*			*p=.3*
Total	**7**	**36**	***19***	**8**	**41**	***20***	**3**	**20**	***15***	**18**	**97**	***19***

Table 1. Cranial trauma by age and sex.; + = number of injuries; n = sample size; f = frequency

Results

A total of 97 adult crania were examined, and 21 traumatic wounds affecting 18 individuals were observed. Overall, 19 percent of the individuals included in the study had at least one traumatic cranial wound. Although females were nearly twice as likely to experience a skeletal cranial trauma as males (F = 23 percent, M=13 percent), this difference was not found to be statistically significant (p=.3, Fisher's Exact Test, two-tailed probability). The number and frequency of cranial wounds by both sex and age, along with p values, are detailed in Table 1.

The majority of cranial wounds were depressed fractures in various stages of healing. Depressed fractures to the skull are usually caused by blunt force trauma (BFT), such as a club to the head (Ortner 2003:121). Also present were sharp force trauma (SFT) in the form of projectile point wounds and cut marks. Each traumatic wound to the calvarium by burial, age group, sex, bone affected, trauma type, shape of wound, and healing status is presented in Table 2. Male cranial injuries are grouped first, followed by female cranial injuries, and BFTs are presented before SFTs.

Forty males were examined and five cranial wounds (13 percent of the male study population) were observed. These were all depressed fractures, or BFTs. Three of these wounds were to the frontal bone, and one of these frontal wounds appears to have been peri-mortem (without signs of healing). The two remaining wounds were to the back of the parietal bones, suggesting that the individual was hit from behind. The pattern of male cranial wounds is depicted in Figure 3. No cranial SFT wounds were observed in males and no males were observed to have more than one cranial wound. Additionally, only young adult and middle adult males were observed with cranial wounds. No older adult males (50+ years) were found with cranial wounds or trauma.

Females (N=57) were observed with 16 cranial wounds (23 percent of the female study population). Depressed fractures, or BFTs, accounted for 11 wounds, affecting nine females. Six of these wounds were to the frontal bone. The remaining five cranial BFT wounds were to the parietals. Three of these parietal wounds were to the back of the head, once again suggesting that the individuals were hit from behind. The pattern of female cranial BFT wounds is depicted in Figure 4. All of the BFT wounds were in various stages of healing, indicating that they did not directly contribute to death. Young middle and old adult females suffered from BFT cranial injuries.

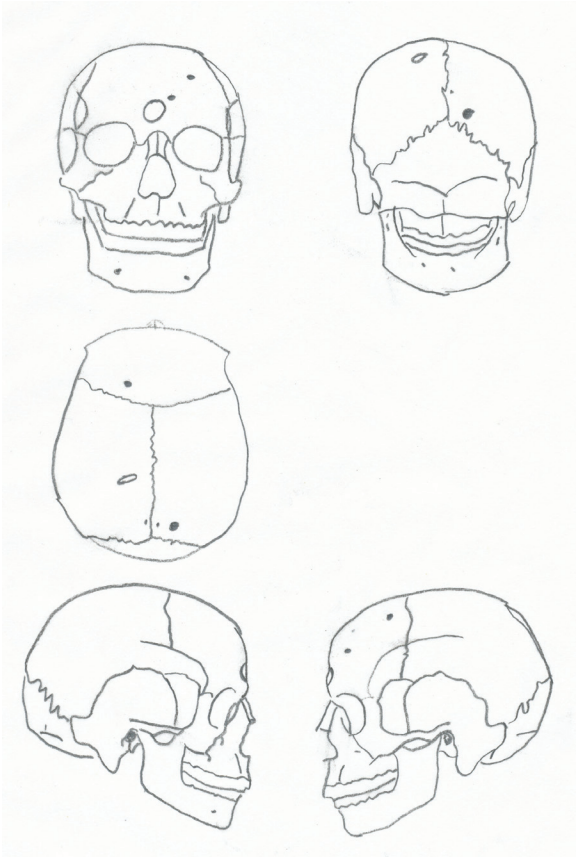

Figure 3. Male cranial blunt force trauma injuries.

Additionally, there were five penetrating, or SFT wounds, affecting five females. Four of these SFT wounds were to young adult females and one was to an old adult female. All of but one of the wounds showed no signs of healing, indicating that they were peri-mortem injuries. The pattern of female cranial SFT wounds is depicted in Figure 5. As can be seen, two of these wounds were to the right frontal bone, indicating a face to face encounter. One wound was to the back of the head, indicating the individual was struck from behind, and two of the wounds were to the side and top of the head (left parietal), indicating a blow from above.

Multiple cranial wounds were observed on two females (but no males). These two individuals, Burial 90 and Burial 10, will be discussed in some detail.

Burial		Age	Sex	Bone	Trauma Type	Shape	Status
9	A	MA	M	L frontal	BFT	Point	Healed
12	B	YA	M?	L frontal	BFT	Round	Peri-mortem
72		YA	M	Frontal/glabella	BFT	Round	Healed
97		MA	M?	R parietal	BFT	Round	Healed
128		MA	M?	L parietal	BFT	Ovoid	Healed
10		YA	F	Frontal/glabella	BFT	Round	Healed
10		YA	F	L parietal	BFT	Round	Healed
18		MA	F	R parietal/occipital	BFT	Round	Healed
68		MA	F	Frontal/glabella	BFT	Round	Healed
75		OA	F	L frontal/parietal	BFT	Round?	Healed
90		MA	F	L parietal	BFT	Round	Healed
90		MA	F	R parietal	BFT	Round	Healing
142		YA	F	R frontal	BFT	Round	Healing
147		OA	F	L frontal	BFT	Ovoid	Healing
158	A	MA	F	L parietal	BFT	Round	Healed
168		MA	F	L frontal	BFT	Round	Healed
10		YA	F	L parietal	SFT (penetrating)	Jagged	Peri-mortem
26		YA	F	R frontal	SFT (cut)	Curved	Peri-mortem
52		YA	F	R frontal	SFT (penetrating)	Jagged	Some-healing
71		VYA	F	R occipital	SFT (cut/projectile)	Linear	Peri-mortem?
144	A	OA	F	L parietal	SFT (cut/projectile)	Linear	Peri-mortem

Table 2. Cranial trauma by burial, age group, sex, bone affected, trauma type, shape of wound, and healing status.

Burial 90, a middle adult female, had two cranial wounds. These were both depression fractures, one on each parietal. These wounds were placed towards the back of the head, and one wound was more completely healed than the other. This indicates that these injuries were incurred from behind and that they happened at two different times. Other than the multiple cranial wounds, nothing appears unusual about this burial. No postcranial traumatic wounds were noted, although she did suffer from DJD (degenerative joint disease) and ante-mortem tooth loss, which were not unusual for adults in this population. She was buried in a fully flexed position with her head to the SE. No associated or burial goods were found with her.

Burial 10, a young adult female, had three cranial wounds. Two depressed fractures, one on the frontal (right on the glabella), and one on the left parietal, were both healed at time of death. A third cranial wound was a penetrating sharp force trauma wound to the top of the left parietal. The excavation photo shows a large projectile point resting on the left parietal. The projectile point, made of Keokuk chert, fits perfectly into the wound and was clearly the cause of death. Unusually, this burial consisted of only a disarticulated skull. Near the cranium was a small pile of human long bone shafts and a large shell gorget. It is unclear if these items are actually associated with the Burial 10 cranium and what this burial of an isolated skull represents. Some possibilities include a trophy, a de-accessioned ancestor, or a group member found after a conflict and brought back "home" for burial. What is clear is that this young woman sustained at least two (possibly three) separate traumatic cranial injuries and that the last one, a projectile blow from above, killed her.

Another type of cranial injury is scalping, and there is some evidence that scalping seems to occur commonly with other signs of trauma or violence (Steadman 2008). There was one possible case of scalping at the Akers site. This was Burial 157, an old adult male. Although Burial 157 had no visible cranial cut marks, the calvarium was strongly reactive with a cap of bony overgrowth in a pattern highly suggestive of scalping. This individual also suffered from osteomyelitis on several other bones, so it is possible that the reactive growth on the calvarium was the result of systemic infection rather that scalping or other head injury. However, it is equally possible that a systemic infection was the result of scalping or other head trauma. As Milner (2005) notes, remodeled bone can obliterate the indicative signs of scalping or other injury. Because no cut marks or other obvious traumatic cranial wounds were visible, this individual is not included in the totals for cranial injury and will not be further discussed.

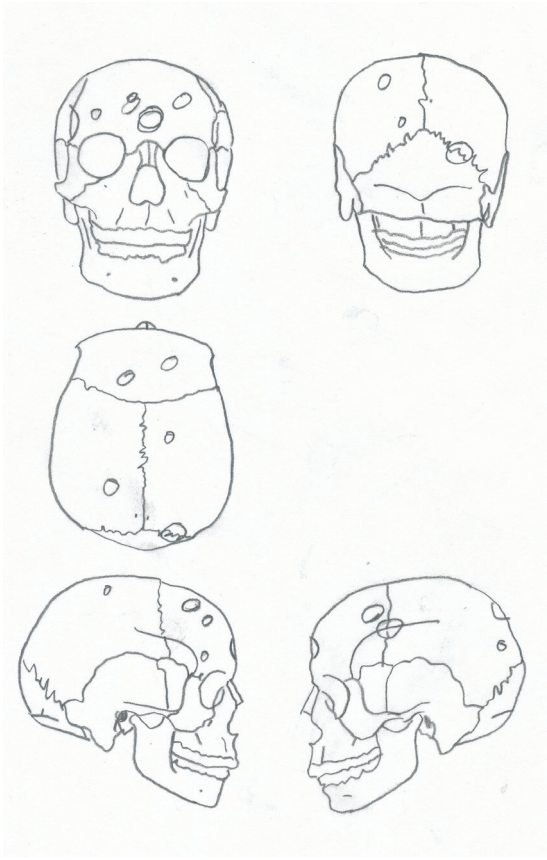

Figure 4. Female, cranial blunt force trauma injuries.

Although subadults were not included in this study, a previous study found no cranial trauma to subadult remains (Rowe 2009). It should be noted however that there were far fewer subadult remains, and those that were present were in incomplete and quite fragmented.

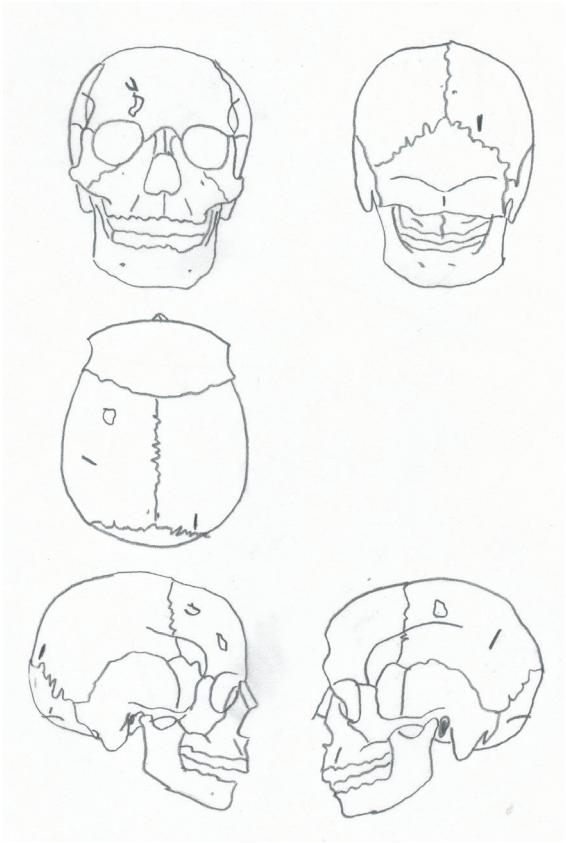

Figure 5. Female, cranial sharp force trauma injuries

Discussion

Cranial injuries can be caused by falls, accidents, interpersonal violence, or self-inflicted injury (Walker 1989). In modern populations, cranial injuries are relatively rare (Court-Brown and Caesar 2006; Judd 2004, 2008), and in bioarcheological populations, cranial trauma rates are considered to be a good gauge of interpersonal violence (Bogonofsky 2011). In both ancient and modern samples, injuries are most commonly found in adults aged 24-40 years (Judd 2004), and the most common fractures tend to be arm and hand injuries, usually caused by falls (Court-Brown and Caesar 2006; Judd 2004, 2008). A more thorough discussion of the post-cranial injuries to the Akers population can be found in Rowe 2009. Cranial injuries are the focus of this report in attempt to tease out patterns of interpersonal violence. As detailed above, cranial injuries were common at Akers. These results contrast rather sharply not only with what was expected, but with the few previous bioarcheological studies from the Wister Valley.

Despite the well-documented limitations of WPA excavated Wister area Fourche Maline sites (see Schambach 2002), these sites are the largest body of Woodland era data in the Trans-Mississippi South (Early 2004). The Wister Valley area is considered an appropriate comparison unit for the Akers data not because the sites are all in the same drainage basin, but because previous bioarchaeological studies on Wister Valley populations concluded that the residents shared a common genetic heritage and could be considered a single population (McWilliams 1970, Powell and Rogers 1980, Rose et al. 1983). The conclusion of a shared gene pool allows for assumptions of common resistance and susceptibility, which in turn allows intra-valley comparisons. Furthermore, the geographic proximity of the Fourche Maline Wister Valley sites implies that they shared ecological constraints and resources as well as presumably similar cultural attributes (Rose et al. 1999).

The high rates of cranial injuries at Akers are in stark contrast to other studied Wister Valley sites. At the McCutchan McLaughlin site (34Lt11), a single traumatic fracture was found (Powell and Rogers 1980). Given a total population of 47, this gives .02 frequency for traumatic fractures (and zero percent for cranial injuries). The combined analysis of the Wann (34Lf27) and Sam (34Lf28) sites found five traumatic fractures (two of these were cranial) out of a total of 105 individuals (McWilliams 1970). This yields .05 frequency for total traumatic fractures and .02 frequency for cranial fractures. These frequencies are not directly comparable to the frequencies noted in Table 1 for the Akers population because the Akers calculations are based on a subset of the population used in the study, while the frequencies calculated for the Sam, Wann, and McCutchan McLaughin sites are based on fractures per total population. To compare, the total number of cranial wounds found at Akers (n=18) was divided by the minimum number of individuals excavated (N=227). This yields a frequency of .09. The difference between the Sam/Wann cranial injuries and the Akers cranial injuries is statistically significant at p=.05 (two-tailed Fisher's Exact Test).

The Akers population then, suffered statistically significant higher rates of cranial trauma, and presumably, interpersonal violence than their neighbors at the McCutchan McLaughlin, Wann, or Sam sites. Additionally, adult males and females at Akers experienced different patterns of cranial wounds. Males experienced cranial trauma as both young and middle adults, but no old adult males were observed with a cranial wound. By contrast, females experienced cranial trauma as young, middle, and old adults. It is noteworthy that old adult females had the highest frequency of cranial trauma (30 percent). Given that no old adult males were observed with cranial trauma, it is not possible to test if this is statistically significant. However, combined with the previously noted observations that only females were observed with SFTs, and that only females were observed with multiple cranial injuries, it seems reasonable to

conclude that females were more at risk than their male counterparts for experiencing interpersonal violence. These results suggest that individuals at the Akers site (and possibly throughout the Wister Valley) lived a stressful, traumatic, and often violent life, especially adult females.

Conclusions

Cranial trauma indicates that conflict was clearly a pervasive part of life for the individuals who were buried at the Akers site. Even a few skeletons showing signs of skeletal trauma such as projectile wounds or healed fractures indicates that fighting was probably pervasive and had a noticeable impact on communities (Milner 2005). The patterns of cranial trauma at the Akers site support my previous conclusions that the Wister Valley area was a contested landscape, with extensive feuding resulting in high rates of violent death. The most frequent group to experience cranial injury at Akers was older (50+ years) females. As previously noted, only females were observed with more than one cranial injury, and only females had evidence of SFT wounds. Adult females, particularly older females, appear to have been particularly vulnerable to violence resulting in cranial trauma.

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The Adair Site: Caddo Relations through Ceramic Analysis

Joanne DeMaio Starr

The Adair site (3GA1), located in the Upper Ouachita River Valley in Garland County, Arkansas is an Upper Ouachita Caddo site. The people at the site are presume to be at the center of cultural dominance for the area and had interaction with Caddo sites in the region. This article explores this by studying the whole vessel collections that were excavated at the Adair site in the 1930s. Comparing the Adair collection to three other Caddo sites provides information about the social standing of the Adair site, its relations with other sites, and how it fits into the greater fabric of Caddo culture in the Upper Ouachita River Valley.

Introduction

The Adair site (3GA1) is located in the Upper Ouachita River Valley, 25 miles north of Hot Springs, Arkansas and three miles northwest of the now inundated town of Buckville, Arkansas (Figure 1). The site has been the subject of two excavations, both done by the University of Arkansas Museum and its former curator, Samuel C. Dellinger (Dellinger and Dickinson 1939; see also Mainfort 2008). The first excavation was conducted from 1929 to 1931 and was part of a larger project to salvage sites in the Ouachita River Valley from the looting of mostly of whole vessels from graves. Although there was only minor funding designated for each site within the salvage project, Dellinger's notes indicate they were able to excavate a large cemetery on the south side of the Adair site (Dellinger and Dickinson 1939). The site was also excavated by Dellinger as part of a Works Projects Administration (WPA) funded expedition in the late 1930s, when it was determined that the site was to be inundated by the construction of Blakely Dam across the Ouachita River and the formation of Lake Ouachita. Dellinger obtained WPA funds to salvage what they could from Adair and surrounding sites, such as the Poole site (Wood 1981). The WPA excavations at Adair ended in 1939 and the landscape was inundated by Lake Ouachita in the early 1950s.

The Adair site has long been considered important in the Upper Ouachita River Valley largely because it is the only Upper Ouachita site in which a pyramidal earthen mound is present. The site was composed of a single three-meter-high mound, at least two additional low mounds, two borrow pits, several structure floors, middens, and at least one cemetery (Early 1982:226, 228). Ann Early (1982) first suggested that the Adair site was home to Caddo elite based on her analysis of Caddo settlement systems. In this analysis, Early defined five types of Caddo settlements in the Ouachita Mountains, which include diffuse activity centers, focal activity centers, low mound clusters, cemeteries, and mound centers (Early 1982:226). Although the Upper Ouachita River Valley is a large area, the number of known sites in the area at the time of her research was only 57, with the majority of sites classified as smaller focal or diffuse activity centers (Early 1982:226).

Figure 1. Map showing the location of the Adiar site.

Although there were likely economic, political, religious, or social interactions among Adair and neighboring sites within the Upper Ouachita River Valley, which sites and how far interaction extended within and outside the river valley is unknown. In order to explore potential interaction, I discuss a comparison of pottery collections as a measure of proxy interaction by examining sites contemporaneous with Adair that are situated at successive distances and suggest possible social, economic, and political connections. Whole vessel data from Adair and three neighboring sites are compared to examine connections and interactions. Comparative

	Adair		Poole	
Decoration Type	# of Vessels	Percent of Total Vessels	# of Vessels	Percent of Total Vessels
Poole Plain	59	29.50%	25	34.00%
Friendship Engraved	15	7.50%	12	16.00%
Fosters Trailed Incised	12	6.00%	5	7.00%
Seed Jar	11	5.50%	1	1.00%
Maydelle Incised	9	4.50%		
Blakely Engraved	8	4.00%	2	3.00%
Hempsted Engraved	5	2.50%		
Keno Trailed	5	2.50%		
Means Engraved	5	2.50%	3	4.00%
Moore Noded	5	2.50%	2	3.00%
Taylor Engraved	5	2.50%		
Adair Engraved	4	2.00%		
Hodges Engraved	4	2.00%		
Hudson Engraved	4	2.00%		
Sanford Puncated	4	2.00%	2	3.00%
Belcher Engraved	3	1.50%		
Woodward Plain	3	1.50%		
DeRoche Incised	2	1.00%		
Garland Engraved	2	1.00%		
Maxed Noded Redware	2	1.00%		
Military Road Incised	2	1.00%	3	4.00%
Avery Engraved	1	0.40%	1	1.00%
Hardman Engraved	1	0.40%		
East Incised	1	0.40%	2	3.00%
Killough Pinched	1	0.40%		
Ponteau Plain	1	0.40%		
Sinner Linear Puncated	1	0.40%		
Williams Plain			3	4.00%
Dunkin Incised			2	3.00%
Haley Engraved			2	3.00%
Hickory Fine Engraved			1	1.00%
Taylor Engraved			1	1.00%
TOTAL	175	86.90%*	67	91.00%*

* Untyped vessels are not added in the total vessel count for each site.

Table 1. Whole vessel collection from the Adair and Poole sites with percentages of total

sites were selected based on their contemporaneity and that they all have been subject to documented ceramic analyses. Comparative sites include the Poole site (3GA3) located approximately 3 km from Adair (Wood 1981), the Standridge site (3MN53) located approximately 33 km from Adair (Early 1988), and Hardman (3CL418) located 63 km from Adair (see Figure 1).

The Adair collection analyzed in this research consists of 201 whole vessels with 175 vessel types and 26 untyped (Table 1) The untyped vessels are not included in Table 1. Measurements of each vessel were taken using the Arkansas Archeological Survey (ARAS) Ceramic Vessel Documentation Form (DeMaio 2013). Once all measurements were taken from each vessel, a Caddo pottery type was assigned, if applicable. Type descriptions were assigned using the Handbook of Texas Archeology (Suhm and Jelks 1962), from published reports from nearby or contemporary sites of ceramic analyses containing new designated types not in the Handbook, or simply marked as "untyped" due to the unique aspects of the vessel (see DeMaio 2013). Both typed and untyped vessels were additionally described using the Descriptive Classification System, also known as the Colligate System, designed by Frank Schambach. This system assigns specific names and numbers for each type of decoration technique found on either the rim or body of vessels. Of the known pottery decoration types, 26 could be correlated with types described by Shum and Jelks (1962) and in published reports. Because the untyped vessels often exhibit vast differences, it is impossible to group them together. The study of untyped vessels is a project within itself and is beyond the scope of this research. Some untyped vessels are discussed in some sections, but otherwise are left out.

Comparing Adair and Poole Ceramics

The Poole collection used in this comparison is from WPA excavations that occurred from 1939 to 1940. Artifacts from these excavations include numerous pottery sherds, chipped lithics, and 74 whole vessels similar to those excavated from Adair. Of the 74 whole vessels, 67 of them could be assigned a type and seven are classified as untyped. Excavation documentation indicates the majority of the whole vessels from the Poole collection were from an off-mound cemetery. At the Adair site, Dellinger left sparse notes on the context of the whole vessels, yet documentation and anecdotal evidence from Dellinger's colleagues suggests the Adair vessels also came from an off-mound cemetery.

The comparison collection from the Poole site was analyzed in the early 1960s, however, was not published and synthesized until nearly twenty years later. The Poole site contains both Caddo and an earlier (and larger) Fourche Maline components. Fourche Maline sites are characterized mostly by their pottery, which often included Williams Plain, Cooper Boneware, Ouachita Ironware, and LeFlore Plain (Wood 1981:52). The Fourche Maline component at Poole includes two large structures, hearths and at least two burials.

The Poole Site is located only 3 km from Adair and is the closest studied site to Adair. Using Early's settlement classification, the Poole site is an example of a low mound site. Two mounds were present at Poole but unlike the large mound at Adair these likely functioned as small house mounds (Wood 1981:55). Although there are no radiocarbon dates for the Poole and Adair sites, Early notes in her analysis of the Poole ceramics that the similarities of the collections indicate that they were at least partially contemporaneous (Wood 1982:56). Comparisons of the Poole and Adair collections from sites with radiocarbon dates indicate that the Poole site

has a hypothesized occupation date of ca. A.D. 1300–1475/1500 and Adair site has a hypothesized occupation date of ca. A.D. 1325–1500/1525 (See DeMaio 2011:110; Early 1982:134).

Ethnohistoric data and archeological evidence indicate Caddo communities were not isolated communities. Caddo communities consisted of widely spaced houses or groups of houses with a religious and political civic center. These communities were often sprawling and could cover kilometers of land (Early 1982:202; Sabo 1992:50). Caddo society was hierarchical, and based loosely on matrilineal kin systems (Early 1982:202; Sabo 1992:50). The highest-ranking member of society was allowed certain rights, such as the ability to take a share of a family's crop and require members of the community to build mounds (Early 1982:203). The elite of a community lived in an elite center. The elite center generally had one or more earthen mounds and contained the primary residence of the elite and their family, residences of social and political officials, and religious buildings (Early 1982:202-203) As such, it is likely that Adair and Poole were part of the same community, or at least related in some way.

When comparing the collections from Adair and Poole, similarities exist in the types represented and the distribution of the types in the assemblages (see Table 1). Both collections were from mortuary collections. At both sites, the most common vessel types are Poole Plain, Friendship Engraved, Adair Engraved, and Foster Trailed-Incised. It should be noted that the analysis of Poole ceramics did not differentiate Adair Engraved vessels from the Friendship Engraved, so they are grouped together as Adair Engraved (Wood 1981:35-37). Adair Engraved vessels were first described as Friendship Engraved in Suhm and Jelks in 1954. Weber and Loring reassessed the type during their reassessment of Friendship Engraved vessels in the Henderson State University Collection (Weber and Loring 1971). Adair Engraved vessels differ from Friendship Engraved because they are exclusively bottles with no neck or rim design and intricate engraved designs on the body (Suhm and Jelks 1954:Plate 23). Friendship Engraved vessels are exclusively carinated bowls.

Regardless, if the Adair Engraved counts are added to the Friendship Engraved counts at the Adair site to mirror the Poole analysis, the count increases to 19 (9.4 percent) and represents one of the most common types. Similarly, the Poole report did not distinguish Garland Engraved from Friendship Engraved. If Garland Engraved vessel types are included with the Friendship Engraved occurrences at Adair there is an increase to 17 (10.9 percent).

One pressing question is related to the provenience of the vessels from Adair. Although Dellinger noted that the vessels came from "a large cemetery" what that exactly meant is unknown. One way to test this is to look at the Poole ceramics where we know the provenience. The whole vessel collection from Poole is from 34 burials, of which the pottery was the most common burial good and Poole Plain was the most common type. Five burials had no grave goods associated with them, and ten of the 34 graves had non-ceramic goods associated with them. Of those ten graves, they mostly contained modest, non-sociotechnic examples of chipped lithic or groundstone artifacts that did not denote any particular social standing or hierarchy (Wood 1982:55). It should be noted that the excavation of the burials was done in the 1930s and 1940s. It is possible and likely that looting had occurred previously.

From this information, a few things can be inferred. First, the similarity in design and distribution of ceramic types at Adair with Poole suggests that they likely had similar "standards" in ceramic burials goods. However, the wide array of ceramic types, including "Typical" Middle Ouachita types (Seed jars, Means Engraved, Blakely Engraved, and Military Road Incised) evident at the Adair site and not at Poole could indicate that the extent of contact for Adair was further than that of Poole or the burials at Adair were those of elites that "required" more (Wood 1982:56). Early notes that the composition and size of the Adair site is unlike any other in the Upper Ouachita (Wood 1982:55-56). The WPA excavations at Adair uncovered large building footprints not seen at Poole. Additionally, it is the most complex site in the Upper Ouachita with multiple mounds - the largest is 26 by 33 m at the base and nearly 9 m high (Dellinger and Dickinson 1939).

The connections between the Poole and Adair sites are evident in the ceramic collections. However, the ceramic data reinforces the ethnohistoric and archeological information known about the Caddo and their social practices. Although the collections show similar percentages and composition based on known types, the diversity seen at Adair and not Poole supports the hypothesis that the Poole and Adair sites were contemporaneous and likely had regular, if not sustained, interaction.

Comparing Adair and Standrige Ceramics

The Standridge site (3MN53) is located in the Upper Caddo River Valley, not far from the south fork of the Ouachita River area and approximately 36 km from Adair (see Figure 1). Arkansas Archeological Society members and students from the University of Arkansas excavated at Standridge in 1975-1976 as part of two annual Society digs and University of Arkansas field schools. The site has evidence of both Fourche Maline

and Caddo occupations (Early 1988:61-62). Using Early's settlement classification, it is classified as a low mound and domestic site containing houses, burials, a single mound, and middens. Ceramic evidence from Standridge consists of approximately 3,900 sherds and 26 whole vessels (Early et al. 1988:61; Table 2). Fourteen of the whole vessels and 2,280 of the sherds are classified as untyped and are not included in the table. When comparing the Standridge collection to others in this study, it is important to understand that compared to Adair and Poole, the majority of the ceramic collections from Standridge come from domestic areas, and midden layers associated with buildings in the mound rather than burial contexts. The excavations done at Standrige were more complex than those at Adair and Poole. This includes screening excavated material, looking at multiple facets of occupation, and using modern tools to study botanical and faunal remains. Looking at the pottery at Standridge, the most common decorated known type is Friendship Engraved (38 sherds and one whole vessel) with Mill Creek Plain as the most common undecorated typed pottery (209 sherds) (Early 1988:64-65). There are 38 Poole Plain sherds and one restored Foster Trailed-Incised vessel (Early 1988).

However, when looking at the untyped pottery from Adair and Standridge, there are some parallels. Early identified a group of untyped vessels from Standridge as tall-rimmed, engraved carinated bowls with oval designs on the rim and labeled "Untyped Group 4" (Early et al. 1988:82-84). During the analysis of the Adair vessels, a similar type of tall-rimmed, engraved carinated bowls was observed in the collection. These were labeled as "Untyped Group 2" (DeMaio 2013:112). Both of the "Untyped Group 4" vessels from Standridge were recovered from Feature 9 grave (Early et al. 1988:83). Although the design motifs are not identical, they share similar forms and elements (Figure 2).

Similarly, a group of untyped vessels from Adair labeled "Untyped Group 1" is similar to "Untyped Group 3" from Standridge (DeMaio 2013:113; Early 1988:Figure 4-8). Both of these have similar forms with globular or sub-globular bodies, high and vertical rims, and a rolled lip (Figure 3). Decoration on the rims is comparable as well where all have rows of vertical or diagonal incised lines. Where the vessels differ is in the exterior surface finish. The vessels from Adair have a finely burnished to polished exterior surface and the Standridge vessels are matte and smoothed. These types of jars are also present at many sites in the Upper Ouachita region, including Cain Place and the Stanford site (3CL81), and the Middle Ouachita Nix site (3HS75) (see Figure 1) (Early 1988:82). The Cain Place has no official site number, however, it was in the vicinity of the Adair and Poole site in Garland County and is likely now inundated by Lake Ouachita. Little information is known about the site, but photographs of ceramics (now part of the Lemley Collection at the Gilcrease Museum in Tulsa, Oklahoma) were used for comparisons.

	Adair	Standridge	
Decoration Type	# of Vessels	# of Vessels	# of Sherds
Poole Plain	59	1	38
Friendship Engraved	15	2	45
Fosters Trailed Incised	12	1	
Seed Jar	11		
Maydelle Incised	9		
Blakely Engraved	8		
Hempsted Engraved	5		
Keno Trailed	5	5	
Means Engraved	5		
Moore Noded	5		
Taylor Engraved	5		
Adair Engraved	4		
Hodges Engraved	4		
Hudson Engraved	4		
Sanford Puncated	4		
Belcher Engraved	3		
Woodward Plain	3	4	
DeRoche Incised	2		
Garland Engraved	2		
Maxed Noded Redware	2		
Military Road Incised	2		
Avery Engraved	1		
Hardman Engraved	1		
East Incised	1		1
Killough Pinched	1		
Ponteau Plain	1	1	
Sinner Linear Puncated	1		
Williams Plain			75
Cooper Boneware			40
LeFlore Plain			7
Mill Creek Plain			203
Ouachita Ironware			40
Untyped red slipped			61
Ashdown Engraved		2	
Marksville Stamped			1
TOTAL	175	16	511

Table 2. Whole vessel collection from Adair and the whole vessel and sherd collection from the Standridge site

In the Standridge report, Early suggests that there is a direct comparison between the pottery in the Poole collection and the pottery found from the early period of Standridge mound construction. Early notes that there are direct comparisons identifiable in sherds taken from Feature 12 at Standridge (a house floor) with Poole Plain bowls, Adair Engraved bottles, and one Friendship Engraved *var. Antoine* (Early 1988:101). Using these examples of typed pottery, it is suggested that all three sites were at least partly contemporary (Early 1988:101). The ceramic collections at Poole and Adair indicate a

Figure 2. A. Untyped Group 2 vessel from Adair (AAS Neg. No. 920265); B. Untyped Group 4 from Standrige (AAS Neg No. 825999, 832573)

greater diversity than at Standridge. This is most likely due to the longer time span that Adair and Poole were occupied.

Unlike the Adair and Poole sites, the Standridge site has radiocarbon and archeomagnetic dates. The dates from Standridge indicate that the site was intensively occupied for a relatively short amount of time (Early 1988:155-156). The Caddo occupation at the site was most likely no longer than about one hundred years, with a possible less intensive Caddo occupation a hundred years earlier (Early 1988:155). There is evidence of a possible longer Caddo occupation, but the top-most layers of the site were plowed and eroded away and unable to be analyzed. Although the radiocarbon dates are not trustworthy (Early 1988:153), archeomagnetic data show that the dates for the site cluster from A.D. 1350-1450 (Early 1988).

The classification that Standridge was a low mound cluster indicates that domestic as well as local religious and political activities took place there. Several features at Standridge indicate that it was likely a local elite center. The Standridge report points specifically to two building footprints documented during excavations as a round structure (Feature 12), and a rectangular wall trench structure (Feature 18) (Early 1988:41). Feature 18 was buried at some point and replaced with another rectangular building in the same location (Feature 8) (Early 1988:67). These buildings were located very close together, which makes it unlikely that both structures were residences. Assemblages from Feature 12 consist of food preparation and storage, lithic debatage and reworking debris, and other artifacts that indicate it was a domestic structure. Documentation from excavations of Feature 8 indicate that it was burned at some point (Early 1988:67).

Henri Joutel, a French explorer who traveled the southeastern United States from 1684-1687 notes several things about Caddo buildings in his journals. He notes that many are round in shape, as large as 60 feet (18 m) in diameter and are burned to the ground when they

Figure 3. A. Untyped Group 1 from Adiar (AAS Neg. No. 920152, 920089); B. Untyped Group 3 from Standridge (AAS. Neg. No. 825987, 825991)

are destroyed (Joutel 1906:142). Although it is not clear where Joutel made these observations, archeological evidence correlates with his writings. Structures observed at Adair include a large (13 m in diameter) round structure (See Dellinger and Dickinson 1939:Feature 27) and rectangular structures (see Dellinger and Dickinson 1939:Feature 3). Although Dellinger and Dickinson did not mention the types of artifacts or interior features of the structures excavated, they did mention that several of the excavated buildings, including Features 27 and 3, were burned (Dellinger and Dickinson 1939).

The connections between the Adair and Standridge sites likely do not indicate direct contact, but rather regional trends that were present throughout the entire Upper Ouachita River Valley at the time. Ceramic types in use seem to follow similar trends, and the burials at Standridge have types that correlate with known burial goods from Poole. The sites were likely, at least partially, contemporaneous, but the archeomagentic dates and diversity of the Adair ceramic collection indicate that Adair was occupied for a longer time. Besides ceramic similarities, comparisons of house construction techniques and shapes indicate that both Standridge and Adair followed similar cultural norms.

Comparing Adair and Hardman Ceramics

The Hardman site (3CL418) is not located in the Upper Ouachita region but rather in the Middle Ouachita Region further south. This region is south of modern-day Lake Hamilton and north of Camden (see Figure 1) (Early 1982, 1993). Culturally, differences between the Upper and Middle Ouachita can be seen in pottery styles and types, house and burial patterns, and other features.

The Caddo occupation of the Hardman site is divided into four archeological phases. The Mid-Ouachita phase (ca. A.D. 1350-1500) is contemporary with Adair (Early 1982, 1993). The distribution of the pottery at Hardman is quite different than Adair (Table 3). There are 27 types of pottery at Adair and 16 at Hardman.

Decoration Type	# of Adair Vessels	# of Hardman Vessels
Poole Plain	59	
Friendship Engraved	15	5
Fosters Trailed Incised	12	
Seed Jar	11	1
Maydelle Incised	9	
Blakely Engraved	8	1
Hempsted Engraved	5	
Keno Trailed	5	2
Means Engraved	5	
Moore Noded	5	
Taylor Engraved	5	
Adair Engraved	4	
Hodges Engraved	4	7
Hudson Engraved	4	1
Sanford Puncated	4	
Belcher Engraved	3	1
Woodward Plain	3	
DeRoche Incised	2	4
Garland Engraved	2	1
Maxed Noded Redware	2	
Military Road Incised	2	
Avery Engraved	1	
Hardman Engraved	1	4
East Incised	1	
Killough Pinched	1	
Ponteau Plain	1	
Sinner Linear Puncated	1	
Glassell Engraved		1
Old Town Red		1
Karmack Brushed Incised		2
Caney Puncated		2
Simms Engraved		1
Cook Engraved		2
TOTAL	201	36

Table 3. Whole vessel types from the Adair and Hardman sites.

The types that are at both Adair and Hardman are mostly those that are common in the Middle Ouachita region. As mentioned, there are some examples of Mid-Ouachita pottery at Adair. Conversely, there are no examples of Upper Ouachita pottery, such a Poole Plain, at Hardman (Early 1993). The pottery at Adair seems to have been brought from the Middle Ouachita region, thus suggesting that there is some interaction with people who were living in the Middle Ouachita. Even though interaction is possible, the lack of Upper Ouachita pottery at Hardman suggests that the people at Adair did not have sustained interaction with the people as far south as Hardman.

As at Adair, Poole and Hardman both had off-mound burials from cemeteries, but the compositions are different. One similarity that should be noted is that both the whole vessels in the Adair collection and the Hardman collection were both from mortuary settings. Poole Plain is the most common burial good in Upper Ouachita graves, but there was no Poole Plain pottery found at the Hardman site. In addition to the ceramic goods, there were non-ceramic goods interred with the Hardman burials as well. At Poole, chipped lithic and groundstone objects were the most common. Conversely, at Hardman, shells, beads, clay discs, and points were found in the burials. Although both cemeteries show modest, non-stratified burials, the differences in types of pottery and non-ceramic objects suggest that the two communities were not linked. Temporal dates for ceramic types indicate that most of the graves at Hardman can be identified as later than those at Adair, Poole, or Standridge .

The comparison between Adair and Hardman shows that although these sites may have had interaction the ceramic collections would likely be more similar. If interaction between the sites occurred, it is likely the sites would have similar standards for ceramic burial goods, as evident at Adair and Poole, or at the least some minor connections in ceramic burial goods, like Poole and Standridge. Additionally, there would likely be some examples of Upper Ouachita ceramic types at Hardman. It is possible that sites between Adair and Hardman were the indirect linkages between the sites. Although they were contemporaneous, the people who lived at Adair and Hardman were separate and most likely did not have direct contact.

Conclusion and Discussion

The goal of this study was to examine the possible interaction and influence of the Adair site throughout the Ouachita region. The comparison of ceramic collections as a proxy for interaction was undertaken among the Adair site and three contemporary sites in the Upper and Middle Ouachita. This study is about the ceramic assemblage of this site. Moreover, it is about the whole vessel assemblage, which limits assumptions even more. The dataset for the Upper Ouachita River Valley is one that is incomplete, even more so than the other areas of observed Caddo culture. Because of these reasons, one has to understand that the conclusions that are made cannot be proved or even tested without much more research being done on this and other Caddo sites. It is also understood that issues arise when trying to use one aspect of culture, ceramic in this case, as a proxy for interaction. Some ceramic types have large spans of time for usage, so it can be nearly impossible to draw direct, or even indirect, observations. However, some interesting

data can be inferred from the research listed above and as researchers, we must take the data we have, even if there are issues involved.

When looking at the four sites together, it can be understood that there was most certainly interaction between Adair and Poole. This is evident not only from the archeological data, but ethnohistoric data as well. When it comes to Adair and Standridge, it can be demonstrated that they did have some interaction, but it was likely indirect. Similarities in pottery distribution, and particularly in the untyped pottery (see Figures 2 and 3), show that there were ideas and possibly vessels exchanged between the sites. However, it is suggested that indirect linkages were more a result of regional trends in burial composition and pottery styles, rather than direct interaction. Conversely, the Adair and Hardman sites show little to no interaction and have no similarities in ceramic collections or burial goods.

The Adair site was most likely a local elite site that was the central place where people from the area would come to participate in ritual or civil ceremonies. This is evidenced by the complexity of the site, known ethnohistoric data, and diversity of the ceramic collection. It would have been a place where elites and their families would have lived with patches of hamlets and farmsteads nearby making periodic trips throughout the year to participate in governmental works or ritual activities. Because of the appearance of Middle Ouachita pottery at Adair, it is suggested that the extent of the interaction of the people at Adair would have included surrounding sites, possibly into the northernmost areas of the Middle Ouachita geographic area. The people of Adair would have utilized the Ouachita River as a way to interact with those in surrounding areas. The interaction would likely have been in the form of goods and ideas. Much of the interaction as far south as the Middle Ouachita area would likely have been indirect rather than direct. It has been recorded that Caddo communities could be very extensive spanning large swaths along rivers and streams (Early 1982:202). Although it is unknown the extent that the Adair site influence spanned, one could estimate that it was perhaps at a few kilometers, as evidenced by the assumed connections between Adair and Poole. This study of the Adair collection included only the whole vessel collection. Thousands of additional ceramic sherds, chipped lithics, and other artifacts are still unanalyzed. Additional research into the mico-stylistic variation within the whole vessel and sherd collection would be a next step in this research. Similar studies on collections from other sites have refined the typologies, identified different variations, and helped to understand the spread of manufactured goods across areas. Additional information can be inferred from these additional artifacts, which could possibly help archeologists glean more information about the Adair site and Caddo settlement systems in the Upper Ouachita River Valley.

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Salvage along the Red River: The Red Cox (3LA18) Site and its Place on the Caddo Landscape

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The Red Cox (3LA18) site is located in Lafayette County, Arkansas along the Red River. As recounted in his weekly report of April 9, 1975, Dr. Frank Schambach received word that the site was being directly impacted by land leveling machinery. Salvage efforts collected the remains from the floor of a burned Caddo farmstead structure. Remains include ceramic sherds, carbonized corn kernels, acorn nutmeat and nutshells, burned wood fragments, and bits of daub. In this paper, we present the results of a recent analysis of the materials and situate the farmstead within the Red River landscape during a period shortly after Haley (ca. A.D. 1200 - 1400) phase and into the early part of the Belcher (ca. A.D. 1400 - 1700) phase.

Introduction

As part of a Spring 2016 directed study course at the University of Central Arkansas (UCA) on archeological lab methods, archeological remains from a Red River Caddo farmstead known as the Red Cox (3LA18) site were examined. While not numerous, the Red Cox material is significant because what little has been collected is all that remains of a farmstead site that was destroyed in the mid-1970s as a result of modern agricultural land modification. Importantly, the material documents one of the few identified farmsteads on the Caddo landscape and contributes to our knowledge of Caddo lifeways beyond those sites containing monumental earthen architecture. While there has been some important work identifying and excavating Red River farmsteads (e.g., Hemmings 1982; Kelley 1997; Trubowitz 1984), much of what we know today of Red River Middle-Late Caddo is from the perspective of larger sites that often contain mounds (e.g., Buchner et al. 2012; Jackson et al. 2012; McKinnon 2013; Webb 1959). As noted over thirty years ago by Dr. Frank Schambach (1982:7), there has been very little fieldwork on farmsteads. Since that time, these concerns still resonate largely because of the ephemeral character of farmstead sites, the damaging sinuosity of the meandering Red River, and the destructive nature of modern agricultural practices.

In this study, Red Cox material was analyzed and compared to select documented Caddo farmsteads located along the Red River, such as Cedar Grove (3LA97), McLelland (16BO236), Joe Clark (16BO237), and Spirit Lake/Cabinas (3LA83) (see Hemmings 1982; Kelley 1997; Trubowitz 1984). Several additional farmstead sites have been recorded along the Red River in this area although they remain unstudied or unpublished and their current status is unknown (see Hoffman 1970). From this analysis we situate the Red Cox farmstead within the Red River Great Bend landscape during a period shortly after Haley (ca. A.D. 1200 - 1400) phase and into the early part of the Belcher (ca. A.D. 1400 - 1700) phase.

The Red River Great Bend Landscape

The Great Bend region contains the Red River Valley along with "the upland watersheds of all minor tributaries of the Red River" (Schambach 1982:1). The landscape along the Red River is highly dynamic where many sites are situated within a broad alluvial river bottom floodplain defined by a type of topography known as ridge and swale (Guccione 1984, 2008). In this region numerous sites are subject to a high risk of seasonal flooding and destructive meandering (Schambach 1982:10). The area is abundant in fertile agricultural land and has proved to be an ideal locale for maize based agriculture during Caddo times (Perttula 2008). Today, and in more recent history, the region is dominated by mechanized production that requires substantial land modification, such as corn, rice, soybean, timber, and ranching activities. The current economy of the region certainly makes it challenging in terms of archeological preservation and is a contributing factor in the lack of documented farmstead sites.

Caddo settlement patterning along the Red River during Middle-Late Caddo times is distinctive from various Mississippian period occupations situated further to the east that generally had a centralized

earthen mound where structures existed within a palisaded area or in dense villages close to the mound center (e.g. Fowler 1997; King 2003; Knight and Steponaitis 1998). In contrast, Caddo settlement along the Red River consisted of a set of family farmsteads dispersed across the landscape with at least one supporting mound center and lacking a palisade enclosure. For example, the Domingo Terán de los Ríos map of 1691 displays a large Upper Nasoni community of several farmsteads dispersed along both sides of the Red River (Swanton 1942:Plate 1). Each partitioned farmstead consists of one or more large circular thatched-covered dwellings with open-air storage structures and ramadas. The community depicted in the Terán map likely represents the Hatchel-Mitchell-Moores site complex in present day Bowie County, Texas (Perttula 2005; Wedel 1978). The platform mound at the Hatchel site (41BW3) is considered the supporting temple mound (Perttula 2005; Wedel 1978). In addition to the large mound, a few of the dispersed farmsteads have been archeologically identified and recorded along this portion of the Red River (see Perttula et al. 1995; Perttula 2005; Walker and McKinnon 2012; Walker and Perttula 2008).

The Red Cox site represents a similar farmstead and part of a separate community located south of the bend in the Red River (Figure 1). In terms of a supporting mound center, the Battle Mound site is located approximately 20 km down river by way of the current channel and is a large mound site. Recent research at Battle Mound demonstrates the mound was in use during the Haley and Belcher periods (McKinnon 2013). There is also the Crenshaw site with its multiple mounds located approximately 15 km upriver and on the opposite side of the river from the Red Cox site. Recent radiocarbon dates from Crenshaw reveal Haley and earlier phase occupations (Schambach 2014). While the relationship of the Red Cox site to these two mound sites (and the extent of the community in this area) is not fully realized, the dispersed settlement patterning and the data we have demonstrates that the Red Cox site is characteristic of a typical Caddo farmstead and one of many that would have been distributed on the landscape during Haley and Belcher phase times.

The Red Cox Site

The Red Cox site is located in what is today Lafayette County, Arkansas and is named after Mr. and Mrs. Red Cox - tenant occupants when the site was originally recorded. Like many sites in the Great Bend region, the site was situated along a natural sandy ridge. At present, what remains of the site (if anything) is located about

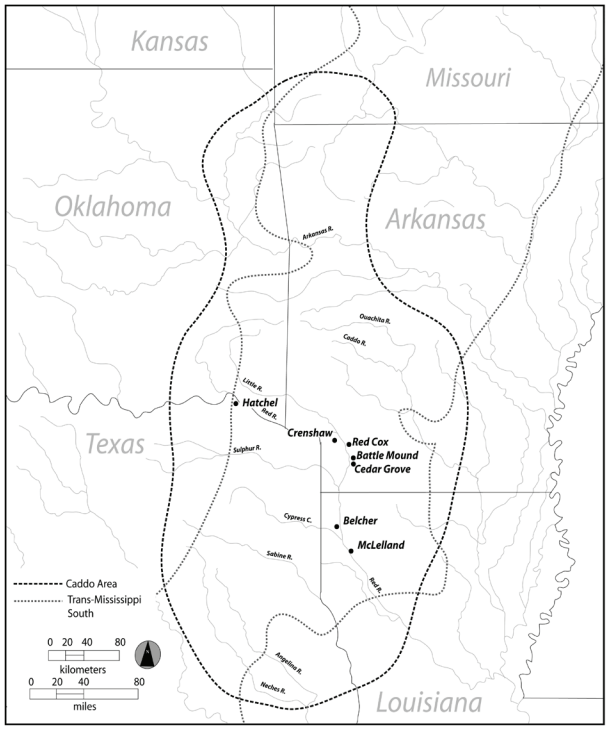

Figure 1. Location of sites discussed in text.

2 km east of the current channel of the Red River. The Mays Lake oxbow is about 0.75 km from the site and may represent an active channel during occupation. Long time avocationalists and Arkansas Archeological Society (ARAS) members of the area, Mr. Hershel Kitchens and his wife Mrs. Dot Kitchens, first recorded the site in 1968 after a polished celt, flint knife, and a "scattering of Caddo pottery" were collected from the surface (Figure 2). A midden area is also mentioned in the notes, but the exact location is not documented in the site files (Arkansas Archeological Survey [ARAS] Site File [SF] 3LA18).

On April 9, 1975, Hershel Kitchens alerted Dr. Schambach, Southern Arkansas University (SAU) station archaeologist at the Arkansas Archeological Survey (ARAS) at the time, of land-leveling activities at the site. Realizing there was little time to conduct a formal excavation, Schambach and Dot and Hershel Kitchens salvaged an "enormous sample of carbonized corn and acorns, several partial vessels and lots of sherds" from the remains of the floor of a collapsed burned structure in the short time between four in the afternoon and nightfall around 8:30pm (ARAS SF 3LA18). The structure was a "house that burned intact sometime in the fall or winter with everything in it" (ARAS SF 3LA18). At nightfall, land-levelers informed Schambach "it wasn't at all likely they would hit that spot [where the Caddo house as located] within the next

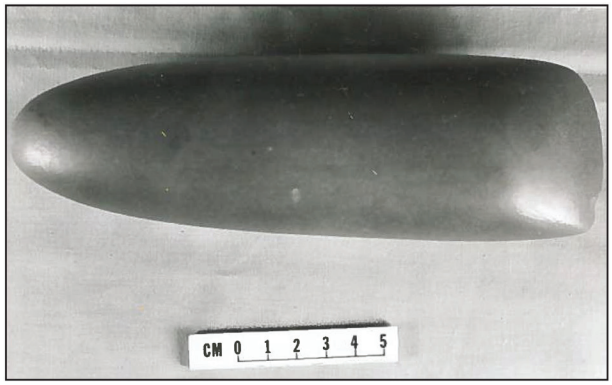

Figure 2. Celt collected from the Red Cox site in 1968 (ARAS 793399).

two days" (ARAS SF 3LA18). Upon returning to the site the next day with additional society member volunteers and Dr. Ann Early, Henderson State University (HSU) station archaeologist from Arkadelphia "who had dropped everything to come over", it was discovered that the "dirt buggies [were] running directly over [the site] and nowhere else" (ARAS SF 3LA18). The landscape had been completely leveled by workers who thought the site might contain "buried treasure… even though we'd explained carefully the night before what we were doing" (ARAS SF 3LA18). After the machines stopped for the day, Schambach and his crew surveyed and tested the remainder of the site for any additional structures, churned up artifacts, and possible disturbed burials to no avail.

While only a portion of the site and structure were salvaged, the efforts were productive as it led to an important, although small, collection of archeological material from the floor of a burned Caddo farmstead structure. Items salvaged include several ceramic sherds, large fragments from at least three broken and incomplete vessels, a significant amount of carbonized corn kernels and cobs (*Zea mays*), charred acorn nutmeat and nutshells (*Quercus sp.*), burned wood fragments, bits of daub, and a few lithic debris. A single radiocarbon date from wood charcoal was acquired shortly after the salvage (ARAS SF 3LA18) and a second date from charred remains was recently obtained (McKinnon 2014).

Analysis of Material Remains

The salvaged material collected from the structure floor consists of 84 ceramic sherds (>1 cm in diameter), three broken and partially complete vessels (95 sherds), 1,912 small pieces of daub (395.10 g; 0.87 lbs), six lithic fragments (12.90 g; 0.03 lbs), two broken manos (162.30 g; 0.36 lbs), and 13.637 kg (30.06 lbs) of soil to be floated. A small number of artifacts are noted as "not necessarily part of the house floor" and consist of two historic cow bone fragments (23.90 g; 0.052 lbs), eight small lithic pieces (48.80 g; 0.107 lbs), and a single historic whiteware sherd. Interestingly, apart from the two historic cow fragments, there were no faunal remains in the Red Cox material. While meat protein would have been a desired food source, large numbers of animals could have been less frequent or unavailable and flora more available seasonally (Early 2013:6). Nonetheless, the absence of any faunal remains suggests processing and cooking was perhaps conducted at outside cooking areas not identified in the salvage collection (see McKinnon 2013).

This paper focuses on the material collected from the structure floor with an emphasis on the botanical remains and ceramic material. A short discussion on collected daub and two mano fragments is included. The two acquired radiocarbon dates are also discussed below.

Botanical Remains

Before analysis of the material could begin, the salvaged soil containing the floral material (now hardened after 40 years in the box) was floated. Each of the six flat boxes contained four sub-sections that were photographed and weighed on a standard triple-beam balance scale (Figure 3). Material was floated using a simple manual bucket flotation method in the anthropology laboratory at UCA (see Pearsall 2015). Soil from each of the sub-sections was submerged into a 5-gallon bucket and filled two-thirds full of water. To break apart the hard soil clods, the water was stirred by hand. Larger pieces were gently maneuvered to break the soil apart so that stirring would free the corn, nuts, and wood fragments. A few ceramic sherds were found within the soil clods and are included in the sherd analysis.

Once the soil was adequately broken up and botanical remains separated, light fractions were poured through a 0.25 mm (60 mesh) sieve. Each time the mesh became full, materials were removed and set to dry in the laboratory and flotation proceeded with a clean mesh. After each pour, water was added to the remaining material at the bottom of the bucket and again stirred by hand. Contents from each pour through the 60 mesh were laid out on a tray covered with paper towels. The stirring and pouring process was repeated for each sub-section from one to four times depending on the size of the soil sample and until all soil was dissolved. When no additional material (light fraction) came to the surface in the bucket, soil and remaining materials (heavy fraction) were also poured though the 0.25 mm mesh. The process resulted in light and heavy fractions

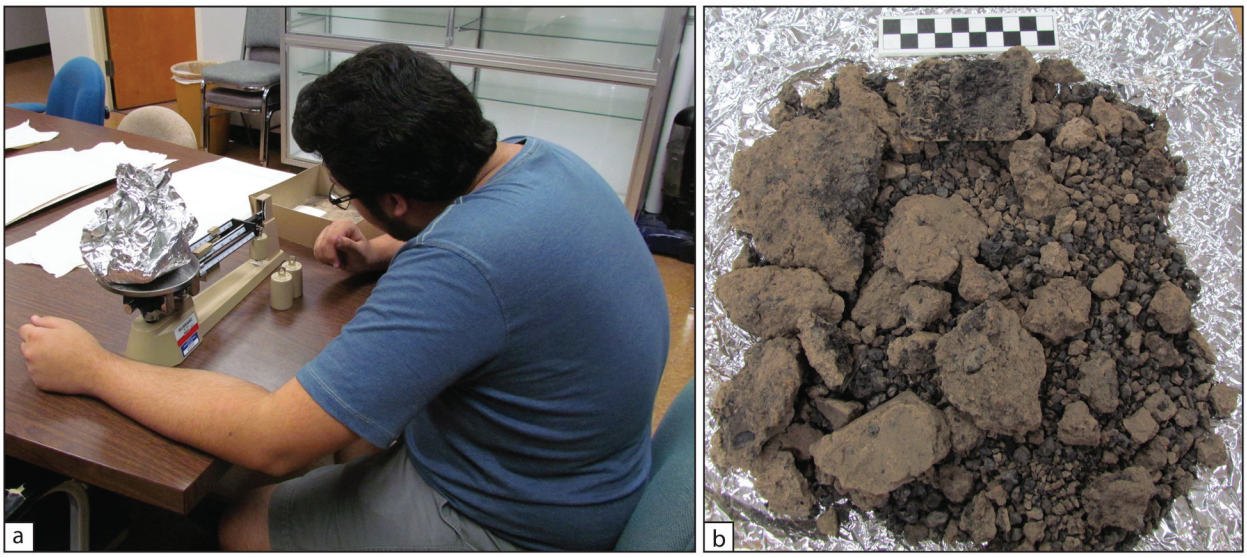

Figure 3. (a) Soil being weighed on a standard triple-beam balance and (b) one section of soil to be floated.

being combined in the laboratory, but light material that came to the surface quickly was protected from damage by heavier material by the frequent removal of light material from the mesh. Material was set to dry for a couple days and then dry sieved by hand (see Pearsall 2015). After drying, materials were size-sorted through a stack of graduated geologic mesh with square openings of 4.0 mm (5 mesh), 2.0 mm (10 mesh), and 0.5 mm (35 mesh). Results from the dry sieve sorting were bagged according to mesh size. Sorted corn kernels and cobs from the 4.0 mm sieve were analyzed in the UCA laboratory. Materials other than corn in the largest size fraction and all material that passed through the 4.0 mm square mesh (inadvertently including some corn fragments) were sent to Macrobotanical Analysis for sorting and identification (Bush 2016).

The corn analyzed in the UCA laboratory was sorted, counted, weighed, and values recorded. Of the total number of kernels collected from the 4.0 mm sieve (n = 5,712), a five percent random sample (n = 285) was analyzed using published guides on the measurement of maize kernels and cobs (Bird 1994; Whitehead 2004). While measurements were taken, it should be noted that the dimensions of kernels and cupules have become distorted as a result of charring, even at low temperatures, so the corn cannot be directly compared to modern or ancient, uncarbonized corn. Much archeological literature, however, compares carbonized to uncarbonized corn, so the measurements should be useful to other researchers (Goette et al. 1994:12-14). The analysis of the sample reveals a mean of 7.4 mm kernel height, 7.5 mm kernel width, and 4.1 mm kernel thickness, with a maximum height at 10.7 mm, width 11.4 mm, and thickness 7.0 mm. Shapes are both round and square where 150 (53 percent) are classified as round in shape and 135 (47 percent) are classified as square. Differences in size and shape may relate to processing techniques (e.g., nixtamalization versus untreated corn) and they may correlate with different varieties of corn. Planting multiple varieties would represent a strategy related to reducing risk, since diversity of corn varieties would necessitate separate crops and differential exposure to flooding or rainfall which would impact yields (Dering 2004:332; Perttula 2008:96).

Several cob fragments were collected in 1973 and described by Schambach as "very large, the biggest I've seen from the area" (ARAS SF 3LA18). At the time of collection, Schambach measured a single cob at 140 mm in length. Today, most of the cobs have deteriorated and are in fragments. The largest fragment (25.77 mm) is a small-grained maize cob with an intact rachis and 10-row cupule architecture. Kernel angle measurements (30-50 degrees) all fall within the range of 8-12 row corn. Cupule width ranges from 2.3 mm to 3.1 mm.

At Macrobotanical Analysis, materials not analyzed at UCA were examined under a stereoscopic microscope at 7-45 X magnification, sorted, counted, weighed, recorded, and labeled. Weights were taken on an Ohaus Scout II 200 x 0.01 g electronic balance. In addition, a sample of twenty randomly-selected wood charcoal specimens was identified from the 4.0 mm size fraction. Wood charcoal fragments selected for identification were snapped to reveal a transverse section and examined under a stereoscopic microscope at 28-180 X magnification. When necessary, tangential or radial sections were examined for ray seriation, presence

Accession #	Type	Botanical Name	Common Name	NISP*	Weight (g)	Comments
75-87-1-1-3	Nutmeat	*Quercus* sp.	Acorn	380	37.59	single cotyledons, whole nuts, fragments
75-87-1-1-3	Nutshell	*Quercus* sp.	Acorn	33	0.54	
75-87-1-1-3	Cupule (cap)	*Quercus* sp.	Acorn	1	0.03	fragment
75-87-1-1-3	Rachis (cob)	*Zea mays*	Corn	3	0.03	1 whole cupule, 2 attached glumes
75-87-1-1-3	Seed	*Zea mays*	Corn	46	2.06	6 whole
75-87-1-1-3	Soil with stem impressions			1	0.12	
75-87-1-1-4	Nutmeat	*Quercus* sp.	Acorn	2	0.37	loose cotyledons, nearly whole
75-87-1-1-5	Wood	*Diospyros virginiana*	Eastern persimmon	19	47.87	from same stem/limb, about 8 yrs' growth, diameter ~37.5 mm, outer rings present, bark absent
75-87-1-1-6	Wood	*Morus rubra*	Red mulberry	8	1.03	
75-87-1-1-6	Wood	*Salix* sp.	Willow	2	0.14	
75-87-1-1-6	Wood	*Fraxinus* sp.	Ash	8	0.15	
75-87-1-1-6	Wood	*Quercus* sp.	Oak	1	0.31	no tyloses but white group latewood, wide rays
75-87-1-1-6	Wood	Hardwood	Hardwood	1	0.02	pith, 1st yr growth
75-87-1-1-6	Wood	*Diospyros virginiana*	Eastern persimmon	1	0.11	
75-87-1-1-6	Wood	Not examined	Not examined	326	9.51	
75-87-1-1-6	Stem	*Arundinaria* sp.	Cane	59	2.24	split
75-87-1-1-6	Seed	*Zea mays*	Corn	8	0.12	fragments
75-87-1-1-6	Nutmeat	*Quercus* sp.	Acorn	2	0.07	
75-87-1-1-6	Nutshell	*Quercus* sp.	Acorn	5	0.08	
75-87-1-1-6	Bark			16	0.25	
75-87-1-1-6	Soil with stem impressions			5	0.32	
75-87-1-1-7	Examined residue > 2 mm			-	5.75	2 splits of 5.0 ml each
75-87-1-1-8.1	Examined residue > 1 mm			-	6.76	2 splits of 5.0 ml each
75-87-1-1-8.2	Examined residue > 0.5 mm			-	6.67	2 splits of 5.0 ml each
75-87-1-1-9	Examined residue from bottom pan (< 0.5 mm)			-	5.7	2 splits of 5.0 ml each

Table 1. Recovered botanical remains from the Red Cox site.

of spiral thickenings, types and sizes of intervessel pitting, and other minute characteristics that can only be seen at the higher magnifications of this range.

Due to constraints of time and budget, only a portion of material that fell through the 4.0 mm mesh ("residue") was examined. Using a method from population ecology designed to maximize the number of taxa identified for the amount of material examined ("species area curve"), random splits of 5.0 ml from each size fraction were examined under a stereoscopic microscope at 7-45 X magnification for types of botanical remains that had not been previously identified until two successive splits failed to produce new taxa (Adams 2004). Splits were taken from the 2.0 mm, 1.0 mm, 0.5 mm, and bottom pan size fractions.

Botanical materials were identified to the lowest possible taxonomic level by comparison to materials in the Macrobotanical Analysis comparative collection and through the use of standard reference works (Core et al. 1979; Davis 1993; Hoadley 1990; InsideWood 2004; Martin and Barkley 2000; Panshin and de Zeeuw 1980; Wheeler 2011). Botanical nomenclature follows that of the PLANTS Database (USDA, NRCS 2016). A variety of plants were identified in the Red Cox material (Table 1) with several economic categories interpreted (Table 2).

Not all plant material is completely carbonized. It is very dark brown rather than black. However, the material is interpreted as archeological due to 1) the relatively recent age of the deposits, 2) the absence of uncarbonized (modern contaminant) plant material, and 3) the co-occurrence of fully carbonized and incompletely carbonized plant remains. Further, Schambach noted at the time of excavation that corn cobs were burned only on the outside, implying a zone of semi-carbonized material between the burned exteriors and rotted interiors. Materials consisted primarily of acorn parts and wood charcoal. Some split cane stems (*Arundinaria* sp.) were identified and measure approximately 1.0-5.0 mm wide, consistent with cane stems that have been vertically divided into four or eight splits (Figure 4). They range between 1.5 and 2.0 mm thick. The inner tissue has not been scraped away ("cleaned") for fine basketry. The specimens may represent half-processed cane stems intended for use in basketry, but they could also have been the large grass employed in building construction that left impressions on the daub fragments recovered (see below). A few small fragments of corn kernels and corn cob parts (cupules, glumes) in addition to those sorted and measured at UCA were also identified (Figure 5).

Economic Category	Plant Type
Food plants	Corn kernels, acorn nutmeats
Food-related debris	Corn cob parts, acorn nutshells and caps
Fiber plant debris	Split cane
Fuel wood and associated bark	Mulberry, ash, willow, oak, persimmon, bark
Structural or craft wood	Persimmon

Table 2. Plant remains from the Red Cox Site, by category.

The acorn nutmeats consist of whole nutmeats (two attached cotyledons), single cotyledons, and fragments (Figure 6a). A fragment of an acorn cap and acorn nutshell fragments were also identified (Figure 6b).

The wood charcoal in Accession # 75-87-1-1-5 (see Table 1) is interpreted as a single stick or pole, as all fragments in the accession are complete or nearly complete stems of the same species (eastern persimmon, *Diospyros virginiana*) with approximately the same diameter (roughly 37.5 mm) and the same number and size of eight growth rings (Figure 7). Although the outer rings are present on most fragments, the bark has either fallen off or, more likely, been removed. Persimmon is a member of the ebony botanical family (*Ebenaceae*), and its heartwood is dark brown to black. The wood is very

Figure 4. (a) Split cane stems (*Arundinaria* sp.), Accn # 75-87-1-1-6-9. Scale in mm and (b) Cross section of a split cane stem (*Arundinaria* sp.), Accn # 75-87-1-1-6-9.

Figure 5. (a) Corn cupule with two attached glumes (*Zea mays*). Accn # 75-87-1-1-3-3. Scale in mm. (b) Corn kernels (*Zea mays*). Accn # 75-87-1-1-3-5. Scale in mm.

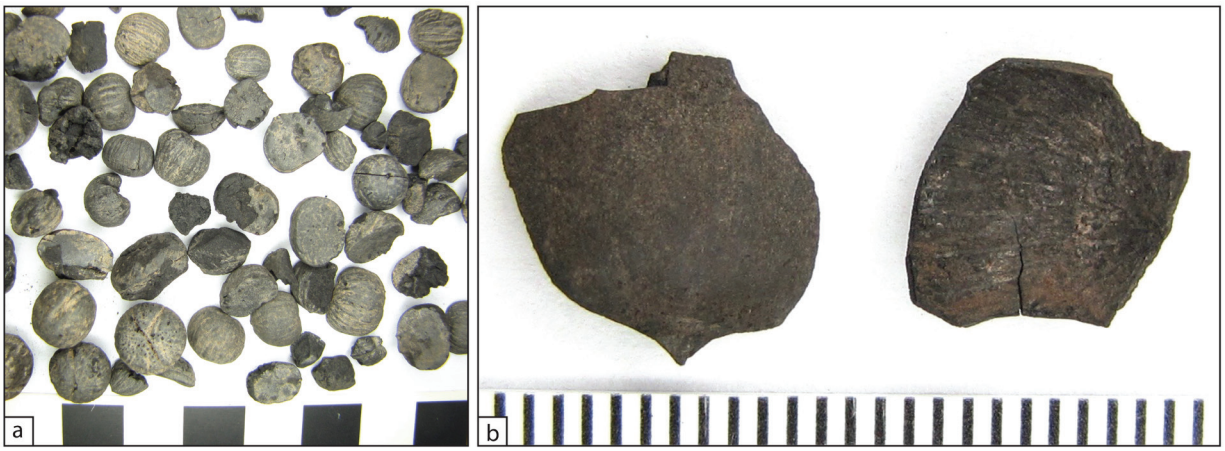

Figure 6. (a) Acorn nutmeats (*Quercus* sp.). Accn # 75-87-1-1-3-1. Scale in cm and (b) Acorn nutshell (*Quercus* sp.). Accn # 75-87-1-1-3-2. Scale in mm.

tough, used for golf clubs in recent times, and suitable for digging sticks or tool handles in the past (Elias 1980; Little 1980). Other wood charcoal is interpreted as fuel wood and/or wood from diverse items and parts of the structure, since it consists of several species such as mulberry, ash, willow, oak and with no clear patterns in size or growth rings. Bark is also present. Mulberry, ash, and willow trees are often found growing along streams. Oaks and persimmons may grow along streams, but they also occur in upland situations. The variability of wood species from different habitats suggests a strategy focused on resource extraction from a wide range of local environments typical of the Red River floodplain.

Figure 7. Transverse section of eastern persimmon wood (*Diospyros virginiana*). Accn # 75-87-1-1-5. Scale in cm..

Ceramic Material

Ceramics collected from the structure floor were analyzed in the UCA anthropology laboratory. Ceramic sherds were sorted by type of design and temper present using a tabletop grid system for easy sorting. Where visible, the observable design on each sherd was noted and temper was recorded. To sort by temper, a small corner of each sherd was broken to get a fresh view of the ceramic temper. Each sherd was examined under an AmScope binocular 10-60 X microscope at either 10 X or 30 X magnification to determine temper present. Temper present includes bone, grog, clay, and shell (which is mostly leached but easily identifiable based on linear voids) and contains numerous inclusions that are difficult to identify without conducting a thin-section petrographic analysis. There were a variety of designs on sherds that are identified as plain, brushed (grassy stems taken across the vessel in a horizontal direction), incised (markings made while the clay was full or partially wet), engraved (markings made when the vessel had dried), punctated (impressions made by a stick or thumb nail), or a combination of brushed-incised, incised-brushed, and punctated-incised (Table 3).

A few designs have been assigned to several possible ceramic types (Figure 8). Six sherds are typed as Belcher Engraved. Four are typed as likely Foster Trailed-Incised. There is a single possible Glassell Engraved sherd, a single possible Hempstead Engraved, a single possible Hodges Engraved, and five possible Pease Brushed Incised or Karnack Brushed-Incised sherds. Hempstead and Pease Brushed are often associated with Haley Phase times whereas Belcher, Foster-Trailed, Glassell, Karnack, and Hodges are often associated with Belcher Phase times (see Kelley 2012; Webb 1959). Certainly, the structure was not standing for longer than perhaps 20-25 years (see Davy 1982; Good 1982) where the combination of both Haley and Belcher Phase vessels suggests a timeframe shortly after Haley phase and into the early part of the Belcher phase. Radiocarbon dates discussed below support this assumption.

Additionally, the remains of at least three broken ceramic vessels (1, 2, & 3) from the house floor are also in the collection (Figure 9). Schambach's weekly report document there was a large pile of carbonized corn with a layer of acorns resting over the corn (ARAS SF 3LA18). Beneath the pile of corn and nuts were the remains of three crushed ceramic vessels that were resting on the house floor. The arrangement of corn and acorn resting on the crushed vessels suggests the vessels were used as storage containers for harvested corn and nut resources and that the structure had burned, perhaps in late fall or winter, with food contents still inside the vessels. Schambach's observations of the corn at the time of collection corroborate this suggestion where he states the abundance of loose kernels is because the material "had burned on the outside and then the cobs rotted away on the inside" (ARAS SF 3LA18). Vessel 1 is interpreted as a Belcher Ridged jar (see Suhm et al. 1954:246) with temper of crushed shell mixed with clay. Vessels 2 and 3 are bone temper and are not typed. Their shapes are undeterminable.

	Brushed	Incised	Punctated	Engraved	Punctated/Incised	Brushed/Incised	Incised/Brushed	Plain	Totals
Clay	1	2		5			1	31	40
Grog	1	5	3		1	1		2	13
Bone	46								46
Shell	3			7		1		2	13
Clay/Shell						49			49
Grog/Shell	1	6						7	14
Bone/Grog	1							3	4
Totals	53	13	3	12	1	51	1	45	

Table 3. Recovered ceramic remains from the Red Cox site.

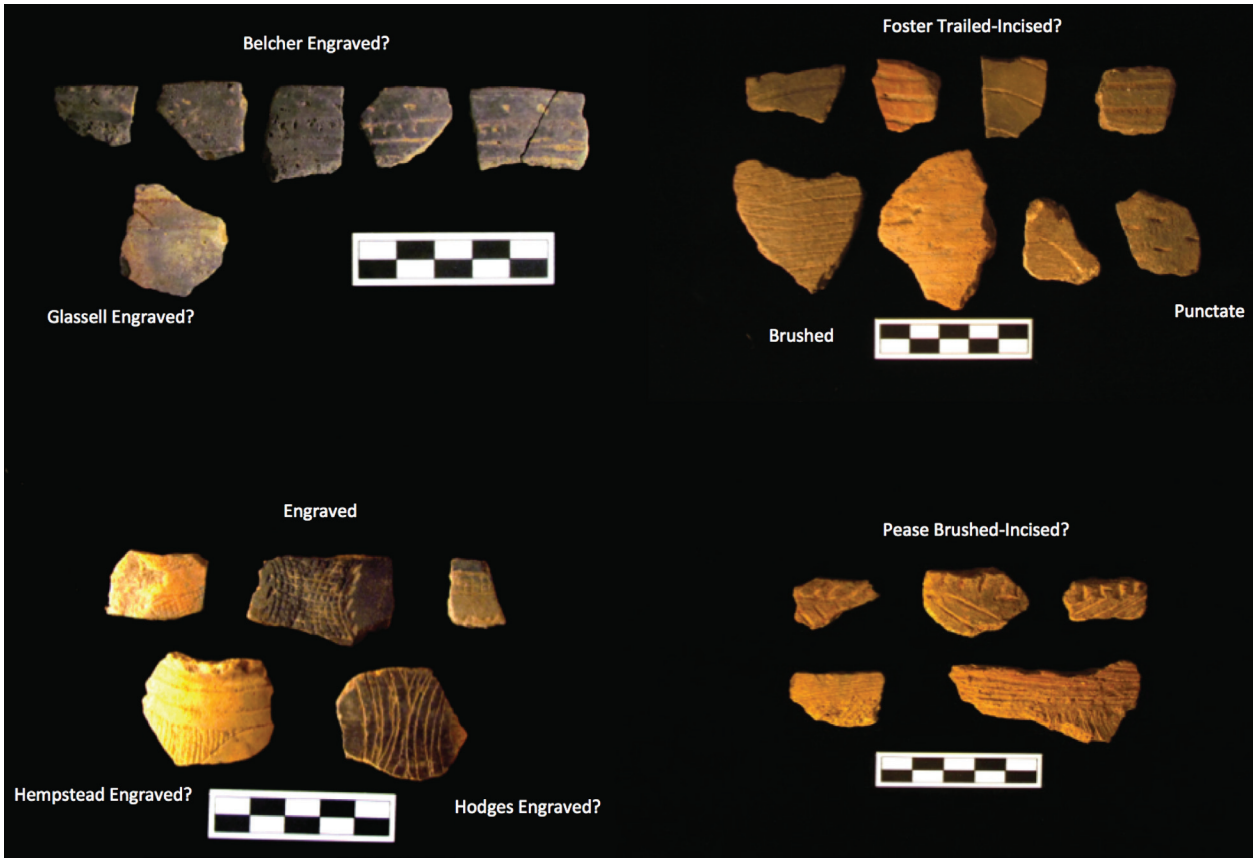

Figure 8. Typed sherds: top-left, Belcher Engraved and Glassell Engraved; top-right, Foster Trailed-Incised; bottom-left, Hempstead Engraved and Hodges Engraved; bottom-right, Pease Brushed Incised.

Figure 9. Select remains of broken vessels 1, 2, and 3. Vessel 1 is typed as a possible Belcher Ridged jar.

Additional Remains

Numerous pieces of daub were also collected from the structure floor and are variable in size and coloration. There are large pieces that were clearly subjected to intense heat based on vitrification and the associated orange color. However, the majority of daub was a darker grey color with impressions 1.98 mm – 2.63 mm in width of large-stemmed grass, such as cane *Arundinaria* sp.), switchgrass (*Panicum virgatum*), or big bluestem (*Andropogon gerardii*) (Figure 10). The difference in coloration is likely a result of exposure to different burning temperatures. Using the work of Stevanovic (1997:368) to correlate daub color with corresponding temperatures, the orange color daub (7.5YR 5/8) is a result of burning temperatures around 600 degrees Celsius whereas the darker grey color daub (10YR 3/2) is the result of a lower burning temperature at 400 degrees Celsius. The presence of large-stemmed grass impressions also suggests that these fragments are the remains of clay that was packed into the walls. Perhaps the darker colored daub lined the interior walls of the structure and thus was more insulated from direct heat during the burning of the structure. If this was the case where differential daub color represents exposure to various burning temperatures, it suggests the house burned very rapidly and was then left to smolder as it cooled. The rapid burning of a grass lodge structure has

Sample ID and Provenience	Measured Radiocarbon Age Before Present	13C/12C Ratio	Conventional Radiocarbon Age Before Present	Calibrated Age 1 sigma range (68% probability)	Calibrated Age 2-sigma range (95% probability)
Krueger GX-6745, 75-87, wood charcoal.	290 +/- 115 BP			Cal AD 1453 - 1676 and Cal AD 1768 - 1771 and Cal AD 1777 - 1799 and Cal AD 1941 - 1951	Cal AD 1433 - 1708 and Cal AD 1718 - 1827 and Cal AD 1831 - 1889 and Cal AD 1910 - 1953
Beta 382662, 75-87-1-1-2, chared material.	370 +/- 30 BP	-25.7 o/oo	360 +/- 30 BP	Cal AD 1465 - 1520 and Cal AD 1575 - 1630	Cal AD 1450 - 1640

Table 4. Radiocarbon results from the Red Cox site.

Figure 10. Daub from the Red Cox site.

been documented with the modern construction and subsequent burning at the George C. Davis (41CE19) site in east Texas. In that experiment, a grass lodge was constructed to better understand construction methods (Cheatham 1992; Perttula and Skiles 2014). After several years, the structure was set aflame and within minutes had fully collapsed and the fire diminished. Archeologically, the identification of burned farmstead structures at sites along the Red River is not common. For example, at Cedar Grove, McLelland, and Joe Clark excavated houses had not been burned (Kelley 2012; Trubowitz 1984). The lack of burned farmstead structures suggests the process of disposal or termination of farmstead structures is different than that reserved for mound structures, where structures were cleaned, burned, and then covered with a layer of soil (see Trubittt 2009; Schambach 2009; Webb 1959; Wood 1963). Since several vessels containing food remains were found within the structure at Red Cox, perhaps the burned structure was the result of unrelated events, such as lightning or a naturally occurring fire.

Lithic material is composed of a handful of debitage from locally sourced material and two broken manos. The association of manos on the house floor offers visibility into the potential nature of domestic activities that occurred within the structure. From the vast amount of acorn nuts (n = 421) and over 5,000 kernels of maize, it is certainly possible that these manos were used as the actual grinders for food processing occurring within the structure (see also Swanton 1942:133). That they were found within the structure and on the floor might also corroborate the idea the house burned in the late fall or winter when grinding food outside might have been a chilly endeavor.

Radiocarbon Results

Two radiocarbon dates have been acquired from charred material (Table 4). A single date was obtained from wood charcoal and a second from charred remains. Dr. Schambach submitted the first radiocarbon date from wood charcoal in 1979 to Geochron Laboratories (GX-6745) where the results calibrate to a date range of A.D. 1430 - 1950 with a median probability of A.D. 1625 (Perttula et al. 2011:Table 2; Schambach 1982:9; AAS SF 3LA18). A recent accelerator mass spectrometry (AMS) date was acquired in 2014 from charred remains (McKinnon 2014). Advantages of AMS dating over standard radiocarbon or C-14 dating are the small sample size (0.05 grams with AMS instead of 20 grams with C-14) and that dates returned typically contain lower statistical error ranges allowing for "tighter" dates along the calibration curve. The sample was sent to the Beta Analytic, Inc. radiocarbon laboratory in Miami, Florida. The date returned is 360 +/- 30 B.P., which calibrates to A.D. 1450 - 1640 at 2-sigma (Beta 382662,

	Red Cox	Spirit Lake	Cedar Grove	McLelland	Joe Clark
Wood					
Elm *(Ulmus* sp.)		x	x		
Oak (*Quercus* sp.)	x	x	x		
Eastern Persimmon (*Diospyros virginiana*)	x				
Red Mulberry (*Morus rubra*)	x				
Willow (*Salix* sp.)	x				
Ash (*Fraxinus* sp.)	x		x		
Pine (*Pinus* sp.)		x	x		
Hickory/Pecan (*Carya* sp.)			x		
Black Walnut *(Juglans* sp.)			x		
Cypress (*Taxodium* sp.)			x		
Maple (*Acer* sp.)			x		
Sycamore (*Plantanus* sp.)			x		
Nut					
Acorn Nut (*Quercus* sp.)	x		x	x	x
Beech Nut (*Fagus grandifolia*)			x		
Black Walnut (*Juglans nigra*)			x		
Hickory/Pecan Nut (*Carya* sp.)		x	x	x	x
Hazelnut (*Corylus* sp.)			x		
Pondnut (*Nelumbo* sp.)				x	
Cultigen					
Corn (*Zea Mays*)	x		x	x	
Cucurbits (*Lagenaria* sp. & C. *pepo*)			x	x	
Bean (*Phaselous* sp.)				x	x
Grass					
Cane (*Arundinaria* sp.)	x		x		

Seeds varieties were not recovered in the Red Cox material so they are not included here.

Table 5. Comparison of remains from select farmsteads.

sample 75-87) and in line with recovered sherds and proposed ceramic types during an early Belcher phase time.

Comparative Discussions and Conclusions

Although the Red Cox site was land-leveled and subsequently destroyed, the material salvaged by Dr. Schambach and his crew has proven to be very useful in placing the Red Cox site within the Caddo landscape. While the collection is incomplete and contains undeterminable sampling errors (given the salvage nature of the material), occurrences of botanical and ceramic material can be compared to select documented Red River farmsteads using a simple presence or absence analysis (Table 5).

Botanical Comparisons

The most prominent cultigen in the Red Cox material is corn, which is 89.2 percent of the collected botanical samples. Corn is also present at Cedar Grove and McLelland but in much smaller quantities. At Cedar Grove, corn occurs in 13.9 percent of the samples (King 1984:Table 14-1). At McLelland, corn occurs in 9 percent of the samples and only one percent at Joe Clark (Gardner 1997:114). Corn is not recorded at Spirit Lake,

although the lack of corn is attributed to sampling error where only 1.5 cubic meters of the midden feature was excavated (Hemmings 1982:87). Certainly the family occupying the Red Cox site relied heavily on corn as a major source of subsistence, as has been documented ethnographically (Swanton 1942:127-131).

Acorn represents 6.25 percent of the collected botanical material from the Red Cox structure and is the only nutmeat present, perhaps because the meat of oily nuts like hickory and walnut tend to burn all the way to ash in fires. At Cedar Grove, McLelland, Joe Clark, and Spirit Lake, hickory nuts represent the most prominent nut present. The lack of hickory nuts at Red Cox could be related to sampling error, differential preservation, access to hickory stands, or a preference based on edible nutmeat (Note that Munson and colleagues include acorn nutmeats but not hickory or walnut nutmeats in their grouping of plants with middling archeological visibility [Munson et al. 1971:427]).

Although the sample is small, there is variability in wood types in the Red Cox collection. Oak (*Quercus* sp.) is recorded at Red Cox, Spirit Lake, and Cedar Grove. Ash (*Fraxinus* sp.) is recorded at Red Cox and Cedar Grove. Species such as eastern persimmon (*Diospyros virginiana*), red mulberry (*Morus rubra*), and willow (*Salix* sp.) are only recorded in the Red Cox material, although the lack of these at other sites could be related to small sampling size, such as at Spirit Lake. At the McLelland and Joe Clark sites, "no attempt was made to identify the taxa of either the wood or the stem fragments" (Gardner 1997:111), so there is nothing to compare with those samples.

Of particular interest are the Eastern Persimmon pieces that are all from the same stem (see Table 1) and with the bark removed. The removal of bark suggests the hard, dense wood was reserved for architectural or tool use rather than as wood fuel. That there were no other stems or limbs recovered in the Red Cox material could indicate that the wood pieces were used for tool making, such as specialized digging sticks (Vines 1960).

Ceramic Comparisons

Many of the proposed types from the Red Cox material (Belcher Ridged, Foster Trailed-Incised, Glassell Engraved, Hodges Engraved, Hempstead Engraved, Karnack Brushed-Incised, Pease Brushed-Incised) are present at Cedar Grove, McLelland, Joe Clark, and Spirit Lake sites and are representative of Haley and Belcher phase ceramic assemblages (Hoffman 1970; Kelley 2012).

In the Red Cox material, shell represents 31 percent of the temper present and 42 percent when sherds from the shell-tempered Vessel 1 are included in the calculation. A recent preliminary analysis of the Red Cox ceramic temper by Dr. Mary Beth Trubitt as part of a larger study to examine frequencies of shell-tempered pottery in the Caddo area reported, "39 percent [of the collection] tempered with a mixture of shell and grog" (Perttula et al. 2011:248). While the subjective concern of assigning temper using "megascopic" approaches rather than using thin-section petrography, and most recently digital image analysis (Livingood 2007; Reedy et al. 2014), has been discussed elsewhere (see Perttula et al. 2011:260; Stoltman 1989, 2001), the differences in percentages between the two are minimal and equally emphasize a large number of sherds containing shell temper. High occurrences of shell temper are also present at Cedar Grove where 85.95 percent of coarse ware and 9.91 percent of fine ware sherds had identifiable shell temper (Schambach and Miller 1984:109). At McLelland, 53.2 percent of the ceramics contained shell and only 22.5 percent at Joe Clark where 76.4 percent of the ceramics were grog tempered (Kelley 1997:38). At Spirit Lake, 42 percent of the sherds contained shell.

In the Red River Great Bend region, the presence and use of shell temper is a late introduction beginning in the Belcher phase and with more frequent occurrences in subsequent later phases (Perttula et al. 2011:246). Along with the acquired radiocarbon dates, the high percentage of shell temper at Red Cox (although not has frequent as at later sites, such as Cedar Grove, McLelland, and Joe Clark) also demonstrates that the site was occupied during early Belcher times. The fact that high occurrences of shell temper are present in the Red Cox ceramic sherds has cultural implications. Along with Caddo exploiting local food resources from the Red River floodplain and potential functional and societal benefits of using shell temper (see Perttula et al. 2011:260), the presence of shell temper potentially also hints at social boundaries between communities. Individuals within communities learned pottery-making techniques from one another and practiced social identification through their pottery styles and temper recipes (Early 2012; Girard et al. 2014:75-76).

In closing, the Red Cox site is an important example of a Middle-Late Caddo farmstead in the Red River valley. Farmsteads in the region were distributed across the landscape, similar to the Upper Nasoni community recorded in the Domingo Terán de los Ríos map of 1691 where each farmstead is documented as having at least one circular thatched-covered dwelling and associated structures (Swanton 1942:Plate 1). At Red Cox, material was salvaged from a residential structure, although any associated outbuildings or other

structures were not identified or previously destroyed by land leveling. While distributed spatially, the family or families that called the Red Cox site their home were socially integrated into a larger community through a shared identity in subsistence strategies, ceramic design and production, and architectural techniques. With this analysis of the Red Cox material we can now situate the Red Cox site within the Red River landscape during a period shortly after Haley phase and into the early part of the Belcher phase and can use these data for continued comparisons of Caddo lifeways beyond those sites containing monumental earthen architecture.

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Effigy Pottery in the Joint Educational Consortium's Hodges Collection

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As part of on-going documentation of the Joint Educational Consortium's Hodges Collection, 31 ceramic effigy vessels or vessel fragments are described. Most were dug by Thomas and Charlotte Hodges or Vere Huddleston in the 1930s-1940s from sites in the Middle Ouachita archeological region of southwest Arkansas. By documenting these vessels and what is known of their archeological contexts, we can better employ them in future analyses of regional variation, iconography, and interactions between the Caddo Area and the Mississippian Southeast.

Introduction

The Joint Educational Consortium (JEC), made up of Henderson State University and Ouachita Baptist University, owns a large collection of Native American artifacts curated at the Arkansas Archeological Survey's Henderson State University (ARAS/HSU) Research Station in Arkadelphia. This collection was amassed by Thomas and Charlotte Hodges in the 1930s and 1940s from archeological sites near Arkadelphia. The Hodgeses, along with other local amateurs such as Robert Proctor and Vere Huddleston, were involved in the development of Caddo Area archeology alongside the few professional archeologists working in this area in the early to mid- twentieth century, such as Philip Phillips and Alex D. Krieger (Early 1986; Girard et al. 2014). The Hodgeses were active participants in early Caddo Conferences and they and Huddleston wrote articles for publication (e.g., Hodges and Hodges 1945; Huddleston 1943). Proctor donated his collection to the HSU Museum (now on long-term loan to Historic Arkansas Museum in Little Rock, http://www.historicarkansas.org/). The Hodgeses bought the Menard mound site in a preservation effort and assisted Phillips' research there (Phillips et al. 1951); now known as the Menard-Hodges site (3AR4), it is part of the National Park Service's Osotouy Unit of the Arkansas Post National Memorial. Krieger and Phillips photographed ceramic vessels in both the Hodges and Huddleston collections for later study and publication (e.g., Suhm and Jelks 1962).

After the Joint Educational Consortium acquired the Hodges Collection in 1977, Ann Early and her staff at the ARAS/HSU Research Station accessioned, catalogued, and photographed artifacts. There are about 50,000 objects in the collection, mostly chipped stone tools and ceramic sherds, but also including about 1,350 whole, reconstructed, and partial or unreconstructed ceramic vessels. Early was able to identify site locations for some of the artifacts using the limited records (including Phillips' photographs and photo cards). Vere Huddleston's collection was purchased by Thomas and Charlotte Hodges, and Huddleston's notes provide some context for a subset of the artifacts in the JEC Hodges Collection. Pottery and other objects can be tied to specific known archeological sites – in some cases to specific graves – using Huddleston's notes and the Hodges catalog (Trubitt and Evans 2015). Our long-term project to document these artifacts at the ARAS/HSU Research Station provides information to officials from the JEC and the Caddo Nation as they consult about the Hodges Collection. We have developed exhibits to interpret Caddo Indian history and lifeways in the Middle Ouachita River valley using objects from the collection. Our understanding of changes in material culture, settlement patterns, and regional interaction comes in part from studying the artifacts in this collection that can be tied to known archeological sites, many of which have been damaged or destroyed by flooding, farming, or development since the 1930s.

This article describes ceramic effigy vessels, which make up a small portion of the JEC Hodges Collection pottery. Effigy vessels are representations of humans or animals modeled in pottery, including rim and "tail-riding" effigy bowls, whole vessel effigies, and quadruped forms (Phillips et al. 1951:160-169). While there are fewer animal forms than seen from the Mississippi River valley, effigies representing humans, birds, fish, reptiles and amphibians, and mammals are present in the JEC Hodges Collection. Not included as effigies in this discussion are square or triangular "boat-shaped" vessels or free-standing figurines.

Documenting the effigy vessels was completed with the assistance of HSU student Emily Miller, who also created a brochure in 2014 to accompany an exhibit of effigy pottery in HSU's Huie Library. This effort has also been motivated by the Mississippian Iconography Workshop organized by Kent Reilly, specifically by the Caddo working group in 2014 (Eloise Gadus, Julie Holt, John Kelly, Duncan McKinnon, Eric Singleton, and Mary Beth Trubitt). Our discussions about Caddo

iconography started with imagery on Caddo ceramics from East Texas and Oklahoma (e.g., Dowd 2011; Gadus 2013), moved to distinctive Red River valley zoomorphic pendants of shell and stone (McKinnon 2015), brought in iconography on engraved shell from Spiro (Phillips and Brown 1978, 1984), and returned to ceramic effigies and possible ties between more representational and more stylized designs on ceramics and in other media. Here, I focus on Caddo effigy pottery.

Following Knight (2013), the first step in iconographic analysis is to assemble the corpus of objects/images, along with information about their archeological contexts. Context is important for addressing questions of function as well as temporal change and spatial distribution. Effigy pottery is an uncommon category in the Caddo Area. Effigy vessels made up only one percent of Caddo vessels documented in Texas Archeological Research Laboratory collections (Perttula and Selden 2015:1). Here, we provide documentation on 31 effigy vessels or fragments, about 2 percent of the JEC Hodges Collection vessel assemblage. With only a few examples, we get a sense of uniqueness and style variation (Knight 2013:34). But with additional examples – drawn from ARAS/HSU Research Station photograph files as well as from published sources – we can begin to recognize patterns. Stylistic and iconographic analysis are later steps. Here, the goal is to provide documentation of the effigy vessels in the JEC Hodges Collection for the wider community of researchers, descendants, and other interested readers.

The JEC Hodges Collection Effigy Pottery

A total of 31 effigy vessels and vessel fragments have been documented from the JEC Hodges Collection (see Appendix). Excluded from this discussion is a small bird effigy vessel that is likely an early twentieth century piece from the Southwestern U.S. Also excluded are two figurine fragments collected by the Hodgeses at the Mississippian period Menard-Hodges mound center (3AR4). These appear to be figurines rather than broken attachments from effigy vessel handles, and are part of a small set of artifacts in the JEC Hodges Collection from the lower Arkansas River valley (see Trubitt 2016). The figurine fragments, a "teapot" bottle, and several other pottery vessels collected by the Hodgeses from the Menard vicinity will be described in a future article.

The JEC Hodges Collection was accessioned in 1977 (ARAS accession number 77-1). Based on available catalogs/notes, artifacts identified to specific sites by Ann Early were coded with numbers representing the site and object (e.g., 1-5, where 1 codes for site 3CL21 and 5 codes for a specific artifact catalogued from that site; artifacts with unknown site provenience were coded as X). Many of the artifacts have inked numbers that correspond to either the original Huddleston or Hodges catalogs, and some had been reconstructed or restored by Vere Huddleston or Thomas and Charlotte Hodges in the 1930s-1940s. Copies of Phillips' 1939 photographs and notes on part of the collection aided identification. Images of some of these vessels have been previously published, forming part of the known corpus of Caddo pottery (e.g., Suhm and Jelks 1962:Plate 25).

The effigy vessels have been documented using a protocol first developed by Ann Early for use on HSU Museum vessel collections and recently revised by Early and Leslie Walker (2014) as part of the Arkansas Archeological Survey's digital vessel database initiative. The record form includes attributes of form and shape, paste and temper, measurements, decorative treatment, evidence of use, and associations. While there have been some changes in the recording protocol between 2000 and 2016, the results are comparable. Decorative treatments to vessel rim and body are coded using the collegiate or descriptive system, developed for use on Caddo vessels in southern Arkansas (e.g., Early 1993; Schambach and Miller 1984), with named patterns and numbered design variations within each pattern. Type (and variety) names follow Early (1993) and Suhm and Jelks (1962).

Documentation of site collections that include Huddleston vessels and records have been prioritized, since in some cases grave lots can be reconstructed (Trubitt and Evans 2015). For purposes of advising the JEC in their on-going consultation about the Hodges Collection with descendant communities, an effort has been made to identify associated funerary objects and unassociated funerary objects using available notes, catalogues, and records from the 1930s-1940s. Two of the effigies from Huddleston's East Place (3CL21) excavations were previously discussed and illustrated with their grave lots (Trubitt and Evans 2015:Fig. 7, 8): vessel 1-14, an East Incised rim effigy bowl, was part of an East phase (ca. A.D. 1150-1400) grave dug in 1942; and vessel 1-50, a Keno Trailed human effigy bottle, was part of a late Social Hill or Deceiper phase (ca. A.D. 1600-1700) grave dug in 1939. The East phase grave also contained two other rim effigy bowls Huddleston gave to his associates Proctor and Richardson; these were illustrated previously (Suhm and Jelks 1962:Plate 21E; Trubitt and Evans 2015:Fig. 4) but are not present in the HSU Museum collection. Several other effigies in the JEC Hodges Collection have been linked to grave lots from sites 3CL23, 3CL40, 3CL81, 3CL83, 3HS104, and 3HS105 (Table 1, Figures 1 and 2). One effigy vessel (77-1/3-9, site 3CL83) has been identified as an associated funerary object.

Site/Grave Number	Huddleston/Hodges Cat. #	Cat. #	Huddleston or Hodges Description	JEC Hodges Coll 77-1/Prov-Item	Arkansas Archeological Survey Documentation: Vessel Form or Artifact Type	Comments
3CL21, East						
Huddleston Grave 3, 20" deep	201	1380	1 of 3 broken pieces (sketch - jar) [201 = 1380?]	1-41	jar, tall rim	Cowhide/Foster Trailed-Incised
4/29/1939 - 5/5/1939	202	1373	1 of 3 broken pieces, cazuela / hanging bowl with scalloped rim	1-34	bowl	Maddox Engraved
[late Social Hill to Deceiper phase]	203		1 of 3 broken pieces, cazuela			
	204	1379	cazuela	1-32	bowl, carinated	Means Engraved, partial vessel
	205		jar			
	206		jar			
	207	1371	bottle, perfect (sketch)	1-13	bottle, pedestalled	Keno Trailed
	208	1372	human effigy bottle, perfect (sketch)	**1-50**	**bottle, effigy, pedestalled**	Keno Trailed
Huddleston Grave B, 18" deep		2694	effigy pot / incised red slip effigy bowl (sketched)	**1-14**	**effigy bowl**	East Incised, reconstr. with plaster
11/21/1942		2695	engraved beaker (sketched)	1-3	beaker	East Incised?
[East phase]		2696	bottle, engraved (sketched)	1-2	bottle	Spiro Engraved?
		2697	celt	1-45	celt	
		2698 to 2707	10 small points (10 to Hudd, 10 to Mr C, 9 to Mr Proctor)			
			1 pot, 1 effigy pot, Mr C			
			1 pot, 1 effigy pot, Mr P			
			pipe, Mr Proctor			
3CL83, Richardson						
Huddleston G3		2845	vessel, owl effigy, sketch on cat card	**3-9**	**effigy**	seed jar, effigy
11/20/1943		2846	pot - sketched on cat card	3-10	jar, short rim	
grave, 5 pots		2847	vase - sketched on cat card	3-15	jar, tall rim	Foster Trailed-Incised
[Social Hill phase]		2848	bowl sketched on cat card - Bur 2?	3-17	bowl, carinated	Sandford Punctated
		2849	vessel on diagram			
		2850	human, on diagram	3-21	human bone	
3CL81, Stanford						
Huddleston B-1	43	1303	3 pots each with rim projections		carinated bowl, rim tabs	1-1303 in HSU Museum Coll; Garland Engraved
5/14/1938	44	1340	effigy	**14-20**	**effigy bowl**	Phil card "Freeman"/sketch fits Stanford descr.
grave in md, trace bone, 3 pots	45		3rd pot, broken, 4 tips on rim (sketch)			
[Mid-Ouachita phase]						
Huddleston B-26?		2397		5-5	bottle	Blakely Engraved *var. Blakely*
1/4/1940 or 1/4/1941		2398				
grave w/ 3 pots incl turtle effigy		2399	effigy	**5-23**	**effigy bowl**	Means Engraved
[Social Hill phase]		2410	or broken bottle?	5-29	bowl, simple	
3CL23, Rorie						
Huddleston G-3	38	1207	effigy shaped like frog	**8-1**	**effigy seed jar, quadruped**	
12/22-30/1938	39		rim bowl lazy S engraving	8-25	bowl, carinated (sherd lot)	1977 cat. in Bur. 3 / Friendship Engr. *var. Meador*
grave next to G-2 and lower in mound			small food jar			
[Mid-Ouachita phase]						
3HS104, Henry Means II						
Hodges cat., 140, 141, 142 - small grave.		140	small urn: imitation "cord mark" in conic. circles	9-3	jar, tall rim	
8 ft. depth high bank		141	very small Cazuela bowl. Plain. Restored.	9-4	bowl, simple	
or 141, 142, 143, 148 found tog.?		142	Gondola-like bowl. Effigy. Engraved rim - restored.	**9-5**	**effigy bowl (?)**	Friendship Engraved *var. Meador*
[Mid-Ouachita phase]		143	Seed urn. Perfect. Tall, cylindrical. Plain, porous, heavy.	10-28	seed jar	Hodges cat.: Henry Means #2
		148	Bottle. 2 story. Glazed, plain. 8 holes in dividing compartment	9-51	bottle, compound	
3HS105, W.I. 3 - Crowe						
Hodges cat. 692 Found in Cazuela #693		692	very unusual pendant - container, engraved and polished	**10-3**	**container; effigy**	Garland Engraved
(West of Md.)		693	cazuela engr Friendship design	10-18	bowl, carinated	Friendship Engraved *var. Freeman*
[Mid-Ouachita phase]						
3CL40, Freeman						
Huddleston B'X'		2737		14-11	bowl, simple	Hempstead Engraved
12/23/1942		2738	(sketched effigy)	**14-21**	**effigy bowl**	
shallow grave, 5 pieces		2739		14-35	bottle	
[Mid-Ouachita phase]		2740		14-14	bowl, simple	Friendship Engraved *var. Freeman*
		2741		14-19	bowl, simple	

Table 1. Reconstructed Grave Lots with Effigy Vessels (JEC Hodges Collection, Huddleston and Hodges Excavations).

Figure 1. Vessels from Huddleston's B-26?, 3CL81.

Figure 2. Vessels from Huddleston's B-X, 3CL40.

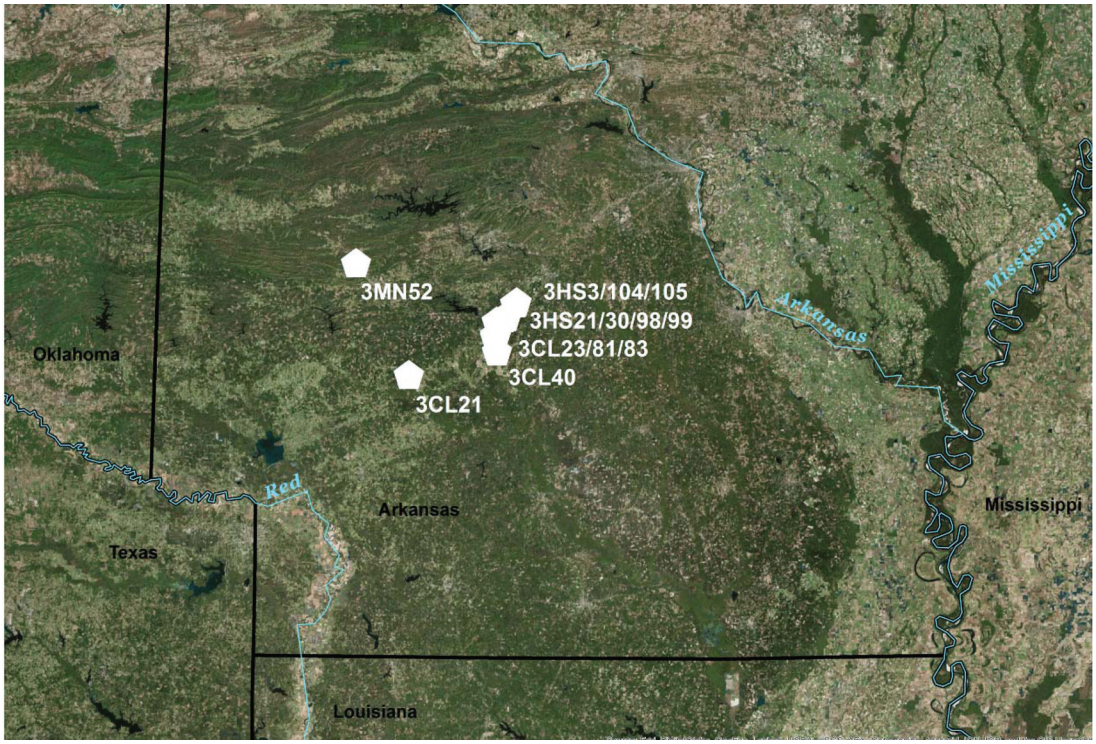

Figure 3. Map showing locations of archeological sites with Hodges Collection effigy vessels discussed in article (base map: ArcGIS World Imagery, ESRI 2014).

When seen from the perspective of other grave goods as grave lots, these effigies can be placed more firmly into their cultural context and in time and space. Spatially, most of the effigies came from sites along the Ouachita River in the Middle Ouachita archeological region in Arkansas (Figure 3). Two effigies came from a site on the Antoine River in the Little Missouri archeological region, and one was reportedly collected from a Montgomery County site in the Ouachita Mountains archeological region. These effigy vessels represent a chronological range through the Caddo period, with characteristics that place the Middle Ouachita region examples from the East phase (ca. A.D. 1150-1400) to the Deceiper phase (ca. A.D. 1650-1700) (Early 1993).

Vessel forms include bowls (n = 18), bottles (n = 5), seed jars (n = 4), and "container" (n = 1); handle fragments (n = 3) probably were originally part of effigy bowls (Table 2). While some vessels show some wear on base and around rim/neck or on handle tabs, sooting was not noted on most examples (compare with House 2003:33). Effigy vessels were made of clay tempered with a mixture of grog (crushed sherds) and mussel shell (n = 15), or tempered with just grog (n = 8), just shell (n = 7), or shell with bone (n = 1). In the Middle Ouachita region, mussel shell was used as temper beginning in late 1300s or early 1400s during the Mid-Ouachita phase, and was the predominant temper after A.D. 1500 during the Social Hill and Deceiper phases (Perttula et al. 2011).

The effigies are often formed with unique modeled or appliqued handles, heads, flanges, and legs. Some include incising or engraving, such as horizontal lines with or without ticking below the rim (incised Bates and Barrington patterns, engraved Erie and Elgin patterns), crosshatched facial features or rim panels (engraved Edgar, Elwyn, and Elmira patterns), or circles, scrolls, or curvilinear designs on body (incised Baker and Belhaven patterns, engraved Edith and Elmhurst patterns). Identified types in the collection include East Incised, Friendship Engraved, Garland Engraved, Means Engraved, and Keno Trailed.

Effigies include what Phillips, Ford, and Griffin (1951:160-169) term rim effigy bowls with head and tail tabs, as well as whole vessel effigies and quadruped forms. Representations of both humans and animals can be seen in the effigies (Figure 4). While it is tempting to identify birds, fish, bears, or other animals portrayed

Item No.	Site No.	Vessel Form	Type	Temporal phase	Decoration	Rim :: Body	Temper
10-3	3HS105	container, effigy (?)	Garland Engraved	Mid-Ouachita	engraved	:: Elmira 30?	SHELL (LEACHED) & GROG, FINE/SPARSE
21-136	3HS98	effigy bottle	Keno Trailed / Means Engraved	Deceiper	incised/engraved/ appliqued/modeled	plain :: Baker 27?	SHELL (LEACHED) & GROG, FINE/SPARSE
X-187	unknown	effigy bottle	Means Engraved		engraved/appliqued/ modeled/punctated	plain :: Belhaven?	SHELL (LEACHED), MEDIUM/SPARSE
1-50	3CL21	effigy bottle, pedestalled	Keno Trailed	Social Hill/Deceiper	incised/trailed/modeled/ appliqued	plain :: Baker 27?	SHELL (LEACHED), MEDIUM TO COARSE/ABUNDANT
32-1	3MN52	effigy bottle, quadruped	Authenticity uncertain		appliqued/modeled		SHELL, COARSE/ABUNDANT
X-186	unknown	effigy bottle, quadruped	Means Engraved		engraved/incised/ appliqued/modeled	plain :: Edith?	SHELL (LEACHED), MEDIUM/ABUNDANT
1-14	3CL21	effigy bowl	East Incised	East	red slipped/incised/ modeled	Bates 15 or Barrington 5 :: plain	GROG, FINE TO MEDIUM
5-23	3CL81	effigy bowl	Means Engraved	Social Hill	engraved/appliqued flange/handles	Elgin 1 :: plain	SHELL (SOME LEACHED), FINE/ABUNDANT
9-24	3HS104	effigy bowl			engraved/modeled/ appliqued	Erie 4 :: plain	GROG
10-1	3HS105	effigy bowl	Garland Engraved	Mid-Ouachita	engraved/modeled/ appliqued	Erie 12 :: Elmira 33 or 36?	GROG & SHELL (LEACHED), MEDIUM/ABUNDANT
14-20	3CL81	effigy bowl		Mid-Ouachita	appliqued handles		GROG & SHELL (LEACHED), ABUNDANT
14-21	3CL40	effigy bowl		Mid-Ouachita	appliqued flange/modeled		GROG & SHELL (LEACHED), FINE/ABUNDANT
18-1	unknown, Hot Spring County	effigy bowl			engraved/appliqued/ modeled	Bates 2 :: plain	GROG & SHELL (LEACHED), FINE/SPARSE
21-69	3HS98	effigy bowl			engraved/incised/ appliqued		SHELL(LEACHED) & GROG, FINE/ABUNDANT
21-72	3HS98	effigy bowl			engraved/appliqued/ modeled	Erie 13 :: plain	GROG, COARSE/ABUNDANT
39-1	3HS21	effigy bowl			appliqued/modeled		GROG & SHELL (LEACHED), MEDIUM/ABUNDANT
X-32	unknown	effigy bowl			modeled/appliqued		GROG & SHELL (LEACHED), COARSE/ABUNDANT
X-34	unknown	effigy bowl			modeled/appliqued/ engraved		SHELL & GROG, MEDIUM
X-58	unknown	effigy bowl			modeled/appliqued/incised		GROG, MEDIUM
9-5	3HS104	effigy bowl (?)	Friendship Engraved *var. Meador*	Mid-Ouachita	engraved/appliqued handles	Elwyn 7 :: plain	SHELL (LEACHED) & GROG, FINE/ABUNDANT
14-49	3CL40	effigy bowl (?)	Means Engraved		engraved/appliqued handles	Elgin 2 :: plain	SHELL (SOME LEACHED) & GROG, FINE/SPARSE
24-1	3HS99	effigy bowl (?)					SHELL (LEACHED), MEDIUM/ABUNDANT
X-68	unknown	effigy bowl (?)			appliqued		SHELL (LEACHED) & BONE?, ABUNDANT
34	3HS30	effigy bowl, fragment	sim. to Crockett		engraved/appliqued	Erie 2 :: Elmhurst?	GROG, FINE/ABUNDANT, OCCASIONAL HEMATITE GRIT
23-9	3HS3	effigy handle, fragment			modeled/appliqued handle		GROG, MEDIUM/ABUNDANT
X	unknown	effigy handle, fragment			modeled/appliqued/ engraved	Edgar 3	MEDIUM/ABUNDANT, OCCASIONAL GRIT
X-231	unknown, Hot Spring County?	effigy handle, fragment			modeled/appliqued		GROG, MEDIUM/ABUNDANT
3-9	3CL83	effigy seed jar		Social Hill	appliqued nodes		SHELL (SOME LEACHED), FINE
9-1	3HS104	effigy seed jar			modeled/incised		GROG & SHELL (LEACHED), FINE
8-1	3CL23	effigy seed jar, quadruped		Mid-Ouachita	incised/modeled		GROG, FINE/ABUNDANT
X-36	unknown	effigy seed jar, quadruped			modeled/appliqued/incised		GROG & SHELL (LEACHED), MEDIUM TO COARSE

Table 2. Effigy Vessels in the JEC Hodges Collection (Accession 77-1).

somewhat naturalistically in effigy form, we should remember that composite images of supernatural beings may have been intended. As we assemble a corpus of images of Caddo effigy pottery, patterns and repeating characteristics begin to emerge. There are three human effigies in the JEC Hodges Collection; two are bottles with circular Keno Trailed designs and modeled facial features on the bodies and one is a seed jar with modeled/incised facial features and arms and attached legs. The bottles have two faces, one on each side of the bottle body, separated by two vertical line panels (77-1/1-50) or swirled line panels (77-1/21-136) (the latter similar to Keno Trailed *var. Grigsby* defined by Early 2000:106- 107 at the Helm site). Similar bottles from sites in Garland and Hot Spring counties can also be seen in the HSU Museum collection, Gilcrease Lemley collection, and several private collections, based on photograph files at the ARAS/HSU Research Station

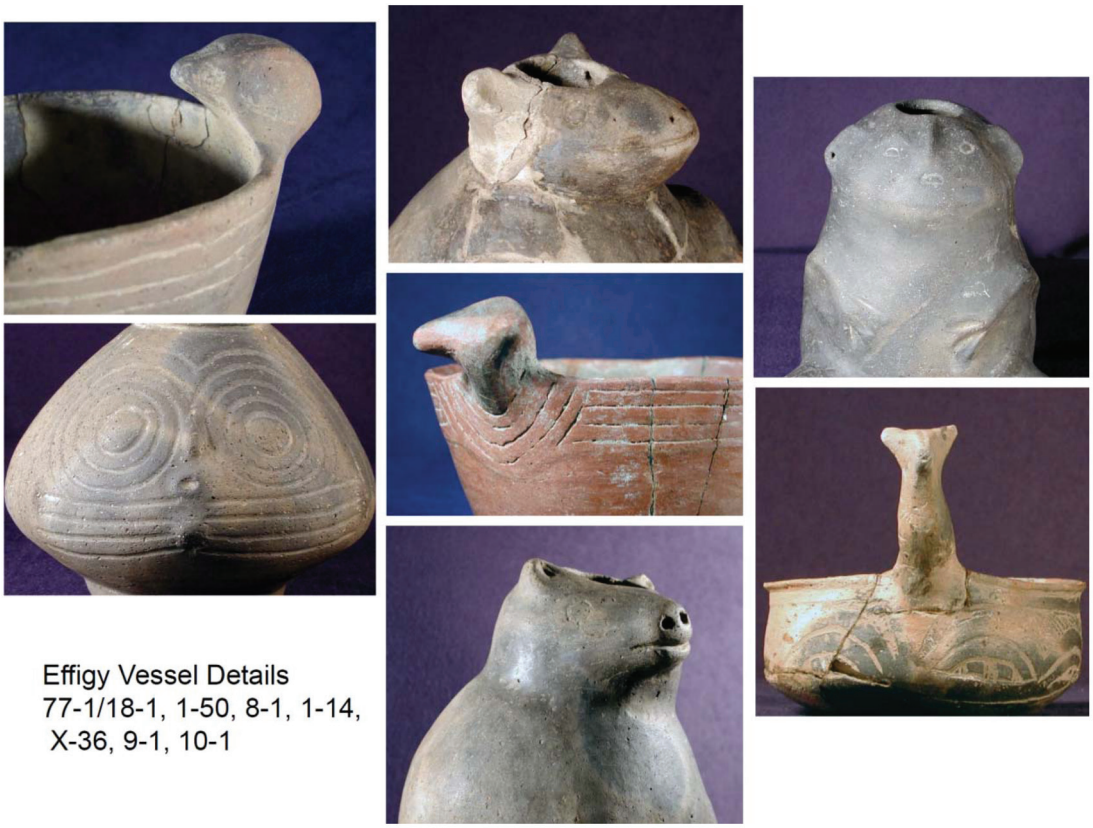

Figure 4. Details of effigy vessels showing modeling of animal and human heads.

(Gilcrease Museum has images of some Caddo pottery in their online collections, https://collections.gilcrease.org/). The human effigy seed jar (77-1/9-1) was found by Richard Reid after the Hodgeses had dug several graves at 3HS104, and its association was unclear (the Hodges catalog entry notes "can't tell where one grave ends and others begin"). This vessel is similar to one illustrated by Moore (1908:Fig. 16-17) from a grave near Menard in Arkansas County. A third type of human effigy bottle, with head and body created from Keno Trailed or Bailey Engraved circular designs on the neck and body of the vessel respectively, was sketched by Huddleston from a grave at 3CL81(Phillips photo 3895?) but is not present in the JEC Hodges Collection; this effigy style is represented in Gilcrease Lemley collection examples from Saline County.

One bowl (77-1/18-1) and a head fragment from another (77-1/X) can be identified as bird or duck effigies. Similar vessels, with bird heads facing into or away from the bowl, several incised or engraved lines with or without ticking below the rims, and engraved crosshatched or excised areas emphasizing eyes and bills, were found at Poole (3GA3, Wood 1981:Fig. 11) and are well-represented in the ARAS/HSU station photograph files from sites in Clark and Hot Spring counties (and elsewhere in the Caddo Area; see Perttula and Selden 2015). Other examples, such as vessel 77-1/14-20, have stylized heads that cannot be readily identified as bird or animal. Three bowls (77-1/5-23, 14-21, and 21-69) have flanges around the rims that form wings or fins (or carapaces?) and tails of birds or fish (or turtles?). Lines were incised on the top surfaces of the flanges. A head is intact on only one of these effigies. Similar examples are known from sites in Clark, Hot Spring, and Garland counties (including one from Adair, 3GA1, illustrated in Suhm and Jelks 1962:Plate 53E; see also DeMaio 2013). A related form has wings or fins set vertically on the sides of the bowl (vessel 77-1/X-58 and rim sherd 77-1/34). A drawing in the Hodges catalog shows a similar bowl with bird head and describes it as a turkey effigy (Hodges #1009), but since this vessel has not been identified in the modern collection, it is not clear whether the drawing was a reconstruction or actual vessel drawing. A bowl with modeled/appliqued fins, head, and tail (vessel 77-1/X-32) appears to represent a fish when viewed from the top. This form is more

commonly seen in Mississippian effigy pottery from eastern Arkansas (House 2003; Mainfort 2008; Phillips et al. 1951).

Bowls with attached heads and tail tabs on either side of the rim depict other animals as well. Vessels 77-1/1-14 and 21-72 are similar in their stylized animal heads. The rattle head of the 21-72 bowl may be a technological feature (to keep the applique handle intact during firing) or may have been important to its use. On vessel 77-1/10-1, a long-necked animal with snout and ears may represent a deer; effigy handle/tab fragments 23-9 and X-231 may also portray deer. The long-necked animal on bowl 77-1/X-34 looks like a frog. A single bowl with quadrupedal animal represented on one tab handle and the effigy broken off the other (vessel 77-1/9-24) is an example of the "tail-riding effigy bowl" form described by Phillips, Ford, and Griffin (1951:168- 169); this form is well-represented in the East Texas corpus (Perttula and Selden 2015). Two seed jars (77-1/X-36, 8-1) with modeled facial features and attached legs and tails are thought to represent bears (see also Mainfort 2008:94). A heavily-reconstructed bottle of uncertain authenticity reportedly from a Montgomery County site (vessel 77-1/32-1) has an animal head, fanged/toothed mouth, long body with four legs, and tail. It may depict a bear but could represent a composite supernatural cat-serpent/Great Serpent/Underwater Panther/piasa often portrayed in Mississippian art (House 2003; Lankford 2004; Reilly 2004). The effigy seed jar 77-1/3-9 (from 3CL83) has nodes at the rim forming stylized facial features; similarly stylized features can be seen on an effigy seed jar from Garland County in the Gilcrease Lemley collection.

Two effigy bottles (77-1/X-186 and X-187) can be described as turtles, perhaps snapping turtles with long necks, ridges or knobs and incised or engraved semi-circular designs on bodies, and tails. Bottle 77-1/X-186 has four legs while X-187 has a convex base. Related to these is the Garland Engraved effigy container, vessel 77-1/10-3 from 3HS105. While it does not include a modeled head or other appendages, this vessel may be a whole vessel effigy turtle. Similar small containers are found in the HSU Museum and Gilcrease Lemley collections (from Clark, Garland, and Pike county sites; Suhm and Jelks 1962:Plate 23K-K'). Jim Rees (personal communication, 2016) is currently examining form and function of this vessel category in a separate study. Although their authenticity is unknown, examples pictured from private collections (e.g., Bonds 2007:197, 210) appear to provide engraved design links between the container form and quadruped turtle effigies.

An oval Friendship Engraved *var. Meador* bowl (77-1/9-5) has appliqued handles at either end that may represent stylized animal heads; the vessel itself has a shape described as similar to a "gondola" in the Hodges catalog. There are several other vessels in the JEC Hodges Collection with handles or unusual shapes that could also be effigies (e.g., peaked bowls, triangular or elongated bowls, bowls with rattle knob handles), but these have not been defined as effigies for this study.

Conclusions

This article presents detailed documentation of 31 effigy vessels or vessel fragments from the JEC Hodges Collection. For the pieces with known site or county location based on notes from Thomas and Charlotte Hodges or from Vere Huddleston, the majority (20 of 23 or 87 percent) come from Caddo sites in the Middle Ouachita region of Clark and Hot Spring counties. Two vessels came from a site in the Little Missouri River region, and one vessel reportedly came from a site in the Ouachita Mountains region.

While description and publication of information about old collections is important and necessary work, documenting these effigy vessels in their archeological and cultural contexts is even more significant. Where there is sufficient detail left by the amateur excavations from the 1930s-1940s, we know that these effigy vessels were taken from mortuary contexts rather than deposited in habitation refuse. Grave lot information provides important information for interpretations about temporal and stylistic changes, function, and iconography.

American Indians living in the Midwest and Southeast shared a view of the universe made up of an Above World of the sky and stars, sun, and moon, the Middle World of earth and humankind, and a Beneath World with water and underwater creatures. Many of the effigy vessels in the JEC Hodges Collection represent turtles, frogs, fish, ducks or other birds, deer, bears, and humans. Particular interest seems to have been given to animals that could transition between worlds; ducks move between water and sky while snapping turtles live in water but can walk on land. The Spanish missionary Fray Isidro Felix de Espinosa described seeing chests or baskets in Hasinai Caddo temples containing wooden vessels shaped with heads and tails of ducks and alligators or lizards (Carter 1995:121; Swanton 1996:155). Caddo effigy vessels made in pottery and from wood may have been comparable or related in function or imagery (Townsend and Walker 2004:240, 244). A side-by-side photograph of a carved wooden duck head from the East Place and a ceramic

bird head fragment (77-1/1-11 and X; Trubitt and Evans 2015:Fig. 6) shows this similarity (see also wooden duck head effigy adorno from Spiro; Sievert 2011:Fig. 4.38). While images of several of these vessels have appeared in publications before (e.g., Suhm and Jelks 1962), this work expands the corpus of Caddo effigy pottery. Comparisons can be made with effigy pottery from other regions within the Caddo Area (e.g., Harrington 1920; Perttula and Selden 2015). Further research and comparisons between more representational effigy pottery and similar but more stylized decorations on other Caddo pottery may be fruitful.

For example, Keno Trailed or Bailey Engraved bottles with circular or semicircular patterns on vessel bodies may be stylized forms linked to the human effigy bottles (such as 77-1/1-50 and 21-136). A filleted appliqued strip or engraved ticked line around the rim of a bowl may stand in for the wing/fin/carapace flanges on effigy bowls. Designs can be analyzed and compared across multiple media (pottery, shell, copper, and stone) as a way to examine interactions and the movements of objects, influence, and people between the Caddo Area and the Mississippian Southeast in the past.

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Effigy Pottery in the Joint Educational Consortium's Hodges Collection

Appendix
Effigy Vessel Documentation, JEC Hodges Collection

JEC Hodges Collection, 77-1
Effigy Vessels

	1-14; 2694 / 3CL21
Vessel Form	effigy bowl
ARAS/HSU Digital Photo No.	1206
Type	East Incised
Decoration	red slipped/incised/modeled
Rim :: Body	Bates 15 or Barrington 5 :: plain
Paste	SOFT, GRANULAR, COMPACT
Temper	GROG, FINE TO MEDIUM
Color, Core	
Color, Exterior	RED (2.5YR4/8)
Color, Interior	RED (2.5YR4/8)
Vessel Overall Height (cm)	9.7
Vessel Overall Weight (g)	326.0
Vessel Maximum Diameter (cm)	
Volume (liters)	
Use/Wear/Condition	VESSEL RECONSTRUCTED WITH GLUE AND BADLY PLASTERED (TAIL TAB), NO APPARENT WEAR BUT SLIP WORN OFF INTERIOR OF HEAD
Shape/Description	SMALL EFFIGY VESSEL, SHALLOW BOWL WITH ANIMAL HEAD (FOX?) RIDING ON RIM FACING UP; ABRUPT BREAK BETWEEN BASE AND BODY
Lip Treatment/Shape/Angle	DIRECT, FLATTENED
Orifice Diameter (cm)	13.9
Rim/Neck Height (cm)	2.6
Rim/Neck Thickness (cm)	0.6
Rim/Neck Shape/Angle	STRAIGHT/OUTSLANTED
Rim/Neck Surface/Decorative Treatment	SMOOTHED & BURNISHED & SLIPPED; RED SLIPPED INT AND EXT; 4 INCISED HORIZONTAL LINES, PARTLY SMOOTHED OVER (0.1CM WIDE, 0.5-0.6CM APART), NOT OVERHANGING, 5 LINES UNDER HEAD APPENDAGE
Body Maximum Diameter (cm)	11.6
Body Height (cm)	4.8
Body Thickness (cm)	0.6
Body Surface/Decorative Treatment	SMOOTHED & BURNISHED & SLIPPED
Body Shape	CONICAL
Base Shape/Curvature	CIRCULAR/FLAT
Base Diameter (cm)	8.8
Base Height	
Base Surface/Decorative Treatment	
Appendages/Handles	ANIMAL HEAD (FACING IN) ON RIM; TAIL LUG HAS BEEN RECONSTRUCTED FROM PLASTER
Notes	Huddleston Grave B, 11/21/1942 (with 1-2, 1-3, and 2 other effigies given away by Huddleston), East phase; previous illustration Trubitt & Evans 2015: Fig. 9 & Appendix

JEC Hodges Collection, 77-1
Effigy Vessels

	1-50; 1372 (Huddleston 208) / 3CL21
Vessel Form	effigy bottle, pedestalled
ARAS/HSU Digital Photo No.	427
Type	Keno Trailed
Decoration	incised/trailed/modeled/appliqued
Rim :: Body	plain :: Baker 27?
Paste	SOFT, COMPACT
Temper	SHELL (LEACHED), MEDIUM TO COARSE/ABUNDANT
Color, Core	LIGHT GRAY (10YR8/1)
Color, Exterior	GRAY-SOME FIRECLOUDING (10YR4/2)
Color, Interior	GRAY (10YR4/1)
Vessel Overall Height (cm)	14.7
Vessel Overall Weight (g)	412.2
Vessel Maximum Diameter (cm)	
Volume (liters)	
Use/Wear/Condition	SOME LIP DAMAGE, PROBABLY POST-DEPOSITIONAL
Shape/Description	BOTTLE, HUMAN FACE EFFIGY, PEDESTAL
Lip Treatment/Shape/Angle	FLARED (LIP HEIGHT 1.1CM)
Orifice Diameter (cm)	6.2
Rim/Neck Height (cm)	4.2
Rim/Neck Thickness (cm)	0.5
Rim/Neck Shape/Angle	SPOOL/BULBOUS
Rim/Neck Surface/Decorative Treatment	SMOOTHED
Body Maximum Diameter (cm)	13.7
Body Height (cm)	9.7
Body Thickness (cm)	
Body Surface/Decorative Treatment	SMOOTHED / WIDE LINE INCISING/TRAILING AND SURFACE MODELING (NODES), 2 HUMAN FACE EFFIGIES ON 2 PANELS WITH VERTICAL LINES IN BETWEEN
Body Shape	LOW-WAIST
Base Shape/Curvature	CIRCULAR/FLAT/PEDESTAL
Base Diameter (cm)	7.0
Base Height	0.8
Base Surface/Decorative Treatment	
Appendages/Handles	
Notes	Huddleston Grave 3, 4/29-5/5/1939 (with 1-13, 1-32, 1-34, 1-41?), late Social Hill to Deceiper phase; Huddleston sketch in notebook; Phillips photo 3857; previous illustrations Suhm & Jelks 1962: Plate 44K; Trubitt & Evans 2015: Fig. 8 & Appendix

JEC Hodges Collection, 77-1
Effigy Vessels

	3-9; 2845 / 3CL83
Vessel Form	effigy seed jar
ARAS/HSU Digital Photo No.	3748
Type	
Decoration	appliqued nodes
Rim :: Body	
Paste	MEDIUM-HARD, FINE, SILTY, COMPACT
Temper	SHELL (SOME LEACHED), FINE
Color, Core	BROWN (10YR5/3)
Color, Exterior	VERY DARK GRAYISH BROWN (10YR3/2), REDDISH BROWN (5YR5/4), REDDISH YELLOW (7.5YR6/6)
Color, Interior	
Vessel Overall Height (cm)	17.0
Vessel Overall Weight (g)	939.0
Vessel Maximum Diameter (cm)	
Volume (liters)	
Use/Wear/Condition	VESSEL RECONSTRUCTED WITH GLUE; LARGE CRACK IN SIDE DUE TO VESSEL WARPING; SMALL PROBE HOLE UNDER LEFT "EAR"; LIGHT TO MODERATE WEAR AROUND RIM AND BODY, HEAVY WEAR ON BASE
Shape/Description	EFFIGY SEED JAR WITH 4 APPLIQUE NODES ON RIM FOR FACIAL FEATURES, FLAT INCURVED LIP, GLOBULAR BODY, AND FLAT BASE
Lip Treatment/Shape/Angle	INCURVED, FLAT
Orifice Diameter (cm)	4.1
Rim/Neck Height (cm)	4.0
Rim/Neck Thickness (cm)	0.6
Rim/Neck Shape/Angle	
Rim/Neck Surface/Decorative Treatment	APPLIQUE; 4 APPLIQUED NODES ON RIM (2 VERTICAL IN FRONT AND 2 OPPOSING EACH OTHER ON EITHER SIDE) FORM FACE
Body Maximum Diameter (cm)	18.5
Body Height (cm)	13.0
Body Thickness (cm)	0.6
Body Surface/Decorative Treatment	SMOOTHED
Body Shape	GLOBULAR
Base Shape/Curvature	FLAT
Base Diameter (cm)	7.0
Base Height	
Base Surface/Decorative Treatment	
Appendages/Handles	4 APPLIQUE NODES ON RIM FORMING FACIAL EFFIGY
Notes	Associated Funerary Object; Huddleston Grave G3, 11/20/1943, (with 3-10, 3-15, 3-17), Social Hill phase; described by Huddleston as owl effigy

JEC Hodges Collection, 77-1
Effigy Vessels

	14-20; 1340 (Huddleston 44) / 3CL81
Vessel Form	effigy bowl
ARAS/HSU Digital Photo No.	3739
Type	
Decoration	appliqued handles
Rim :: Body	
Paste	HARD, FINE, SILTY, COMPACT
Temper	GROG & SHELL (LEACHED), ABUNDANT
Color, Core	VERY DARK GRAYISH BROWN (10YR3/2)
Color, Exterior	VERY DARK GRAYISH BROWN (10YR3/2), BLACK (10YR2/1), BROWN (10YR5/3)
Color, Interior	VERY DARK GRAYISH BROWN (10YR3/2), BROWN (10YR5/3), GRAYISH BROWN (10YR5/2)
Vessel Overall Height (cm)	13.5
Vessel Overall Weight (g)	547.0
Vessel Maximum Diameter (cm)	
Volume (liters)	
Use/Wear/Condition	VESSEL RECONSTRUCTED WITH GLUE, SEVERAL FRAGMENTS MISSING FROM LOWER BODY/BASE; BODY AND BASE MODERATELY WORN
Shape/Description	SIMPLE BOWL; TWO APPLIQUED HANDLES/NODES, ABSTRACT ANIMAL/BIRD HEAD/TAIL
Lip Treatment/Shape/Angle	DIRECT, FLATTENED
Orifice Diameter (cm)	24.5
Rim/Neck Height (cm)	
Rim/Neck Thickness (cm)	
Rim/Neck Shape/Angle	
Rim/Neck Surface/Decorative Treatment	
Body Maximum Diameter (cm)	20.4
Body Height (cm)	13.5
Body Thickness (cm)	0.5
Body Surface/Decorative Treatment	SMOOTHED & BURNISHED
Body Shape	CONICAL, STRAIGHT-SIDED V-SHAPE BOWL
Base Shape/Curvature	FLATTENED
Base Diameter (cm)	11.7
Base Height	
Base Surface/Decorative Treatment	
Appendages/Handles	2 APPLIQUE NODES FOR EFFIGY HEAD AND TAIL
Notes	Huddleston Grave B-1, 5/14/1938 (with 1-1303 in HSU Museum Collection), Mid-Ouachita phase; Phillips photo 3904 (prev. id'd as 3CL40, Freeman, but sketch in Huddleston notes fits Stanford description)

JEC Hodges Collection, 77-1
Effigy Vessels

	5-23; 2399 / 3CL81
Vessel Form	effigy bowl
ARAS/HSU Digital Photo No.	3963
Type	Means Engraved
Decoration	engraved/appliqued flange/handles
Rim :: Body	Elgin 1 :: plain
Paste	HARD, FINE, SILTY, COMPACT
Temper	SHELL (SOME LEACHED), FINE/ABUNDANT
Color, Core	VERY DARY GRAY (10YR3/1), DARK GRAY (10YR4/1)
Color, Exterior	LIGHT YELLOWISH BROWN (10YR6/4), DARK GRAYISH BROWN (10YR4/2), BLACK (10YR2/1)
Color, Interior	BLACK (10YR2/1), VERY DARK GRAY (10YR3/1), DARK GRAY (10YR4/1)
Vessel Overall Height (cm)	10.7
Vessel Overall Weight (g)	428.0
Vessel Maximum Diameter (cm)	
Volume (liters)	
Use/Wear/Condition	VESSEL RECONSTRUCTED WITH GLUE. VESSEL IS WORN SLIGHTLY TO MODERATELY ALL AROUND.
Shape/Description	SIMPLE BOWL WITH EFFIGY HEAD BROKEN OFF AND FLANGE AROUND RIM (BIRD?)
Lip Treatment/Shape/Angle	DIRECT, FLATTENED
Orifice Diameter (cm)	16.1
Rim/Neck Height (cm)	3.0
Rim/Neck Thickness (cm)	0.4
Rim/Neck Shape/Angle	
Rim/Neck Surface/Decorative Treatment	ENGRAVED WITH APPLIQUE; SINGLE TICKED LINE BELOW LIP; APPLIQUE FLANGE BELOW TICKED LINE (BIRD WINGS WITH PRONGED HEAD/TAIL?)
Body Maximum Diameter (cm)	18.8
Body Height (cm)	7.7
Body Thickness (cm)	0.4
Body Surface/Decorative Treatment	SMOOTHED & LIGHTLY BURNISHED
Body Shape	CONVEX, ROUNDED
Base Shape/Curvature	CONVEX, SLIGHTLY ROUNDED
Base Diameter (cm)	
Base Height	
Base Surface/Decorative Treatment	
Appendages/Handles	APPLIQUE FLANGE, BIRD/FOWL EFFIGY? (WINGS WITH PRONGED HEAD/TAIL)
Notes	Huddleston Grave B-26?, 1/4/1941 (with 5-5, 5-29), Social Hill phase; described by Huddleston as turtle effigy

JEC Hodges Collection, 77-1
Effigy Vessels

	8-1; 1207 / 3CL23
Vessel Form	effigy seed jar, quadruped
ARAS/HSU Digital Photo No.	1214
Type	
Decoration	incised/modeled
Rim :: Body	
Paste	SOFT, COARSE, SOME SAND/PEBBLES
Temper	GROG, FINE/ABUNDANT
Color, Core	LIGHT YELLOWISH BROWN (10YR6/4)
Color, Exterior	DARK GRAY (10YR4/1), VERY PALE BROWN (10YR7/3), REDDISH YELLOW (5YR6/6)
Color, Interior	
Vessel Overall Height (cm)	21.0
Vessel Overall Weight (g)	1194.0
Vessel Maximum Diameter (cm)	
Volume (liters)	
Use/Wear/Condition	VESSEL WAS HEAVILY RECONSTRUCTED WITH GLUE AND PLASTER; FRONT LEGS BROKEN; NO USE WEAR APPARENT
Shape/Description	LARGE BULBOUS EFFIGY SEED JAR WITH 4 LEGS; OPENING ON TOP OF THE HEAD; BEAR? EFFIGY
Lip Treatment/Shape/Angle	ROUNDED
Orifice Diameter (cm)	3.3
Rim/Neck Height (cm)	4.0
Rim/Neck Thickness (cm)	0.7
Rim/Neck Shape/Angle	
Rim/Neck Surface/Decorative Treatment	SMOOTHED & BURNISHED; MODELED HEAD FEATURES (EARS, SNOUT) WITH INCISED EYE CIRCLES, MOUTH LINE, AND 2 PUNCTATES FOR NOSE
Body Maximum Diameter (cm)	15.2
Body Height (cm)	13.6
Body Thickness (cm)	0.6
Body Surface/Decorative Treatment	SMOOTHED & BURNISHED / MODELED LEGS ATTACHED TO BASE-FRONT LEGS HAVE BEEN ATTACHED ONTO BODY
Body Shape	GLOBULAR, OFFSET BETWEEN LEGS (SUPPORTS) AND HEAD (OPENING)
Base Shape/Curvature	CONVEX
Base Diameter (cm)	
Base Height	
Base Surface/Decorative Treatment	
Appendages/Handles	4 LEGS AND TAIL, NOT HOLLOW AS EVIDENCED BY BROKEN APPENDAGES
Notes	Huddleston Grave G-3, 12/22-30/1938 (with 8-25), Mid-Ouachita phase; Phillips photo 3946; previous illustration Suhm & Jelks 1962: Plate 25F

JEC Hodges Collection, 77-1
Effigy Vessels

	9-1; 140A / 3HS104
Vessel Form	effigy seed jar
ARAS/HSU Digital Photo No.	1233
Type	
Decoration	modeled/incised
Rim :: Body	
Paste	HARD, COARSE, COMPACT
Temper	GROG & SHELL (LEACHED), FINE
Color, Core	
Color, Exterior	VERY DARK GRAY (10YR3/1)
Color, Interior	
Vessel Overall Height (cm)	21.4
Vessel Overall Weight (g)	1136.0
Vessel Maximum Diameter (cm)	
Volume (liters)	
Use/Wear/Condition	VESSEL RECONSTRUCTED WITH GLUE; SURFACE MORE ABRADED ON FRONT OF VESSEL (POSTDEPOSITIONAL?), SOME ABRASION ON BASE AND BASE OF LEGS (USE WEAR?); NICK ON ONE EAR, HOLE IN OTHER.
Shape/Description	HUMAN EFFIGY SEED JAR, SMALL OPENING ON TOP OF HEAD, BULBOUS LEGS, SMALL FACIAL FEATURES
Lip Treatment/Shape/Angle	ROUNDED, INCURVED
Orifice Diameter (cm)	4.0
Rim/Neck Height (cm)	
Rim/Neck Thickness (cm)	
Rim/Neck Shape/Angle	
Rim/Neck Surface/Decorative Treatment	SMOOTHED & BURNISHED
Body Maximum Diameter (cm)	22.3
Body Height (cm)	21.4
Body Thickness (cm)	0.6
Body Surface/Decorative Treatment	SMOOTHED & BURNISHED / EFFIGY MODELING TO CREATE FACE (EARS, NOSE) AND ARMS ON BODY-INCISED LINES TO FORM EYES AND MOUTH, FINGERS
Body Shape	EFFIGY, SEMI-CYLINDRICAL BODY, INCURVING NEAR TOP TO FORM NECK
Base Shape/Curvature	
Base Diameter (cm)	
Base Height	
Base Surface/Decorative Treatment	
Appendages/Handles	BULBOUS LEGS/FEET ARE ATTACHED TO BASE-LOOKS LIKE AT LEAST PARTIALLY HOLLOW RATHER THAN SOLID
Notes	Hodges catalog notes "Human effigy: found by Richard Reid . . . In grave . . . Skeletal remains destroyed"; previous illustration Suhm & Jelks 1962: Plate 25B

JEC Hodges Collection, 77-1
Effigy Vessels

	9-5; 142 / 3HS104
Vessel Form	effigy bowl (?)
ARAS/HSU Digital Photo No.	K8388
Type	Friendship Engraved *var. Meador*
Decoration	engraved/appliqued handles
Rim :: Body	Elwyn 7 :: plain
Paste	HARD, COMPACT, SMOOTH, WITH MICA
Temper	SHELL (LEACHED) & GROG, FINE/ABUNDANT
Color, Core	
Color, Exterior	BLACK (7.5YR2.5/1), LIGHT BROWN (7.5YR6/4), STRONG BROWN (7.5YR5/6)
Color, Interior	DARK GRAY (7.5YR4/1), STRONG BROWN (7.5YR5/6)
Vessel Overall Height (cm)	6.7
Vessel Overall Weight (g)	402.0
Vessel Maximum Diameter (cm)	
Volume (liters)	1.1
Use/Wear/Condition	RECONSTRUCTED WITH PLASTER PATCHES ON BODY / BASE ROUGHENING (USEWEAR?), CHIP ON THE LIP OF VESSEL
Shape/Description	OVAL SHAPE TO BOWL (ORIFICE 23.3x13.2CM), APPLIQUED HANDLES/NODES MAY BE ABSTRACTED ANIMAL HEADS
Lip Treatment/Shape/Angle	BURNISHED/ROUNDED/EVERTED/0.2CM
Orifice Diameter (cm)	23.3
Rim/Neck Height (cm)	5.0
Rim/Neck Thickness (cm)	0.5
Rim/Neck Shape/Angle	STRAIGHT/VERTICAL
Rim/Neck Surface/Decorative Treatment	BURNISHED; ENGRAVED; ZONES OF CROSS HATCHING, TICKED LINE AT BASE OF RIM
Body Maximum Diameter (cm)	26.0
Body Height (cm)	1.7
Body Thickness (cm)	5.0
Body Surface/Decorative Treatment	BURNISHED / PLAIN
Body Shape	ELONGATED
Base Shape/Curvature	UNDISTINGUISHED/CONVEX
Base Diameter (cm)	
Base Height	
Base Surface/Decorative Treatment	BURNISHED
Appendages/Handles	APPLIQUED TABS ON THE ENDS OF BOWL (EFFIGY HEADS?)
Notes	Hodges catalog notes "Gondola-like bowl. Effigy. Engraved rim-restored", found with 9-3 and 9-4?, Mid-Ouachita phase; Phillips photo 3541; previous illustration Suhm & Jelks 1962: Plate 23B

JEC Hodges Collection, 77-1
Effigy Vessels

	9-24; 307 / 3HS104
Vessel Form	effigy bowl
ARAS/HSU Digital Photo No.	N8657
Type	
Decoration	engraved/modeled/appliqued
Rim :: Body	Erie 4 :: plain
Paste	HARD, COMPACT, SMOOTH
Temper	GROG
Color, Core	DARK GRAY (10YR4/1)
Color, Exterior	VERY DARK GRAY (10YR3/1), DARK GRAY (10YR4/1)
Color, Interior	VERY DARK GRAY (10YR3/1)
Vessel Overall Height (cm)	11.3
Vessel Overall Weight (g)	421.0
Vessel Maximum Diameter (cm)	
Volume (liters)	0.9
Use/Wear/Condition	VESSEL RECONSTRUCTED, MISSING SHERDS FROM BASE AND RIM, EFFIGY BROKEN ON ONE HANDLE, MISSING FROM OTHER
Shape/Description	"TAIL-RIDER" EFFIGY BOWL WITH HANDLES (ANIMAL ON ONE)
Lip Treatment/Shape/Angle	BEVELED/SLIGHTLY EVERTED/0.3CM
Orifice Diameter (cm)	17.2
Rim/Neck Height (cm)	3.0
Rim/Neck Thickness (cm)	0.5
Rim/Neck Shape/Angle	STRAIGHT/OUTSLANTED
Rim/Neck Surface/Decorative Treatment	BURNISHED; FOUR HORIZONTAL ENGRAVED LINES 0.6-0.8CM APART BELOW LIP
Body Maximum Diameter (cm)	22.2
Body Height (cm)	6.0
Body Thickness (cm)	0.5
Body Surface/Decorative Treatment	BURNISHED / PLAIN
Body Shape	CONVEX
Base Shape/Curvature	UNDISTINGUISHED/FLAT
Base Diameter (cm)	
Base Height	
Base Surface/Decorative Treatment	BURNISHED
Appendages/Handles	APPLIQUED ANIMAL ON ONE TAB, FOUR LEGS AND TAIL, HEAD BROKEN OFF/OTHER TAB IS WIDE AND FLAT, BROKEN WITH NOTCHES ON IT
Notes	Hodges catalog notes described as bear effigy, restored; Phillips photo 3712; previous citation by Phillips Ford & Griffin 1951:169

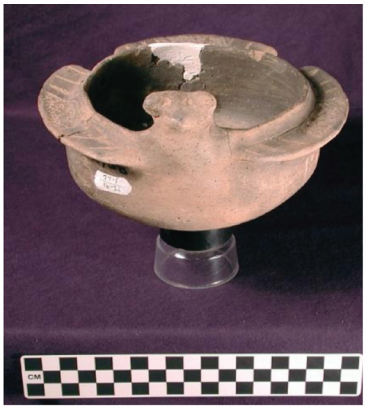
JEC Hodges Collection, 77-1
Effigy Vessels

	10-1; 694 / 3HS105
Vessel Form	effigy bowl
ARAS/HSU Digital Photo No.	1238
Type	Garland Engraved
Decoration	engraved/modeled/appliqued
Rim :: Body	Erie 12 :: Elmira 33 or 36?
Paste	MEDIUM SOFT, COARSE, COMPACT, OCCASIONAL PEBBLES
Temper	GROG & SHELL (LEACHED), MEDIUM/ABUNDANT
Color, Core	
Color, Exterior	VERY DARK GRAY (10YR3/1), LIGHT YELLOWISH BROWN (10YR6/4), REDDISH YELLOW (7.5YR6/6)
Color, Interior	VERY DARK GRAY (10YR3/1), REDDISH YELLOW (7.5YR6/6)
Vessel Overall Height (cm)	11.2
Vessel Overall Weight (g)	222.0
Vessel Maximum Diameter (cm)	
Volume (liters)	
Use/Wear/Condition	SURFACE ABRASION ON ONE SIDE; VESSEL RECONSTRUCTED WITH GLUE, SHERD MISSING FROM BASE AND TAIL LUG MISSING
Shape/Description	SMALL SHALLOW CARINATED BOWL WITH APPENDAGE (DEER?), MISSING TAIL
Lip Treatment/Shape/Angle	THINNED/ROUNDED/FLARED
Orifice Diameter (cm)	13.0
Rim/Neck Height (cm)	1.2
Rim/Neck Thickness (cm)	0.5
Rim/Neck Shape/Angle	CARINATED
Rim/Neck Surface/Decorative Treatment	SMOOTHED & BURNISHED; ENGRAVED HORIZONTAL LINE JUST UNDER FLARED LIP 0.5-0.7CM ABOVE BODY DESIGN
Body Maximum Diameter (cm)	13.0
Body Height (cm)	5.0
Body Thickness (cm)	.7
Body Surface/Decorative Treatment	SMOOTHED & BURNISHED / ENGRAVED CURVILINEAR LINES AND CROSSHATCHED AREAS-WHITE PIGMENT IN ENGRAVED LINES (TRACE)-LINES ARE WIDE AND IRREGULAR
Body Shape	SHALLOW ROUNDED BOWL WITH FLAT BASE (LOW CARINATION)
Base Shape/Curvature	CIRCULAR/FLAT
Base Diameter (cm)	
Base Height	
Base Surface/Decorative Treatment	
Appendages/Handles	DEER HEAD ENGRAVED WITH MOUTH, EYES AND LINES ALONG SIDE AND BACK OF NECK-LOOKS LIKE TAIL APPENDAGE BROKEN OFF
Notes	Hodges catalog notes describe as "faun" effigy; Mid-Ouachita phase

JEC Hodges Collection, 77-1
Effigy Vessels

	10-3; 692 / 3HS105
Vessel Form	container, effigy (?)
ARAS/HSU Digital Photo No.	N14519
Type	Garland Engraved
Decoration	engraved
Rim :: Body	:: Elmira 30?
Paste	HARD, SMOOTH, CRUMBLY
Temper	SHELL (LEACHED) & GROG, FINE/SPARSE
Color, Core	
Color, Exterior	LIGHT REDDISH BROWN (5YR6/3), DARK REDDISH BROWN (5YR3/2)
Color, Interior	
Vessel Overall Height (cm)	5.0
Vessel Overall Weight (g)	217.0
Vessel Maximum Diameter (cm)	11.4
Volume (liters)	0.1
Use/Wear/Condition	WHITE AND RED PIGMENT RUBBED INTO ENGRAVED DESIGN; ORIFICE ON TOP EDGE, 2 PERFORATIONS ON BASE; VESSEL USE UNKNOWN; ROUGHENED ON BASE (USEWEAR?), RECONSTRUCTED AND PLASTER FILLING AT PERFORATIONS
Shape/Description	CONTAINER/EFFIGY
Lip Treatment/Shape/Angle	ROUND
Orifice Diameter (cm)	2.8
Rim/Neck Height (cm)	
Rim/Neck Thickness (cm)	
Rim/Neck Shape/Angle	
Rim/Neck Surface/Decorative Treatment	
Body Maximum Diameter (cm)	11.4
Body Height (cm)	3.0
Body Thickness (cm)	
Body Surface/Decorative Treatment	BURNISHED / 3 sets of semicircular ticked lines with cross-hatched bands, one circular ticked line design on top of vessel
Body Shape	Biconical
Base Shape/Curvature	CIRCULAR/CONVEX
Base Diameter (cm)	11.4
Base Height	
Base Surface/Decorative Treatment	Burnished ?
Appendages/Handles	
Notes	Hodges catalog notes "Very unusual pendant - container", found in vessel 10-18, Mid-Ouachita phase

JEC Hodges Collection, 77-1
Effigy Vessels



	14-21; 2738 / 3CL40
Vessel Form	effigy bowl
ARAS/HSU Digital Photo No.	3733
Type	
Decoration	appliqued flange/modeled
Rim :: Body	
Paste	HARD, FINE, SILTY, COMPACT
Temper	GROG & SHELL (LEACHED), FINE/ABUNDANT
Color, Core	
Color, Exterior	LIGHT BROWNISH GRAY (10YR6/2), VERY PALE BROWN (10YR7/3), DARK GRAYISH BROWN (10YR4/2)
Color, Interior	LIGHT BROWNISH GRAY (10YR6/2), YELLOWISH BROWN (10YR5/4)
Vessel Overall Height (cm)	12.0
Vessel Overall Weight (g)	518.0
Vessel Maximum Diameter (cm)	
Volume (liters)	
Use/Wear/Condition	RECONSTRUCTION WITH GLUE AND PLASTER PATCHES; SEVERAL CRACKS ALONG BODY AND BASE
Shape/Description	EFFIGY BOWL WITH MODELED HEAD (BIRD WITH BEAK?), FLANGE AROUND RIM (WINGS?), TAIL
Lip Treatment/Shape/Angle	FLATTENED, FLUSH
Orifice Diameter (cm)	17.3
Rim/Neck Height (cm)	3.4
Rim/Neck Thickness (cm)	0.5
Rim/Neck Shape/Angle	
Rim/Neck Surface/Decorative Treatment	SMOOTHED; EFFIGY WITH BIRD HEAD
Body Maximum Diameter (cm)	17.3
Body Height (cm)	8.6
Body Thickness (cm)	0.7
Body Surface/Decorative Treatment	SMOOTHED / PLAIN WITH EFFIGY APPLIQUE (WINGS AND TAIL OF BIRD)
Body Shape	CONVEX
Base Shape/Curvature	CIRCULAR/CONVEX
Base Diameter (cm)	
Base Height	
Base Surface/Decorative Treatment	
Appendages/Handles	APPLIQUED FLANGES (2 WINGS AND TAIL) WITH INCISED LINES/ENGRAVED CROSSHATCHING ON TOP SURFACE, AND HEAD WITH BEAK OF A BIRD
Notes	Huddleston Grave B'X', 12/23/1942 (with 14-11, 14-14, 14-19, 14-35), Mid-Ouachita phase

JEC Hodges Collection, 77-1
Effigy Vessels

	14-49; 152 / 3CL40
Vessel Form	effigy bowl (?)
ARAS/HSU Digital Photo No.	3811
Type	Means Engraved
Decoration	engraved/appliqued handles
Rim :: Body	Elgin 2 :: plain
Paste	HARD, FINE, SILTY, COMPACT
Temper	SHELL (SOME LEACHED) & GROG, FINE/SPARSE
Color, Core	REDDISH GRAY (5YR5/2), REDDISH BROWN (5YR5/3-5/4)
Color, Exterior	YELLOWISH RED (5YR5/6), BLACK (10YR2/1), YELLOWISH BROWN (10YR5/4)
Color, Interior	BLACK (10YR2/1), BROWN (10YR5/3), LIGHT YELLOWISH BROWN (10YR6/4)
Vessel Overall Height (cm)	8.0
Vessel Overall Weight (g)	288.0
Vessel Maximum Diameter (cm)	
Volume (liters)	
Use/Wear/Condition	VESSEL MISSING 1 APPLIQUED HANDLE; THIN CRACK ALONG ONE SIDE AND SMALL PROBE HOLE IN BASE; MODERATE TO HEAVY WEAR ON BASE
Shape/Description	SIMPLE BOWL (CONTINUOUS PROFILE RIM TO BODY)
Lip Treatment/Shape/Angle	DIRECT, FLATTENED
Orifice Diameter (cm)	14.6
Rim/Neck Height (cm)	1.5
Rim/Neck Thickness (cm)	0.4
Rim/Neck Shape/Angle	
Rim/Neck Surface/Decorative Treatment	SMOOTHED & ENGRAVED; 2 TICKED HORIZONTAL LINES ENGRAVED BELOW LIP
Body Maximum Diameter (cm)	14.0
Body Height (cm)	6.5
Body Thickness (cm)	0.4
Body Surface/Decorative Treatment	SMOOTHED
Body Shape	SUB-GLOBULAR
Base Shape/Curvature	UNDISTINGUISHED/CONVEX
Base Diameter (cm)	
Base Height	
Base Surface/Decorative Treatment	
Appendages/Handles	APPLIQUE HANDLES (ONE BROKEN OFF) ON OPPOSITE SIDES
Notes	Hodges catalog notes "Bowl: semi-glob. - 2 lugged. 1 lug missing"; Phillips photo 3536

JEC Hodges Collection, 77-1
Effigy Vessels

	18-1; 90 / unknown
Vessel Form	effigy bowl
ARAS/HSU Digital Photo No.	K5241
Type	
Decoration	engraved/appliqued/modeled
Rim :: Body	Bates 2 :: plain
Paste	HARD, COMPACT, SMOOTH
Temper	GROG & SHELL (LEACHED), FINE/SPARSE
Color, Core	
Color, Exterior	BROWN (7.5YR5/3), LIGHT BROWN (7.5YR6/4)
Color, Interior	BROWN (7.5YR4/2)
Vessel Overall Height (cm)	12.0
Vessel Overall Weight (g)	731.0
Vessel Maximum Diameter (cm)	
Volume (liters)	1.2
Use/Wear/Condition	WEAR ON THE BACK OF EFFIGY HEAD
Shape/Description	BOWL, MODELED HEAD/BEAK (BIRD) WITH ENGRAVED EYE, FACING TO INTERIOR OF VESSEL
Lip Treatment/Shape/Angle	BURNISHED
Orifice Diameter (cm)	15.5
Rim/Neck Height (cm)	3.0
Rim/Neck Thickness (cm)	0.5
Rim/Neck Shape/Angle	
Rim/Neck Surface/Decorative Treatment	DRY PASTE INCISED LINES AROUND RIM (BATES 2 RATHER THAN ERIE 3)
Body Maximum Diameter (cm)	21.0
Body Height (cm)	12.0
Body Thickness (cm)	0.5
Body Surface/Decorative Treatment	BURNISHED / PLAIN
Body Shape	CONICAL/EFFIGY
Base Shape/Curvature	CONVEX
Base Diameter (cm)	13.0
Base Height	
Base Surface/Decorative Treatment	
Appendages/Handles	EFFIGY HEAD RESEMBLES THAT OF A BIRD, HEAD FACING INWARD/HAS TAIL ON THE OTHER END OF VESSEL; EXCISED AREAS ON EYES AND BEAK
Notes	Hodges catalog notes describe as bird effigy; Phillips photo 3575

JEC Hodges Collection, 77-1
Effigy Vessels

	21-69; 1054 / 3HS98
Vessel Form	effigy bowl
ARAS/HSU Digital Photo No.	N8846
Type	
Decoration	engraved/incised/appliqued
Rim :: Body	
Paste	HARD, COMPACT, SMOOTH, MICA
Temper	SHELL (LEACHED) & GROG, FINE/ABUNDANT
Color, Core	DARK GRAY (10YR4/1)
Color, Exterior	GRAY (10YR5/1), VERY PALE BROWN (10YR8/3)
Color, Interior	VERY PALE BROWN (10YR7/4), GRAY (10YR5/1)
Vessel Overall Height (cm)	10.0
Vessel Overall Weight (g)	353.0
Vessel Maximum Diameter (cm)	
Volume (liters)	
Use/Wear/Condition	VESSEL RECONSTRUCTED, HOLE IN BASE OF BOWL, PORTION OF FLANGES & HEAD APPENDAGE MISSING / WEAR ON BASE AND INSIDE / FIRECLOUDING
Shape/Description	EFFIGY BOWL WITH FLANGE AROUND RIM (BIRD OR FISH?)
Lip Treatment/Shape/Angle	SMOOTH/FLATTENED/NO ANGLE/0.3CM
Orifice Diameter (cm)	15.3
Rim/Neck Height (cm)	3.0
Rim/Neck Thickness (cm)	0.5
Rim/Neck Shape/Angle	CONCAVE/INSLANTED
Rim/Neck Surface/Decorative Treatment	SMOOTH
Body Maximum Diameter (cm)	15.8
Body Height (cm)	7.0
Body Thickness (cm)	0.5
Body Surface/Decorative Treatment	SMOOTHED / PLAIN
Body Shape	CONVEX
Base Shape/Curvature	UNDISTINGUISHED/CONVEX
Base Diameter (cm)	6.5
Base Height	
Base Surface/Decorative Treatment	SMOOTH
Appendages/Handles	APPLIQUED FLANGES BELOW LIP, 0.4CM THICK AND EXTEND 1.0CM FROM RIM/DRY PASTE INCISED LINES ON UPPER SURFACE OF FLANGES
Notes	Hodges catalog notes described as fish effigy

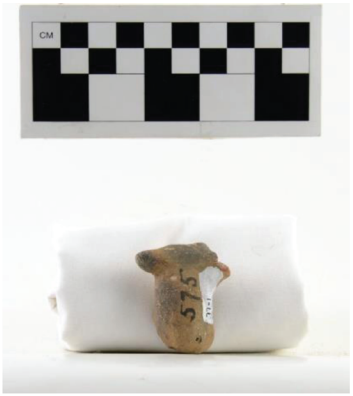
JEC Hodges Collection, 77-1
Effigy Vessels

	21-72; 1006 / 3HS98
Vessel Form	effigy bowl
ARAS/HSU Digital Photo No.	N8606
Type	
Decoration	engraved/appliqued/modeled
Rim :: Body	Erie 13 :: plain
Paste	HARD, COMPACT, SMOOTH
Temper	GROG, COARSE/ABUNDANT
Color, Core	LIGHT GRAY (10YR7/2), VERY DARK GRAY (10YR3/1)
Color, Exterior	GRAYISH BROWN (10YR5/2), VERY PALE BROWN (10YR7/3), YELLOW (10YR7/6)
Color, Interior	LIGHT GRAY (10YR7/1)
Vessel Overall Height (cm)	12.5
Vessel Overall Weight (g)	616.0
Vessel Maximum Diameter (cm)	
Volume (liters)	1.2
Use/Wear/Condition	FIRECLOUDING/SOOT ON EXTERIOR; HEAD IS RATTLE / CHIPS ON RIM, PROBE HOLE IN BASE, TAIL MENDED
Shape/Description	CARINATED EFFIGY BOWL WITH MODELED HEAD AND TAIL TAB
Lip Treatment/Shape/Angle	SMOOTH/ROUNDED/SLIGHTLY EVERTED/0.2CM
Orifice Diameter (cm)	14.6
Rim/Neck Height (cm)	6.0
Rim/Neck Thickness (cm)	0.6
Rim/Neck Shape/Angle	CONCAVE/INSLANTED
Rim/Neck Surface/Decorative Treatment	BURNISHED; 5 ENGRAVED HORIZONTAL LINES 1.0CM BELOW LIP AND BETWEEN 0.5-0.8CM APART, IRREGULAR
Body Maximum Diameter (cm)	16.8
Body Height (cm)	3.5
Body Thickness (cm)	0.7
Body Surface/Decorative Treatment	BURNISHED / PLAIN
Body Shape	CONVEX
Base Shape/Curvature	UNDISTINGUISHED
Base Diameter (cm)	
Base Height	
Base Surface/Decorative Treatment	
Appendages/Handles	HEAD AND TAIL AT LIP. THE HEAD IS ANGLAR REPRESENTING A BIRD WITH A BEAK. THE TAIL IS FLAT AND ROUNDED. RATTLE IN HEAD.
Notes	Hodges catalog notes: "Bowl - effigy - rim - 5 lines - rattle handled"

JEC Hodges Collection, 77-1
Effigy Vessels

	21-136; 85 / 3HS98
Vessel Form	effigy bottle
ARAS/HSU Digital Photo No.	1250
Type	Keno Trailed/Means Engraved
Decoration	incised/engraved/appliqued/modeled
Rim :: Body	plain :: Baker 27?
Paste	HARD, SILTY, COMPACT
Temper	SHELL (LEACHED) & GROG, FINE/SPARSE
Color, Core	
Color, Exterior	VERY DARK GRAY (10YR3/1), GRAY (10YR5/1), PINK (7.5YR7/3)
Color, Interior	
Vessel Overall Height (cm)	19.3
Vessel Overall Weight (g)	570.0
Vessel Maximum Diameter (cm)	
Volume (liters)	
Use/Wear/Condition	RECONSTRUCTED WITH GLUE AND CLAY (DESIGN WAS RE-DRAWN THERE); APPEARS TO HAVE BEEN MENDED MORE THAN ONCE
Shape/Description	BOTTLE, SQUAT, WITH PEDESTAL BASE, SPOOL NECK AND HUMAN FACE EFFIGY ON SURFACE OF BODY
Lip Treatment/Shape/Angle	ROUNDED/FLARED/THICKENED
Orifice Diameter (cm)	4.8
Rim/Neck Height (cm)	5.8
Rim/Neck Thickness (cm)	0.5
Rim/Neck Shape/Angle	SPOOL/BULBOUS
Rim/Neck Surface/Decorative Treatment	SMOOTHED & BURNISHED
Body Maximum Diameter (cm)	16.8
Body Height (cm)	13.5
Body Thickness (cm)	0.5
Body Surface/Decorative Treatment	SMOOTHED & BURNISHED / 2 HUMAN FACE EFFIGY DESIGN SEPARATED BY SWIRLED PANELS / INCISED LINES WITH NODES FOR EYES, NOSE, MOUTH, EARS, AND ENGRAVED CROSSHATCHING; ENGRAVED TICKED LINES ON LOWER BODY
Body Shape	LOW-WAIST
Base Shape/Curvature	PEDESTAL WITH CIRCULAR/CONVEX BASE
Base Diameter (cm)	11.0
Base Height	3.0
Base Surface/Decorative Treatment	
Appendages/Handles	
Notes	Hodges catalog notes described as human effigy, restored; Hodges 85 described as 3-legged bottle and 87 as human effigy engraved bottle; Phillips photo 3570; previous illustration Suhm & Jelks 1962: Plate 53F; Deceiper phase

JEC Hodges Collection, 77-1
Effigy Vessels



	23-9; 575 / 3HS3
Vessel Form	effigy handle, fragment
ARAS/HSU Digital Photo No.	N2815
Type	
Decoration	modeled/appliqued handle
Rim :: Body	
Paste	HARD, COMPACT, SMOOTH
Temper	GROG, MEDIUM/ABUNDANT
Color, Core	YELLOWISH RED (5YR5/6), PINKISH WHITE (5YR8/2), GRAY (7.5YR6/1)
Color, Exterior	LIGHT YELLOWISH BROWN (10YR6/4), GRAY (10YR5/1), YELLOWISH RED (5YR5/6)
Color, Interior	
Vessel Overall Height (cm)	1.8
Vessel Overall Weight (g)	19.0
Vessel Maximum Diameter (cm)	3.5
Volume (liters)	
Use/Wear/Condition	ONLY HANDLE PRESENT
Shape/Description	EFFIGY HANDLE, BROKEN FROM VESSEL
Lip Treatment/Shape/Angle	
Orifice Diameter (cm)	
Rim/Neck Height (cm)	
Rim/Neck Thickness (cm)	
Rim/Neck Shape/Angle	
Rim/Neck Surface/Decorative Treatment	
Body Maximum Diameter (cm)	21.9
Body Height (cm)	7.4
Body Thickness (cm)	
Body Surface/Decorative Treatment	SMOOTHED
Body Shape	
Base Shape/Curvature	
Base Diameter (cm)	
Base Height	
Base Surface/Decorative Treatment	
Appendages/Handles	BROKEN EFFIGY LOOP HANDLE HAS TWO FOLDED CUP-SHAPED EARS EXTENDING FROM EITHER SIDE OF ANIMAL FACE/HEAD (DEER?)
Notes	Hodges catalog notes "Effigy animal head - fragment"

JEC Hodges Collection, 77-1
Effigy Vessels

	24-1; 131 / 3HS99
Vessel Form	effigy bowl (?)
ARAS/HSU Digital Photo No.	N4591
Type	
Decoration	
Rim :: Body	
Paste	COMPACT, HARD, SMOOTH
Temper	SHELL (LEACHED), MEDIUM/ABUNDANT
Color, Core	GRAY (7.5YR5/1), LIGHT GRAY (7.5YR7/1)
Color, Exterior	VERY PALE BROWN (10YR7/4), VERY DARK GRAY (10YR3/1), REDDISH YELLOW (7.5YR6/6)
Color, Interior	REDDISH YELLOW (7.5YR8/6), VERY PALE BROWN (10YR7/4), VERY DARK GRAY (10YR3/1)
Vessel Overall Height (cm)	5.5
Vessel Overall Weight (g)	118.0
Vessel Maximum Diameter (cm)	11.0
Volume (liters)	0.1
Use/Wear/Condition	DAMAGED AND SMOOTHED LIP/RIM (REUSE?), UPPER PORTION OF VESSEL MISSING; APPENDAGE BROKEN OFF
Shape/Description	IRREGULAR TRIANGULAR-SHAPED VESSEL, PROBABLY PART OF EFFIGY/COMPOUND VESSEL
Lip Treatment/Shape/Angle	
Orifice Diameter (cm)	
Rim/Neck Height (cm)	
Rim/Neck Thickness (cm)	
Rim/Neck Shape/Angle	
Rim/Neck Surface/Decorative Treatment	
Body Maximum Diameter (cm)	11.0
Body Height (cm)	5.5
Body Thickness (cm)	0.5
Body Surface/Decorative Treatment	SMOOTHED EXTERIOR, IRREGULAR INTERIOR (NOT ORIGINALLY VISIBLE?) / IRREGULAR WALL SHAPE; PLAIN; FIRECLOUDING
Body Shape	Compound or effigy
Base Shape/Curvature	IRREGULAR/CONVEX
Base Diameter (cm)	10.6
Base Height	
Base Surface/Decorative Treatment	Smoothed
Appendages/Handles	POSSIBLE BROKEN SQUARE HANDLE ATTACHMENT ON SIDE OF VESSEL
Notes	Hodges catalog notes "Effigy bowl fragment", found with small plain bowl (and acquired by Hodges from the collector?)

JEC Hodges Collection, 77-1
Effigy Vessels

	32-1 / 3MN52
Vessel Form	effigy bottle, quadruped
ARAS/HSU Digital Photo No.	N8624
Type	Authenticity uncertain
Decoration	appliqued/modeled
Rim :: Body	
Paste	HARD, COMPACT, SMOOTH
Temper	SHELL, COARSE/ABUNDANT
Color, Core	
Color, Exterior	VERY DARK GRAY (10YR3/1), BLACK (10RY2/1), LIGHT GRAY (10YR7/1)
Color, Interior	
Vessel Overall Height (cm)	16.5
Vessel Overall Weight (g)	977.0
Vessel Maximum Diameter (cm)	
Volume (liters)	0.8
Use/Wear/Condition	RECONSTRUCTION WITH PLASTER ON BODY AND BASE; HEAVY VESSEL
Shape/Description	MODELED EFFIGY BOTTLE WITH ANIMAL HEAD (BEAR?), OPEN MOUTH WITH FANGS, EARS, EYES, SNOUT; LONG BODY, FOUR LEGS, SHORT TAIL
Lip Treatment/Shape/Angle	SMOOTHED/ROUNDED/NO ANGLE/0.5CM
Orifice Diameter (cm)	6.3
Rim/Neck Height (cm)	
Rim/Neck Thickness (cm)	
Rim/Neck Shape/Angle	OUTSLANTING NECK
Rim/Neck Surface/Decorative Treatment	
Body Maximum Diameter (cm)	24.8
Body Height (cm)	6.8
Body Thickness (cm)	2.0
Body Surface/Decorative Treatment	SMOOTHED / PLAIN
Body Shape	EFFIGY/ELONGATED
Base Shape/Curvature	UNDISTINGUISHED
Base Diameter (cm)	
Base Height	
Base Surface/Decorative Treatment	
Appendages/Handles	HEAD IS BEARLIKE WITH OPEN MOUTH AND FANGS, EARS, EYES, SNOUT/ SHORT TAIL / FOUR LEGS WITH FLAT BASES (4.2CM HEIGHT)
Notes	based on handwritten note, purchased by Mrs. T. L. Hodges, reportedly from 3MN52, but suspected fake

JEC Hodges Collection, 77-1
Effigy Vessels

	34; 605 / 3HS30
Vessel Form	effigy bowl fragment
ARAS/HSU Digital Photo No.	N16610
Type	sim. to Crockett
Decoration	engraved/appliqued
Rim :: Body	Erie 2 :: Elmhurst?
Paste	HARD, COMPACT, SMOOTH, MICA
Temper	GROG, FINE/ABUNDANT, OCCASIONAL HEMATITE GRIT
Color, Core	BROWN (7.5YR5/3)
Color, Exterior	BROWN (7.5YR5/3-5/4), REDDISH BROWN (5YR5/4)
Color, Interior	BROWN (7.5YR5/3)
Vessel Overall Height (cm)	
Vessel Overall Weight (g)	33.2
Vessel Maximum Diameter (cm)	
Volume (liters)	
Use/Wear/Condition	RIMSHERD FROM EFFIGY VESSEL
Shape/Description	MODELED WING/FIN FROM SIDE OF EFFIGY BOWL
Lip Treatment/Shape/Angle	FLAT/SMOOTHED, 0.2CM THICK
Orifice Diameter (cm)	
Rim/Neck Height (cm)	
Rim/Neck Thickness (cm)	0.5
Rim/Neck Shape/Angle	CONVEX/INSLANTED
Rim/Neck Surface/Decorative Treatment	SMOOTHED; ENGRAVED, 2 HORIZONTAL LINES (1 LINE 0.7CM BELOW LIP, 2ND 0.8cm BELOW THAT)
Body Maximum Diameter (cm)	
Body Height (cm)	
Body Thickness (cm)	
Body Surface/Decorative Treatment	SMOOTHED / ENGRAVED SCROLL WITH CENTRL DOT AND TICKED LINE
Body Shape	
Base Shape/Curvature	
Base Diameter (cm)	
Base Height	
Base Surface/Decorative Treatment	
Appendages/Handles	APPLIQUE WING OR FIN ON SIDE OF BOWL
Notes	Hodges catalog notes "pottery fragment"

JEC Hodges Collection, 77-1
Effigy Vessels

	39-1; 9 / 3HS21
Vessel Form	effigy bowl
ARAS/HSU Digital Photo No.	N8740
Type	
Decoration	appliqued/modeled
Rim :: Body	
Paste	HARD, COMPACT, SMOOTH, MICA
Temper	GROG & SHELL (LEACHED), MEDIUM/ABUNDANT
Color, Core	GRAYISH BROWN (10YR5/2)
Color, Exterior	VERY DARK GRAY (10YR3/1), YELLOWISH RED (5YR5/6)
Color, Interior	DARK GRAY (10YR4/1), YELLOWISH RED (5YR5/6)
Vessel Overall Height (cm)	4.5
Vessel Overall Weight (g)	178.0
Vessel Maximum Diameter (cm)	10.6
Volume (liters)	0.1
Use/Wear/Condition	PART OF THE HEAD AND LEGS ARE MISSING; SCRATCHES ON THE EXTERIOR
Shape/Description	SHALLOW BOWL, EFFIGY APPENDAGES
Lip Treatment/Shape/Angle	SMOOTHED/ROUNDED/NO ANGLE/0.5CM
Orifice Diameter (cm)	9.6
Rim/Neck Height (cm)	2.0
Rim/Neck Thickness (cm)	1.2
Rim/Neck Shape/Angle	CONCAVE/OUTSLANTED
Rim/Neck Surface/Decorative Treatment	SMOOTHED; PLAIN
Body Maximum Diameter (cm)	10.6
Body Height (cm)	2.5
Body Thickness (cm)	0.5
Body Surface/Decorative Treatment	SMOOTHED
Body Shape	
Base Shape/Curvature	UNDISTINGUISHED
Base Diameter (cm)	
Base Height	
Base Surface/Decorative Treatment	SMOOTH
Appendages/Handles	HEAD AND LEGS ATTACHED AT RIM (BROKEN), ROUNDED TAIL AT THE OTHER END
Notes	Hodges catalog notes "small turtle effigy bowl. Head missing"

JEC Hodges Collection, 77-1
Effigy Vessels

	X-32 / unknown
Vessel Form	effigy bowl
ARAS/HSU Digital Photo No.	1182
Type	
Decoration	modeled/appliqued
Rim :: Body	
Paste	SOFT, SILTY, COMPACT
Temper	GROG & SHELL (LEACHED), COARSE/ABUNDANT
Color, Core	
Color, Exterior	DARK GRAY (10YR4/1), REDDISH YELLOW (5YR6/6), LIGHT YELLOWISH BROWN (10YR6/4)
Color, Interior	DARK GRAY (10YR4/1)
Vessel Overall Height (cm)	8.6
Vessel Overall Weight (g)	404.0
Vessel Maximum Diameter (cm)	
Volume (liters)	
Use/Wear/Condition	VESSEL INTACT EXCEPT FOR SOME SPALLING/EROSION ON THE BOTTOM AND SEVERAL CRACKS FROM THIS AREA; NO USE WEAR APPARENT
Shape/Description	EFFIGY BOWL (FISH) WITH ONE TOP FIN, FIVE BOTTOM FINS, AND ONE TAIL PLUS A WIDE MOUTH; VESSEL OPENING IN CENTER OF BODY
Lip Treatment/Shape/Angle	ROUNDED LIP, DIRECT RIM
Orifice Diameter (cm)	9.9
Rim/Neck Height (cm)	
Rim/Neck Thickness (cm)	0.6
Rim/Neck Shape/Angle	
Rim/Neck Surface/Decorative Treatment	SMOOTHED; PLAIN EXCEPT FOR MODELING
Body Maximum Diameter (cm)	16.3
Body Height (cm)	8.6
Body Thickness (cm)	0.7
Body Surface/Decorative Treatment	SMOOTHED & BURNISHED
Body Shape	EFFIGY, GLOBULAR, CONSTRICTED RIM BOWL
Base Shape/Curvature	UNDISTINGUISHED
Base Diameter (cm)	
Base Height	
Base Surface/Decorative Treatment	
Appendages/Handles	EFFIGY NODES FORMING 1 DORSAL FIN, TAIL, 5 VENTRAL FINS, HEAD AREA WITH LARGE CENTRAL PUNCTATION
Notes	

JEC Hodges Collection, 77-1
Effigy Vessels

	X-34 / unknown
Vessel Form	effigy bowl
ARAS/HSU Digital Photo No.	1196
Type	
Decoration	modeled/appliqued/engraved
Rim :: Body	
Paste	HARD, SILTY, COMPACT, MICA
Temper	SHELL & GROG, MEDIUM
Color, Core	REDDISH YELLOW (5YR6/6)
Color, Exterior	VERY DARK GRAY (10YR3/1), BROWN (10YR5/5), YELLOWISH RED (5YR5/6)
Color, Interior	GRAYISH BROWN (10YR5/2)
Vessel Overall Height (cm)	8.3
Vessel Overall Weight (g)	364.0
Vessel Maximum Diameter (cm)	
Volume (liters)	
Use/Wear/Condition	OLD REPAIR WITH GLUE, SOME SHERDS MISSING; VERY ROUGH AND SLIGHTLY ERODED ON BASE; APPENDAGES MISSING (SIDES, TAIL)
Shape/Description	EFFIGY BOWL (TURTLE/FROG?) WITH HEAD/NECK APPENDAGE, OTHER APPENDAGES BROKEN OFF
Lip Treatment/Shape/Angle	ROUNDED, DIRECT
Orifice Diameter (cm)	11.4
Rim/Neck Height (cm)	
Rim/Neck Thickness (cm)	0.7
Rim/Neck Shape/Angle	
Rim/Neck Surface/Decorative Treatment	SMOOTHED & BURNISHED; EFFIGY APPENDAGES-HEAD/NECK APPENDAGE
Body Maximum Diameter (cm)	11.6
Body Height (cm)	6.5
Body Thickness (cm)	0.8
Body Surface/Decorative Treatment	SMOOTHED & BURNISHED / PLAIN
Body Shape	EFFIGY, OPEN SIMPLE BOWL-STRAIGHT SIDED PLUS EFFIGY APPENDAGES ADDED
Base Shape/Curvature	UNDISTINGUISHED/CONVEX
Base Diameter (cm)	
Base Height	
Base Surface/Decorative Treatment	
Appendages/Handles	EFFIGY HEAD/NECK WITH TWO NODED/ENGRAVED EYES, 3 ENGRAVED HORIZONTAL LINES RUNNING THE LENGTH OF THE HEAD/NECK, ENGRAVED WIDE FLAT MOUTH
Notes	

JEC Hodges Collection, 77-1
Effigy Vessels

	X-36; 526 / unknown
Vessel Form	effigy seed jar, quadruped
ARAS/HSU Digital Photo No.	461
Type	
Decoration	modeled/appliqued/incised
Rim :: Body	
Paste	HARD, COMPACT
Temper	GROG & SHELL (LEACHED), MEDIUM TO COARSE
Color, Core	LIGHT BROWNISH GRAY (10YR6/2)
Color, Exterior	DARK GRAYISH BROWN (10YR4/2), GRAYISH BROWN (10YR5/2), BLACK (10YR2/1)
Color, Interior	
Vessel Overall Height (cm)	17.5
Vessel Overall Weight (g)	792.0
Vessel Maximum Diameter (cm)	
Volume (liters)	
Use/Wear/Condition	OLD REPAIR WITH MODELING CLAY TO FRONT LEG (LEG DOES NOT CROSSMEND TO VESSEL, DOES NOT APPEAR TO BE ORIGINAL TO VESSEL); ABRADED TAIL
Shape/Description	EFFIGY SEED JAR (BEAR) WITH 4 LEGS, TAIL, OPENING IN TOP OF HEAD
Lip Treatment/Shape/Angle	DIRECT
Orifice Diameter (cm)	3.3
Rim/Neck Height (cm)	
Rim/Neck Thickness (cm)	0.7
Rim/Neck Shape/Angle	
Rim/Neck Surface/Decorative Treatment	SMOOTHED & BURNISHED; 'PLAIN EXCEPT FACE MODELING, INTERIOR ENGRAVED CIRCLES FOR EYES
Body Maximum Diameter (cm)	13.0
Body Height (cm)	
Body Thickness (cm)	
Body Surface/Decorative Treatment	PLAIN
Body Shape	EFFIGY
Base Shape/Curvature	CONVEX
Base Diameter (cm)	
Base Height	
Base Surface/Decorative Treatment	
Appendages/Handles	4 ATTACHED LEGS AND TAIL
Notes	Hodges catalog notes "Bottle - bear effigy . . . purchased"; previous illustration Suhm & Jelks 1962: Plate 25C

JEC Hodges Collection, 77-1
Effigy Vessels

	X-58 / unknown
Vessel Form	effigy bowl
ARAS/HSU Digital Photo No.	1119
Type	
Decoration	modeled/appliqued/incised
Rim :: Body	
Paste	HARD, GRITTY, COMPACT
Temper	GROG, MEDIUM
Color, Core	GRAYISH BROWN (10YR5/2)
Color, Exterior	YELLOWISH RED (5YR5/6), RED (2.5YR5/8), REDDISH YELLOW (5YR6/6), OXIDIZED SURFACES
Color, Interior	YELLOWISH RED (5YR5/6)
Vessel Overall Height (cm)	6.7
Vessel Overall Weight (g)	342.0
Vessel Maximum Diameter (cm)	
Volume (liters)	
Use/Wear/Condition	VESSEL RECONSTRUCTED WITH GLUE; HEAD AND PART OF ONE FIN/WING BROKEN OFF; SCRATCHES AROUND SIDES OF BODY ON INTERIOR, BASE WORN ON EXTERIOR; TRACES OF BLACK ON EXTERIOR (RESIDUE OR SOOTING?)
Shape/Description	EFFIGY BOWL, HEAVY (FISH OR BIRD)
Lip Treatment/Shape/Angle	ROUNDED, THINNED
Orifice Diameter (cm)	9.8
Rim/Neck Height (cm)	
Rim/Neck Thickness (cm)	
Rim/Neck Shape/Angle	CONVEX/INSLANTED
Rim/Neck Surface/Decorative Treatment	
Body Maximum Diameter (cm)	12.0
Body Height (cm)	6.7
Body Thickness (cm)	0.6
Body Surface/Decorative Treatment	SMOOTHED / PLAIN
Body Shape	SUB-GLOBULAR
Base Shape/Curvature	CIRCULAR/FLAT
Base Diameter (cm)	7.5
Base Height	
Base Surface/Decorative Treatment	
Appendages/Handles	HEAD (MISSING), 2 FINS, AND TAIL FIN, DECORATED WITH INCISED LINES
Notes	

JEC Hodges Collection, 77-1
Effigy Vessels

	X-68; 1305 / unknown
Vessel Form	effigy bowl (?)
ARAS/HSU Digital Photo No.	3475
Type	
Decoration	appliqued
Rim :: Body	
Paste	HARD, FINE, SILTY, COMPACT
Temper	SHELL (LEACHED) & BONE?, ABUNDANT
Color, Core	GRAY (10YR5/1)
Color, Exterior	DARK GRAY (10YR4/1), DARK GRAYISH BROWN (10YR4/2), GRAY (10YR5/1)
Color, Interior	VERY DARK GRAYISH BRWON (10YR3/2), GRAY (10YR5/1), BROWNISH YELLOW (10YR6/6)
Vessel Overall Height (cm)	4.5
Vessel Overall Weight (g)	102.0
Vessel Maximum Diameter (cm)	
Volume (liters)	
Use/Wear/Condition	ONE OF THE APPLIQUED TABS IS PARTIALLY BROKEN OFF AND THERE IS A CRACK ON SIDE; WEAR ON THE UPPER INSIDE OF VESSEL AROUND LIP
Shape/Description	SIMPLE SHALLOW BOWL WITH APPLIQUE TABS
Lip Treatment/Shape/Angle	ROUNDED
Orifice Diameter (cm)	10.9
Rim/Neck Height (cm)	
Rim/Neck Thickness (cm)	0.4
Rim/Neck Shape/Angle	
Rim/Neck Surface/Decorative Treatment	
Body Maximum Diameter (cm)	10.9
Body Height (cm)	4.5
Body Thickness (cm)	0.4
Body Surface/Decorative Treatment	SMOOTHED
Body Shape	CONICAL
Base Shape/Curvature	FLAT
Base Diameter (cm)	4.2
Base Height	
Base Surface/Decorative Treatment	
Appendages/Handles	2 APPLIQUE TABS AROUND UPPER EDGE OF VESSEL, ON OPPOSITE SIDES.
Notes	

JEC Hodges Collection, 77-1
Effigy Vessels

	X-186 / unknown
Vessel Form	effigy bottle, quadruped
ARAS/HSU Digital Photo No.	K5786
Type	Means Engraved
Decoration	engraved/incised/appliqued/modeled
Rim :: Body	plain :: Edith?
Paste	SOFT, COMPACT, SMOOTH
Temper	SHELL (LEACHED), MEDIUM/ABUNDANT
Color, Core	
Color, Exterior	GRAY (10YR5/1-6/1), DARK GRAY (10YR4/1)
Color, Interior	
Vessel Overall Height (cm)	20.5
Vessel Overall Weight (g)	676.0
Vessel Maximum Diameter (cm)	
Volume (liters)	1.3
Use/Wear/Condition	RECONSTRUCTED; SEVERAL MISSING SHERDS ON BODY, REPAIRED WITH PLASTER IN PAST
Shape/Description	EFFIGY BOTTLE WITH LONG NECK AND FOUR LEGS
Lip Treatment/Shape/Angle	ROUNDED/EVERTED/0.7CM
Orifice Diameter (cm)	4.0
Rim/Neck Height (cm)	1.0
Rim/Neck Thickness (cm)	0.7
Rim/Neck Shape/Angle	SPOOL
Rim/Neck Surface/Decorative Treatment	BURNISHED; PLAIN
Body Maximum Diameter (cm)	15.5
Body Height (cm)	11.0
Body Thickness (cm)	
Body Surface/Decorative Treatment	BURNISHED / NODES AND INCISED HERRINGBONE LINES ON TOP OF BODY/ INCISED LINES, TICKED LINES, LADDER DESIGN ON SIDES/TRACES OF RED PIGMENT IN THE LINES
Body Shape	SUB-GLOBULAR/EFFIGY
Base Shape/Curvature	CONVEX
Base Diameter (cm)	18.0
Base Height	15.7
Base Surface/Decorative Treatment	BURNISHED
Appendages/Handles	NODES ALONG THE BODY(16 IN TOTAL), TAIL, AND 4 LEGS ON THE BASE / SNAPPING TURTLE?
Notes	Previous illustration Suhm & Jelks 1962: Plate 53K, L

JEC Hodges Collection, 77-1
Effigy Vessels

	X-187 / unknown
Vessel Form	effigy bottle
ARAS/HSU Digital Photo No.	K5830
Type	Means Engraved
Decoration	engraved/appliqued/modeled/punctated
Rim :: Body	plain :: Belhaven?
Paste	HARD, COMPACT, SMOOTH
Temper	SHELL (LEACHED), MEDIUM/SPARSE
Color, Core	
Color, Exterior	LIGHT BROWN (7.5YR6/3), DARK GRAY (7.5YR4/1)
Color, Interior	
Vessel Overall Height (cm)	18.8
Vessel Overall Weight (g)	861.0
Vessel Maximum Diameter (cm)	
Volume (liters)	1.9
Use/Wear/Condition	EXTENSIVE REPAIRS WITH MISSING SHERDS FILLED WITH PLASTER
Shape/Description	EFFIGY BOTTLE WITH LONG NECK
Lip Treatment/Shape/Angle	SMOOTHED, ROUNDED TO ROLLED, SLIGHTLY EVERTED, 0.7CM
Orifice Diameter (cm)	4.0
Rim/Neck Height (cm)	7.5
Rim/Neck Thickness (cm)	0.5
Rim/Neck Shape/Angle	SPOOL
Rim/Neck Surface/Decorative Treatment	BURNISHED; PLAIN
Body Maximum Diameter (cm)	19.0
Body Height (cm)	8.0
Body Thickness (cm)	
Body Surface/Decorative Treatment	ENGRAVED LINES, UNUSUALLY BROAD FOR ENGRAVING, PUNCTATED AT LOWER EDGE OF BODY, APPLIQUED RIDGE; IDEOSYNCRATIC DESIGN SOMEWHAT SIMILAR TO BELHAVEN IN SCROLL UNDER NECK.
Body Shape	OVOID/EFFIGY (TURTLE)
Base Shape/Curvature	CONVEX
Base Diameter (cm)	19.0
Base Height	5.5
Base Surface/Decorative Treatment	BURNISHED
Appendages/Handles	TAIL ON BACK RIDGE
Notes	Previous illustration Suhm & Jelks 1962: Plate 53A

JEC Hodges Collection, 77-1
Effigy Vessels

	X-231; 576 / unknown
Vessel Form	effigy handle, fragment
ARAS/HSU Digital Photo No.	N8871
Type	
Decoration	modeled/appliqued
Rim :: Body	
Paste	HARD, COMPACT, SMOOTH, SOME HEMATITE PEBBLES
Temper	GROG, MEDIUM/ABUNDANT
Color, Core	
Color, Exterior	GRAY (10YR6/1), LIGHT RED (2.5YR6/8)
Color, Interior	
Vessel Overall Height (cm)	2.5
Vessel Overall Weight (g)	10.0
Vessel Maximum Diameter (cm)	
Volume (liters)	
Use/Wear/Condition	EARS/HORNS BROKEN OFF; BREAK WHERE ATTACHED TO RIM OF VESSEL
Shape/Description	MODELED ANIMAL HEAD APPENDAGE
Lip Treatment/Shape/Angle	
Orifice Diameter (cm)	
Rim/Neck Height (cm)	
Rim/Neck Thickness (cm)	
Rim/Neck Shape/Angle	
Rim/Neck Surface/Decorative Treatment	
Body Maximum Diameter (cm)	3.0
Body Height (cm)	2.0
Body Thickness (cm)	1.3
Body Surface/Decorative Treatment	SMOOTHED / PLAIN
Body Shape	EFFIGY
Base Shape/Curvature	
Base Diameter (cm)	
Base Height	
Base Surface/Decorative Treatment	
Appendages/Handles	HEAD OF SOME SORT OF ANIMAL/EYES AND MOUTH ARE INCISEDAND PUNCTATED/SHORT NECK, LONG NOSE AND FACE
Notes	Hodges catalog notes "Effigy animal head - fragment" / POSSIBLY 3HS76 OR 3HS101?

JEC Hodges Collection, 77-1
Effigy Vessels

	X; 2524 / unknown
Vessel Form	effigy handle, fragment
ARAS/HSU Digital Photo No.	N8926
Type	
Decoration	modeled/appliqued/engraved
Rim :: Body	Edgar 3
Paste	HARD, COMPACT, SMOOTH, MICA
Temper	GROG & SHELL(LEACHED), MEDIUM/ABUNDANT, OCCASIONAL GRIT
Color, Core	LIGHT BROWNISH GRAY (10YR6/2)
Color, Exterior	PALE BROWN (10YR6/3), DARK GRAYISH BROWN (10YR4/2)
Color, Interior	
Vessel Overall Height (cm)	4.5
Vessel Overall Weight (g)	44.0
Vessel Maximum Diameter (cm)	
Volume (liters)	
Use/Wear/Condition	EFFIGY APPENDAGE BROKEN FROM VESSEL RIM
Shape/Description	HEAD OF DUCK WITH ONE LARGE EYE AND LONG BEAK DECORATED WITH CROSSHATCHING (ALSO CROSSHATCHING ON TOP OF HEAD)
Lip Treatment/Shape/Angle	
Orifice Diameter (cm)	
Rim/Neck Height (cm)	
Rim/Neck Thickness (cm)	
Rim/Neck Shape/Angle	
Rim/Neck Surface/Decorative Treatment	
Body Maximum Diameter (cm)	6.6
Body Height (cm)	4.5
Body Thickness (cm)	1.5
Body Surface/Decorative Treatment	SMOOTHED / CROSSHATCHED LINES
Body Shape	EFFIGY
Base Shape/Curvature	
Base Diameter (cm)	
Base Height	
Base Surface/Decorative Treatment	
Appendages/Handles	
Notes	Previous illustration Trubitt & Evans 2015: Fig. 6

Current Research:

Current Research in the Sabine Mine's Rusk Permit, Rusk County, Texas

Ross C. Fields and John E. Dockall
Prewitt and Associates, Inc.

In 2014–2015, Prewitt and Associates, Inc., conducted test excavations at seven Native American sites—41RK674, 41RK680, 41RK693, 41RK695, 41RK703, 41RK704, and 41RK729—in northeast Rusk County, Texas (Fischbeck et al. 2015). These sites are in Area W of the South Hallsville No. 1 Mine's Rusk Permit, which is operated by North American Coal Corporation–Sabine Mine (Figure 1). The excavations consisted of 92 m^2 (80.7 m^3) of hand-dug test units and 63 backhoe trenches (702 m^2).

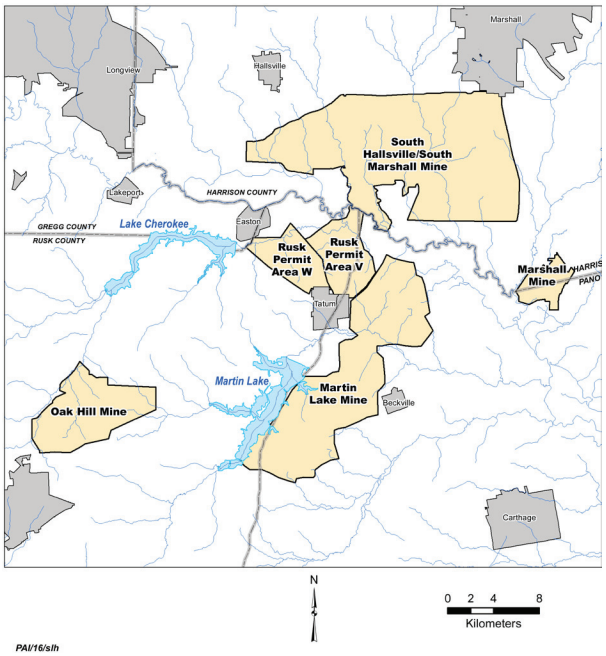


Figure 1. Map showing the location of Rusk Permit Area W relative to other nearby areas investigated archeologically.

Testing determined that the sites have components dating as early as the Middle Archaic period (ca. 3500 B.C.) and as late as the Late Caddo period (late A.D. 1400s), with Late Archaic, Woodland, Early Caddo, and Middle Caddo components represented as well. Four sites have moderate to high densities of cultural materials representing substantial Native American occupations, although none have middens indicating especially prolonged use. Sites 41RK674 and 41RK693 are interpreted as Late Caddo and Middle Caddo farmsteads, respectively, albeit briefly occupied ones. Site 41RK703 has prominent Middle Archaic and probably Late Archaic components representing repeated use as a campsite, with lesser Woodland and Early Caddo components indicating non-residential use. The primary component at 41RK704 represents repeated use during the Woodland period as a special-purpose campsite, and a secondary Early Caddo component reflects less-intensive use as a procurement/processing location or short-term campsite. The other three sites were used less intensively, with 41RK680 having a Woodland component, 41RK695 having a Late Caddo component, and 41RK729 having an unidentified Caddo component; these sites likely were used as procurement or processing locations or short-term campsites.

Although all seven sites suffer from the lack of preserved feature assemblages, the data from them are useful for gaining a better understanding of how Native Americans used this part of the Sabine River valley. This can be achieved through comparisons with survey and excavation data from Rusk Permit Area V to the east and Sabine Mine's South Hallsville/Marshall Mine on the north side of the Sabine River, as well as Martin Lake Mine just to the east and Oak Hill Mine not far to the southwest. Survey data indicate that the density of prehistoric sites is not even across the Rusk Permit, with prehistoric sites most common in Pleistocene terrace and valley wall settings at the south edge of the Sabine River floodplain in the eastern part (Area V) and on the Cherokee Bayou floodplain in the western part (Area W). These settings provided access to water resources such as Hendricks Lake, Black Slough, and Cherokee Bayou. In addition, parts of these landforms provided arable farmland where Caddo Indians could have grown crops. Sites are much less common in upland areas back from the valley wall. One reason for the low density of upland sites appears to be the scarcity of sufficient and stable water sources. Although springs are present in upland settings, particularly along the interface between the uplands and Pleistocene terrace segments, they are mostly at runoff-fed drainages and lack continual flow. The few prehistoric sites found along these drainages are mostly lithic scatters.

The site density for the almost 9,500 acres of surveyed land in the Rusk Permit overall (one site per 143 acres) is much lower than that for the surveyed parts of the Sabine Mine north of the river (one site per 80 acres). This probably relates at least partly to the fact that the north side of the river is drained by a number of perennial south-flowing tributaries that create a multitude of ideal settings for Native American occupation sites, while the uplands south of the river are drained by intermittent streams. Hence, Native American settlement strategies in this region, during some time periods anyway, may have been oriented more toward tributaries than the Sabine River.

The site density data from Martin Lake Mine and Oak Hill Mine suggest that something more may have been going on, though, with prehistoric sites being even scarcer in both of these (one site per 432 and 507 acres, respectively) than in the Rusk Permit area. Although both Martin Lake and Oak Hill consist of large expanses of uplands where sites should be infrequent, both also contain perennial tributary stream valleys where one would expect high site densities. Indeed, sites are present along these streams, and some of these sites, such as Oak Hill Village (41RK214, Rogers and Perttula 2004), reflect intensive and long-term use. But the low densities of prehistoric sites suggest that, overall, the uplands south of the Sabine River were sparsely settled compared to the area north of the river. For at least parts of the late prehistoric Caddo period, this could indicate that the area south of the river was a buffer zone between intensively used parts of the Sabine River valley to the north and the Neches River valley to the south.

Regardless of the merit of the buffer zone hypothesis, it is certain that the Native Americans who occupied the south edge of the Sabine River valley were parts of larger communities. Sites 41RK703 and 41RK704 in Area W probably were used as procurement or processing locations and campsites by people who lived at the Early Caddo Hudnall-Pirtle ceremonial-civic center (41RK4) not far away (Figure 2), and this may be true for one of the tested sites in Area V to the east as well (41RK562). Site 41RK674 in Area W and probably 41RK557 in Area V were briefly occupied farmsteads associated with the Late Caddo Pine Tree Mound community centered on Potters Creek north of the Sabine River, with a secondary ceremonial center at the Lane Mitchell site closer to the river. Site 41RK693 in Area W was contemporaneous with the early part of that same community and could have been associated with it as well, or it may have been more connected to the Middle Caddo community anchored by the Oak Hill Village site farther away to the southwest. Based on the survey evidence, there are few other sites like these in the 12-km-long stretch of Sabine River valley wall within the Rusk Permit, though, and thus use of this area for outlying farmsteads during the Middle and Late Caddo periods was not common. Even when the Caddo did establish farmsteads in this area, it appears, based on the absence of middens at the tested sites, that they used them only briefly.

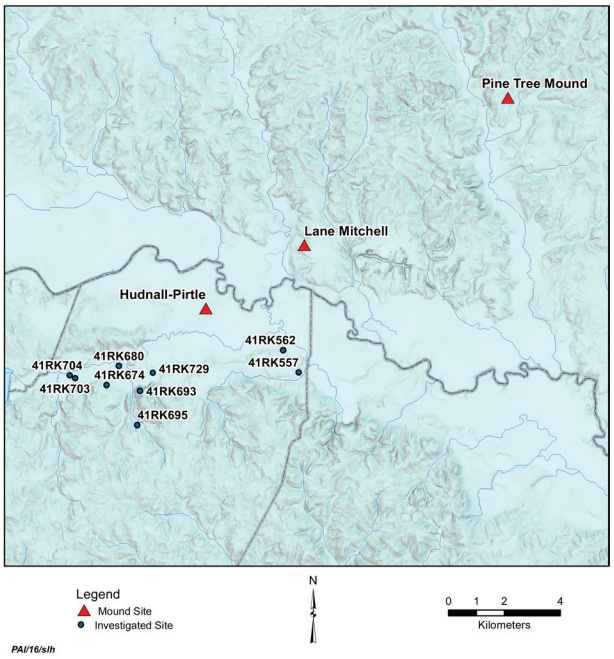


Figure 2. Map showing the locations of tested sites in the Sabine Mine's Rusk Permit and nearby Caddo mound sites.

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Current Research:

A Report on a Long Term Research Program on the Bowman site in Arkansas

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University of Central Arkansas

The Bowman (3LR46) and Bowman/Wallace (3LR50) sites represent a Caddo multi-mound center on the Red River in Little River County, Arkansas (Figure 1). Southeastern researchers may recognize the site name from an engraved shell cup and several additional "SECC" objects found in Mound 2 (Phillips and Brown 1978:167-168; Hoffman 1970:173; see also Knight et al. 2001; Millan 2005). Hoffman (1970:167-168) provides a brief summary of digging at the sites and offers a proposed site organization of eight mounds (both burial and "temple mounds") surrounding a possible plaza area and at least three off-mound cemeteries. Material collected from Mounds 1 and 2 and two off-mound cemeteries suggest Haley phase (ca. A.D. 1200-1400) occupations. Additionally, data from Mound 1 have the potential to "reveal a solid sequence of [Caddo] burial and mortuary artifact styles" beginning with the earliest Caddo occupations in the Red River region (Hoffman 1970:168-169, 173).

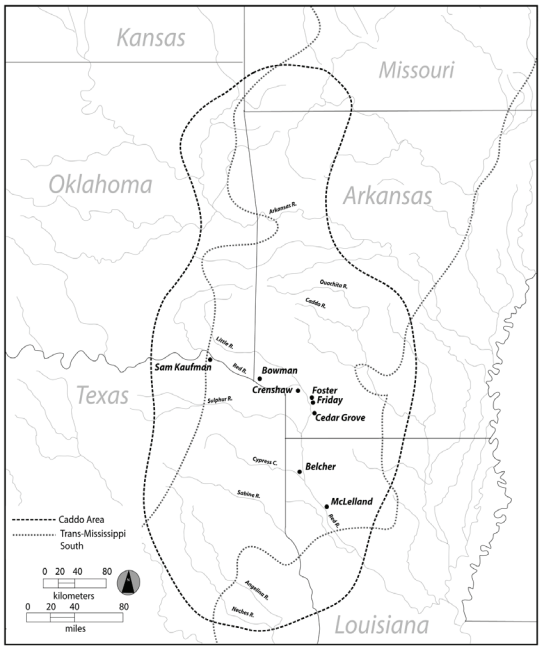

Figure 1. Location of Bowman and select sites in the Red River region.

Despite its importance as a likely center of exchange and influence, little empirical and systematic research has been conducted at the Bowman site. Over the last 70 years (at least), there are numerous accounts of pothunters digging at the site, various sketch maps of the contents of looted burials, amateur drawings of whole pots collected, and random inventories of vessels and other artifacts. Much of what we know about the site is from these activities. Today, collected material is scattered throughout museums and private collections. A synthesis of historical information about the site and the development of a research program is long overdue. In this light, I am in the beginning phases of a long-term research program to better understand the diachronic relationship of the Bowman occupations to contemporaneous sites in the region.

The first phase is to identify, organize, inventory, and synthesize collector notes and documentation, published summaries and discussions, and materials associated with the site. Much of this initial work will be integrated into teaching opportunities with University of Central Arkansas (UCA) students. Phase one is underway with the documentation of 31 fully or partially reconstructed vessels from unknown provenience and collected in the late 1960s (Figure 2).

Phase two will build upon this synthesis to evaluate and document the site using geophysical survey and topographic mapping to understand the nature and preservation of mounds and subsurface archeological deposits. This is an important step given the history of looting and potential destruction of archeological features. While looting has undoubtedly impacted the site, geophysical survey conducted on looted sites has been successful in recording the presence of undisturbed and interpretable cultural features (see McKinnon 2013; McKinnon et al. 2016). Phase three will work to integrate data from the first two phases and will also include low-impact field-testing in select areas depending on geophysical results and need for additional primary data.

Certainly, this is an endeavor that will take several years before a better understanding of the Bowman site can be realized. Yet, without a beginning there cannot be an end.

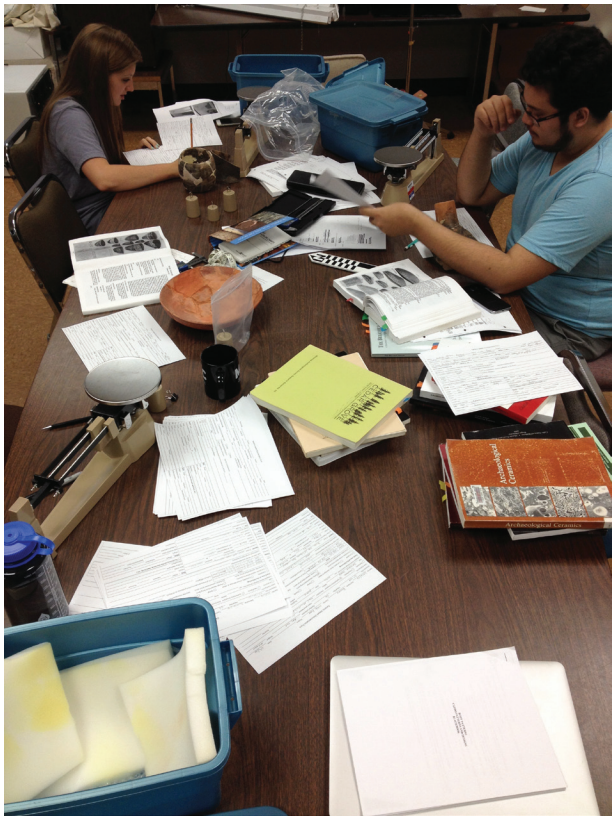

Figure 2. UCA students documenting reconstructed vessels from the Bowman site.

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Current Research:

A Report and Request toward Building a Canine Burial Corpus

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University of Central Arkansas

Both the affectionate and mutually adaptive relationships that contemporary humans share with the dog (*Canis familiaris*) are the result of a long history of domestication. Because of this long partnership, an analysis of dog burials can shed light on certain integrated components associated with mortuary practices, symbolic expression, and oral traditions in humans. There is an enormous amount of archeological and ethnological literature describing the role of the domesticated dog around the world (Walker 2000). These sources describe the variable roles of dogs as human partners, friends, companions in hunting and herding, as pack animals, as guard, fighting, and war dogs, as active participants in ritual, and as meat for consumption in lean times or reserved as offerings in ceremonial feasting.

There is little question that the domesticated dog was an important partner and treated with a high degree of adulation and reverence among the Caddo. For example, dogs are recorded as participating in precautionary rituals associated with the Caddo Green Corn ceremony where a series of rituals and offerings are undertaken prior to the consumption of the green corn. If green corn were eaten by a human before the rituals, the violator would "be infallibly bitten by a snake" (Swanton 1942:225). To protect dogs from such an outcome, it is noted that when corn is harvested "[the Hasinai] tie their [dogs] fore-feet to their snouts, which prevents their eating fresh corn, of which they are exceedingly fond" (Swanton 1942:225).

Building upon the work of Todd (2013), I am working toward synthesizing patterns of burial, symbolic referents, and ethnographic accounts of dogs in the Caddo area and begin a comparison of symbolism and ethnography with neighboring groups. The current corpus has 65 dog burials with a minimum number of 79 dogs from 34 sites (Figure 1). Consideration of disposed dogs as deliberate burials, instead of scattered food refuse, is based on the following developed criteria:

1. Remains were found in an articulated position and buried in a defined pit. At the Roitsch site, Perttula (2008:344) describes an "adult-sized dog [that] had been buried on its side in a ca. 80 cm diameter pit, with its head at the eastern end of the pit, and the front and back legs were partially flexed."

2. If the remains were found in an articulated or mostly articulated position without a defined pit, such as in a midden. At the Steck site a dog burial was found "lying on the left side with the head to the north, excavated from the midden" (Butler and Perttula 1981:123).

3. If the remains were associated with more than one dog, such as a group of skulls which might suggest a dedicated space for dog burial or disposal. At the Winterbauer site, "nine canid skulls, probably marking the deliberate burial…. of dogs [were found] in the midden deposits, in the southern part of the midden mound" (Perttula 2015:24).

4. If the remains were located in a disturbed area containing an abundance of dog bone fragments suggesting a former burial. At the Mahaffey site, Perino and Bennett (1978:12) describe a potential burial of "bones [that] had been badly destroyed by rodents. It contained a few scattered bones plus a skull and jaw sections."

Based on archeological and ethnohistorical data collected thus far, it is clear there existed a special relationship with dogs. This is likely because they were considered members of the community and were also certainly valuable as hunters. There are several cases where dogs have been buried within prepared pits and with burial goods. Such special treatment suggests a similar concern as shown with human burials where burial goods were placed as provisions for the next world (see also Schwartz 2000).

As I move forward with this long-term project, I am reaching out to those who are aware of dog burials (and citations) to build and expand the corpus. I am interested in Caddo area dog burials and those in neighboring groups, such as the Quapaw, Natchez, Wichita, and Pawnee.

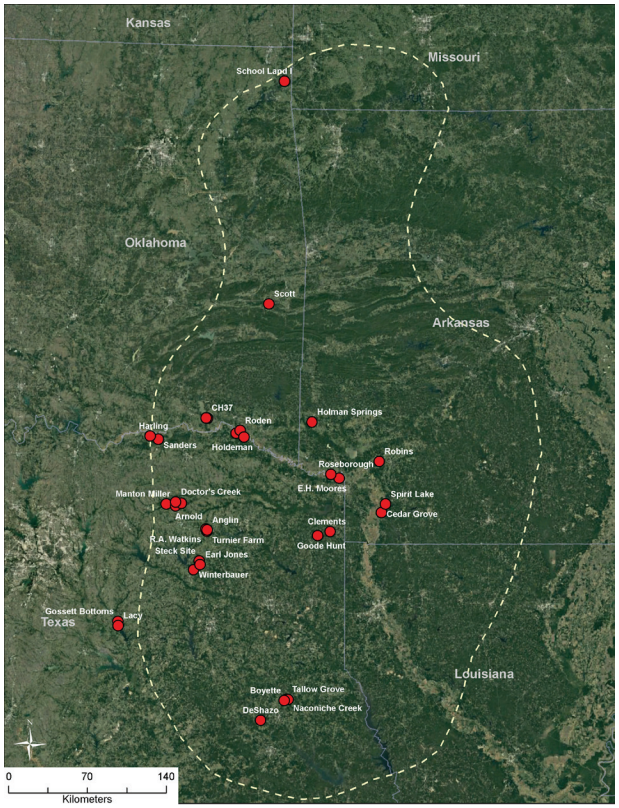

Figure 1. Distribution of the current corpus of dog burials in the Caddo area.

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Current Research:

Current Archeological Research in East Texas: Documentation of WPS-Gus Arnold Archeological Survey Collections

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Archeological & Environmental Consultants, LLC

Gus Arnold identified and recorded many ancestral Caddo sites during his 1939-1940 Works Progress Administration (WPA)-sponsored archeological survey of East Texas (see Im 1975). Currently, I have been engaged in studying the artifact collections from 51 WPA sites in Angelina, Cherokee, Gregg, Jasper, Nacogdoches, Sabine, and San Augustine counties (Figure 1), especially the ceramic sherd assemblages, held by the Texas Archeological Research Laboratory at The University of Texas. The sites are located in the Sabine River, Neches River, Angelina River, and Attoyac Bayou stream basins.

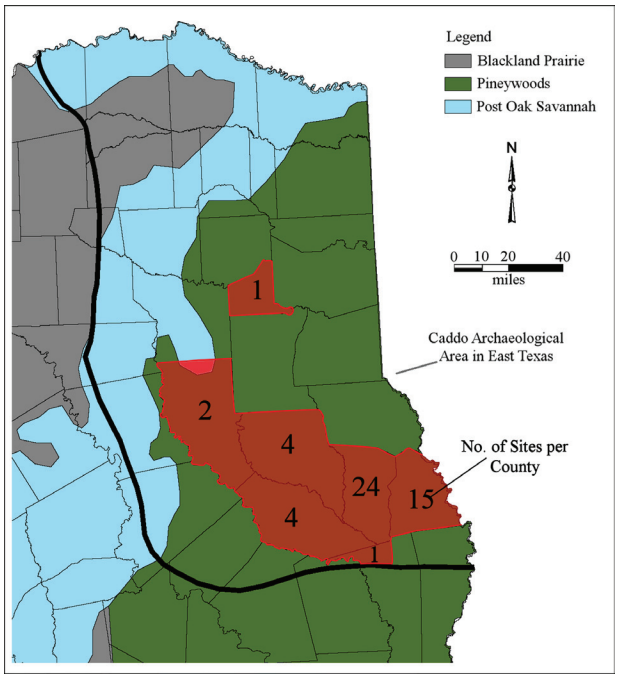

Figure 1. East Texas counties with Gus Arnold collections that have been recently documented.

The character of these ceramic sherds—and their stylistic (Figures 2 and 3) and technological similarities or differences to other studied ceramic assemblages in the region—have been the primary focus of the analyses. These are areas where the temporal, spatial, and social character of much of the Caddo archeological record is not well known. This work has

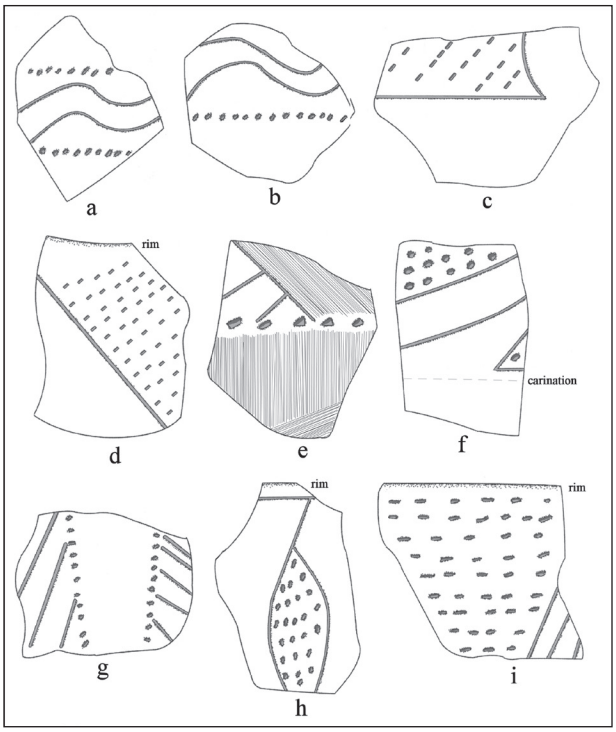

Figure 2. Selected decorative elements on utility ware sherds from 41SB34: a-b, f-i, incised-punctated; c-d, incised-stamped; e, brushed-incised-punctated. Figure prepared by Lance Trask.

documented ancestral Caddo components that were occupied as early as ca. A.D. 1000 and as late as the early eighteenth century, but most of the Caddo sites appear to have been occupied between ca. A.D. 1400-1680, in the Late Caddo period.

Arnold typically collected substantial sherd samples from the surface of plowed fields during his survey effort, along with long-stemmed Red River and elbow pipe sherds, Woodland period sandy paste Goose Creek Plain and Goose Creek Incised sherds, an occasional Marksville Stamped sherd, and chipped stone tools dating from as early as the Late Paleoindian period to the Late Caddo period. During the course of this documentation effort, approximately 13,000 plain and decorated ceramic vessel sherds were analyzed, about

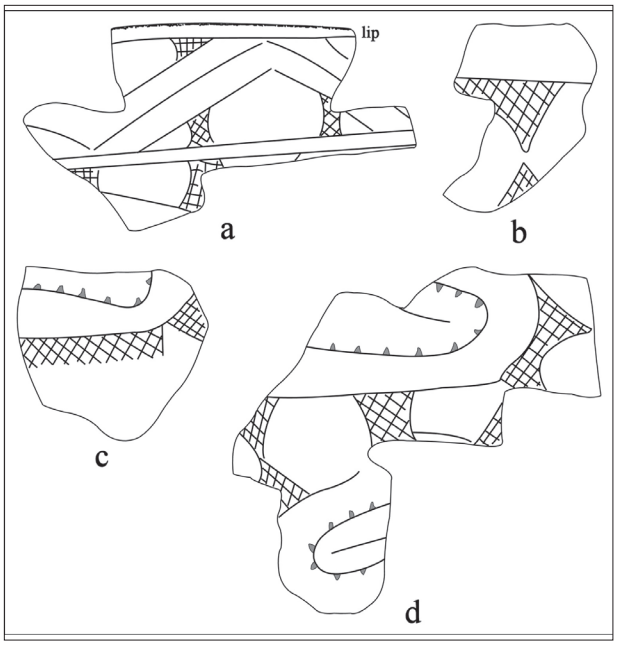

Figure 3. Decorative elements on Natchitoches Engraved bowl rim and body sherds from the Kinsloe site excavated in 1937.

60 percent from 24 sites in San Augustine County (see Figure 1), along with six vessels noted by Arnold that had been excavated from the Kinsloe site (41GG3) in 1937 by a local collector (Perttula 2015a, 2015b, 2016, 2017a-i).

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Current Research:

Update on Recent Activities at the Arkansas Archeological Survey's Henderson State University Research Station in Arkadelphia

Mary Beth Trubitt
Arkansas Archeological Survey, Henderson State University Research Station

The Arkansas Archeological Survey's Henderson State University Research Station (ARAS/HSU) has been active with several small field projects this year, as well as on-going work in the lab. In February and March 2016, Mary Beth Trubitt and Katie Leslie advised Hot Springs National Park personnel on placement of four soil moisture monitors so as to avoid cultural features at 3GA22, a significant novaculite quarry with prehistoric and historic components (Holmes 1891, 1919; Trubitt 2005). In the process, we were able to map additional quarry features, most of which are associated with early twentieth century whetstone procurement (Figure 1). Our fieldwork and documentation resulted in extending the site boundaries. Eight shovel tests were excavated during the park's installation of soil monitoring equipment (Figure 2). This represents the first subsurface archeological testing at this quarry. The novaculite debris from shovel tests included quarry waste and natural talus, but few flakes and no tools or diagnostic artifacts were found. After analysis of lithic debris, a report was prepared that outlines past research on the site and its significance, and summarizes the results of the project (AMASDA 6994) (Trubitt 2016).

Figure 1. Large water-filled quarry trench at 3GA22 (Mary Beth Trubitt in background, Arkansas Archeological Survey).

Figure 2. Shovel testing at 3GA22 (Lili Petrovic on left, Katie Leslie on right, Arkansas Archeological Survey).

During weekly Archeology Lab Days, volunteers have been assisting us with several projects. We have begun a new inventory of the collections curated at ARAS/HSU. The research station has been active since 1967, and we are using our 50th anniversary as an opportunity to digitize paper records and update our electronic databases (the station inventories as well as site forms in AMASDA, the Automated Management of Archeological Site Data in Arkansas, and novaculite distribution data in the "Arkansas Novaculite: A Virtual Comparative Collection" website, http://archeology.uark.edu/novaculite/index.html). I encourage archeologists working across the Caddo Area to visit that website and add data on novaculite artifacts found at sites beyond the Ouachita Mountains source area. In the future, we hope to create regional distribution maps for different time periods.

We continue to document ceramic vessels in the Joint Educational Consortium's Hodges Collection, curated on the HSU campus (http://archeology.uark.edu/learn-discover/current-research/hodges/). Some of the artifacts in this collection can be tied to known archeological sites, and provide information about Caddo Indian history and lifeways in the Middle Ouachita River valley. We have used objects from this

Figure 3. Selected sherds from Adair (3GA1, left) and Dragover (3MN298, right).

collection to develop exhibits that interpret this history for local residents. Our documentation is also used by officials from the JEC and the Caddo Nation as they consult about the collection. At this time, we have completed analysis on about 80 percent of the vessels and are entering the information into a database. One article resulting from this work was published recently (Trubitt and Evans 2015) and another is forthcoming.

Another 2016 field project involved geophysical surveying and test excavations at 3HS151, a site in the Middle Ouachita River valley with damage from recent looting. Jami Lockhart (Arkansas Archeological Survey, Computer Services Program) conducted gradiometry survey across 9 20 x 20 m grids, and Mary Beth Trubitt, Katie Leslie, and several volunteers mapped the site and excavated three test units. Although we did not uncover cultural features, artifacts recovered during testing show that the site has Late Archaic to Fourche Maline and Caddo period components. Katie Leslie presented results of this project at the 2016 Caddo Conference, and a report is in preparation.

We continue to analyze and interpret results from the 2013-2014 excavations at 3MN298, a collaborative project that I directed with Meeks Etchieson (Ouachita National Forest, retired) (http://archeology.uark.edu/learn-discover/current-research/ouachita-mountains/). Results of radiocarbon dating and floral and faunal analyses were published in the spring of 2016 (Trubitt and Leslie 2016; Trubitt et al. 2016). To address questions of social identity and regional interaction in and beyond the Ouachita Mountains, we have been analyzing ceramic sherds from the 3MN298 excavations, looking particularly at paste composition, temper recipes, firing conditions, shape or form, and decoration. As we broaden our view from 3MN298, we are also looking at Adair (3GA1), the nearest mound center during the Caddo period. Adair was excavated by University of Arkansas Museum crews in 1939 under the federal Works Projects Administration program. A brief examination of 3GA1 sherds from the University of Arkansas (UA) Museum collections indicates both similarities and differences (Figure 3). We are using instrumental neutron activation analysis (INAA) to analyze trace elements in the ceramic sherd pastes, and establish the chemical signatures of local ceramics. With permission from the Caddo Nation and the UA Museum, and with funding from the U.S. Forest Service and a rate reduction grant from the University of Missouri Research Reactor's Archaeometry Laboratory (MURR), I selected and submitted to MURR a sample of 35 ceramic sherds and two mussel shells from 3MN298 and 3GA1 for INAA. The results will be used in interpretations of communities of pottery-making practice in the Ouachita Mountains. This study will also add to the INAA database of Caddo Area ceramics (see also Trubitt, Perttula, and Selden 2016).

The ARAS/HSU Research Station had some personnel changes in 2016. Katie Leslie left in May for a new position at the Veterans Curation Program in their St. Louis lab. Her replacement should be in Arkansas by the 2017 Caddo Conference.

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Report:

Report on the Combined 2016 Caddo Conference and East Texas Archeological Conference in Nacogdoches, Texas

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Charles A. Phillips[2]
[1]Stephen F. Austin State University
[2]Historical Architect and Conservator, Independent Contractor

The combined Caddo Conference and East Texas Archeological Conference was held in Nacogdoches from April 1-2, 2016. There was an informal reception at The Liberty Bell (wine bar and pub fare) on the 31st of March, the night before the first day of papers. We had two days of papers and registered 110 people. The original idea was to have the Conference at the Fredonia Hotel in Nacogdoches, but the renovations to the Fredonia were not complete by the time of the meeting. After considering a few choices, we settled on the Beall Gym at Thomas J. Rusk Elementary School (TJR), a part of the Nacogdoches Independent School District (NISD). The Gym was being used for basketball leagues at the time of our inquiry. The NISD did not charge us for the use of the facility. The Beall gym is located very close to the Washington Square Mound (41NA49) site, a Middle Caddo mound site (Figure 1).

Figure 1. The Conference was held in the Beall Gym—the building to the right. The Old University Building (built 1858) is in the center, and the building to the left is the Thomas J. Rusk Elementary School (built 1939).

The introductory remarks were by Jami Lockhart (Caddo Conference Organization President Elect), Roger Van Horn (Nacogdoches Mayor), and Tamara Francis Forekiller (Caddo Nation Chairperson) (Figure 2). What followed was a symposium organized by Ross Fields about the archeological and historical work in the area of the DeShazo site, an early historic site in Nacogdoches County. After nine talks on various aspects of Caddo archeology, Robert Carroll gave a tour after the Conference on Friday afternoon. The tour was based on Dr. Carroll's memories of the excavations of a mound on his property across from TJR in the mid-1980s by James Corbin from Stephen F. Austin State University (SFA).

Figure 1. The beginning of the Conference when Mayor Roger Van Horn (center) was acknowledging Caddo Chairperson Tamara Francis Forekiller (in pink).

There was a presence at the Old University Building—just a short distance away from the Beall Gym—by the Nacogdoches Federation of Women's Clubs, where they provided refreshments. Also, a number of organizations and individuals provided information, sold works of art, and sold books in a room adjacent to the Conference meeting, called the "Book Room." We are grateful to both the Nacogdoches Federation of Women's Clubs and all the vendors and other individuals who brought their wares to the "Book Room."

On Saturday, there were talks about Caddo sites in Texas, Arkansas, and Oklahoma, as well as talks on Caddo cosmology (Figure 3). There were also presentations on the new Caddo structure built at Caddo

Figure 3. Having a conference in an old gym is a challenge—we had covered three of the five windows on the northern exposure with makeshift "curtains" or tarps. One tarp-covered window is visible in this photo.

Mounds State Historic Site, Caddo Oral History, and Caddo language. John Hart gave his Keynote paper on how the traditional cultural-historic taxonomic systems currently in use in the Caddo area might be replaced by something based on the new material created by geographic information systems, AMS radiocarbon dating, and social network analysis. A Caddo Dance was held immediately after the Conference. We are especially grateful to Michael Meeks II and Charlene Wright for coordinating the Dance.

Figure 3. Michael Meeks II (shown by arrow) is instructing Tony Souther (red shirt) at the beginning of the Dance. To Michael's right is Baylen Bullcoming (in the dark red ribbon shirt), and next to him is Dustin Roughface. Veterans were initially allowed to sit at the drum—Victor Galan and Charles Phillips are to the left of Tony Souther (also a veteran); and the bus driver of the Caddo Nation was another veteran, to the right of Michael Meeks II (with the glasses). Partially hidden from view, on the right side, is Mike Meeks. Chad and Chase Earles, left to right from Mike Meeks, round out the group.

SYMPOSIUM ABSTRACT

Forty Years After Deshazo: Developments in the Archeology of the Historic Hasinai Caddo since the 1975–1976 UT Field School Excavations at Bayou Loco

Participants: Ross C. Fields (and symposium organizer), Robert L. Turner, Jr., Tom Middlebrook, Morris K. Jackson, Victor Galan, Shawn Marceaux, Duncan P. McKinnon, Timothy K. Perttula, Kevin Stingley, and Robert S. Weddle, Don Chipman, and Carol A. Lipscomb

In 1975 and 1976, Dee Ann Story directed two University of Texas at Austin field schools in excavations at the Deshazo site (41NA27) in the Bayou Loco valley west of Nacogdoches, Texas. The work was prompted by the planned impoundment of Bayou Loco to create Lake Nacogdoches. It followed up on test excavations done earlier in 1975 by the Texas Archeological Survey that (1) identified Deshazo as a well-preserved Historic Caddo settlement and (2) associated that settlement with a small cemetery that had been dug by R. L. Turner Sr. and R. L. Turner Jr. in the late 1930s. With its well-preserved assemblage of cultural features, extensive excavations, and detailed data analyses, Deshazo remains one of the most thoroughly explored and best-documented residential sites in the Caddo area. It is commonly seen as the prime example of the kind of small farmstead that was the basic residential unit of the dispersed settlement system of the Historic Hasinai Caddo. This symposium starts with an overview of the results of the excavations at Deshazo, and the papers that follow highlight some of the research on Hasinai Caddo archeology that has been done in the 40 years since that site and others associated with it disappeared under Lake Nacogdoches.

KEYNOTE PRESENTATION ABSTRACT

Networking the Past

John P. Hart (New York State Museum)

Mid-way through the second decade of the twenty-first century, most North American archaeologists continue to use mid-twentieth century culture-historic taxa as units of analysis. In this presentation I review the origins of culture-historic taxonomic systems and suggest that they are hindrances on our ability to understand pre-contact history. With the development of geographic information systems, AMS radiocarbon dating, and social network analysis, there is a suite of tools available that in combination can provide new insights into the past. I provide a brief example of how these tools are being used in northern Iroquoia and make suggestions as to how they might be used in the Caddo region.

ABSTRACTS FOR INDIVIDUAL PRESENTATIONS

Oral History is the Traditional Form of Caddo History: The Poems I Have Created From Caddo Oral History Preserve Caddo Traditions for Future Generations
Guyneth Bedoka Cardwell (Kadohadacho Historical Society)

Oral history is the traditional form of Caddo history. A history is essential to identity, which is essential for a future. The only people in the world who can adequately and appropriately represent the Caddo past are the Caddo people. As opposed to written history which is recorded, oral history is a history that is lived. An oral history will tell stories that the written record usually does not. It is dangerous and a sign of powerlessness to let an outsider tell you your history or culture. The poems I have created are from the voices of Caddo people. I am of the Fort Cobb Caddos who lived by the fort in the early days and still live amid its traces. We were called the "kee whut nah sundah people" meaning those who lived by the fort or soldiers. My poems tell about the "kee whut nah sundah people" and their life journey.

Difficulties in Sourcing Turquoise Using X-Ray Fluorescence
Wilson W. Crook, III (Houston Archeological Society)

X-Ray Fluorescence (XRF) analysis is well-suited for sourcing some archeological artifacts, such as obsidian, where geologic sources can be distinguished using a small suite of elements. However, when applied to other minerals found in archeological contexts, such as turquoise, XRF has had mixed results in determining their source. As a result, a number of other methods have been tried to source turquoise, all of which are partially or completely destructive to the analyzed artifact. Recently, three artifacts of turquoise, including two beads and a small pendant, have been recovered from the Branch site (41COL9) in Collin County. In an effort to source the turquoise, I used a more complex multi-element analysis in an attempt to develop a non-destructive trace sourcing methodology. I will discuss the difficulties in XRF-sourcing a complex mineral such as turquoise and its potential for sourcing similar artifacts found in Caddo sites.

Caddo Grass-thatched House Construction at Caddo Mounds State Historic Site
Phil Cross (Caddo Nation of Oklahoma)

Details for a Caddo Grass-thatched house to be constructed in 2016 at Caddo Mounds State Historic Site will be presented in this paper. The iconic bee hive style construction methods and the planned furnishings of the house will be discussed. The raw materials needed and that have been located and harvested to date will be identified. The location of the house on the Caddo Mounds complex will be discussed along with prior Caddo grass-thatched houses that were constructed on the site in modern times. Evidence of houses that were built in ancient times on the site from archaeological studies will be shown. The crew required and approximate starting and completion date of the house will be presented.

Woodland Period Ceramics as seen from the Wild Violet Site: Is there really a distinctive 'Fourche Maline' material signature?
Ann M. Early (Arkansas Archeological Survey)

In 2013 the Arkansas Archeological Survey carried out salvage excavations at the Wild Violet site, a multiple component midden in the headwaters of the Petit Jean River valley in the northern Ouachita mountains. Situated between the Arkansas River valley and the Ouachita River basin, the Petit Jean valley is essentially unstudied archeologically. One objective of the excavation was to recover material that would reveal relations between this valley and societies to the north and south where some have proposed substantially different Woodland traditions arose. I analyzed over 4000 sherds from the excavations and from previous surface collections. From the standpoint of ceramic manufacturing traditions, I proposed a high degree of similarity among all three areas, and suggest that previous scenarios emphasizing material culture differences among these geographic regions, and the underlying assumptions of distinctly different lifeways, have been substantially overstated.

41TT103: A Caddo Farmstead along Ripley Creek, Titus County, Texas
Rachel J. Feit (AmaTerra Environmental, Inc.), Julian (Drew) Sitters, AmaTerra Environmental, Inc.), and Eric Schroeder (Baer Engineering and Environmental Consulting, Inc.)

In July and August of 2015, AmaTerra Environmental, Inc. and Baer Engineering and Environmental Consulting, Inc. conducted archeological test

investigations at 41TT103. Investigations included the mechanical excavation of 17 soil auger tests, 18 1 x 1 m hand excavated units, and a ground penetrating radar survey. Site 41TT103, located approximately five miles to the southwest of Talco, Texas, is believed to be an Early to Middle Caddo period farmstead situated on an upland hill slope overlooking Ripley Creek. The site contains a diverse array of artifacts including punctated sherds, sherds with parallel incised lines, cross hatched incised sherds, and sherds with engraved lines and geometric designs. There are also a variety of stone tools and projectile points, and two long-stemmed Red River pipe fragments. With few disturbances, and only minimal overprinting from later Caddo period activities, we believe that the site has the potential to contain important information regarding Early to Middle Caddo period household lifeways within the White Oak Creek drainage system of the Sulphur River Basin.

The Deshazo Site: A Historic Hasinai Caddo Settlement on Bayou Loco in Nacogdoches County, Texas
Ross C. Fields (Prewitt and Associates, Inc.)

The Deshazo site, which was excavated in the 1930s and more extensively in 1975–1976 by field schools from the University of Texas at Austin, is one of the best-documented residential sites in the Caddo area. Its main component dates from the late 1600s into the early 1700s and has been interpreted as a hamlet occupied for several generations by members of one of the Hasinai Caddo tribes. Because the work there was so informative, Deshazo has served as a linchpin in subsequent considerations of settlement organization among Historic and Late Prehistoric Caddo groups. This paper provides an overview of the results of the excavations there.

The Spradley Site's Place among the Hasinai/ Spanish/French Community at Nacogdoches
Victor Galan (Deep East Texas Archaeological Consultants)

The Spradley site (41NA206) is a protohistoric site with a unique collection of features and artifacts. Excavations by Stephen F. Austin State University in 2001, 2003, and 2005 found midden deposits and a hearth, as well as artifact clusters, but only scattered post holes; the excavated cultural features are not indicative of a typical Caddo hamlet. Artifacts include a variety of traditional Caddo items and a wide range of European goods. The abundance and variety of European goods are disproportionate for a site of this size. A review of the excavations and analysis over the years raises more questions about this sites' unique contribution to our understanding of the Hasinai Caddo and their interactions with the French and the Spanish in the area.

Advancing the Study of Caddo Iconography
Eloise Frances Gadus (Prewitt and Associates, Inc.)

The study of Caddo iconography can be a fruitful way to address questions of Caddo origins, community organization, and interactions with a wider Mississippian world. Some investigations in this regard have already borne fruit based on the imagery from the Craig Mound shell cups at Spiro, which has been tapped by the participants of the Texas State Mississippian Iconographic conferences. However, since much of Caddo visual imagery appears on ceramic vessels and sherds, a comparative corpus of ceramic imagery is essential to addressing iconographic questions at the local or site level. This paper outlines what resources already exist as well as what further is needed to build a useable corpus. It also presents an example of an iconographic configurational analysis, using Ripley Engraved vessels from the Tuck Carpenter site (41CP5), to demonstrate the potential of such investigations.

Bioturbation vs. Deposition in the Late Holocene: The Storm Site (41WA218), Walker County, Texas
Walter Kingsborough (U.S. Forest Service)

At the 1995 conference of the Texas Archeological Society, Ken Brown described a time dependent model of the vertical displacement of archeological assemblages in deep, friable sands. Termed bioturbation, the model explained a characteristically skewed, single-mode distribution of artifact frequency with depth where deposition predated occupation. The archeological evidence from the Storm site (41WA218) presents a refinement of the bioturbation model characterized by (1) multiple modes of artifact frequencies with depth, (2) the temporal segregation by depth of the artifact assemblage, and (3) preservation of organic and carbonized materials. Evidence from the Storm site highlights depth as a second dependent factor in the bioturbation model. That is, while the chance of an artifact being displaced vertically increases linearly with time, it decreases as the inverse cube of depth. This refinement of the bioturbation model allows the model to describe both cases where deposition predates occupation, and where episodic depositions occurred concurrent with occupation.

Identifying the Social, Political, and Ceremonial Role of the Brackett site (34Ck43) in the Arkansas River Valley
Nicole Kusnierz (University of Oklahoma)

This paper examines the organizational role of Brackett (34Ck43), a Formative to Early Caddo period (A.D. 850-1200) site, to ascertain the differences in settlement patterns and material culture when compared to other contemporaneous sites within the Arkansas River valley. Brackett is located in northeastern Oklahoma along the Illinois River, a tributary of the Arkansas River. The site excavation area includes a conical mound, a burial component, and eight structures. Contemporaneous sites include the Harlan, Norman, Reed, Lillie Creek, and Hughes sites, as well as the earlier stages of Spiro. Traditionally, the Brackett site has been interpreted as a domestic village. However, through a rigorous analysis of the ceramic assemblage, I test this notion by comparing the relationships between the mound and structure areas to determine Brackett's social, political, and ceremonial place on the landscape.

Addressing the Cosmological Significance of a Pot: A Search for Cosmological Structure in Craig Mound Burials
Shawn Lambert (University of Oklahoma)

Ceramic vessels and cosmological structure at first may seem quite unrelated. Many have argued that the basic and perhaps only function of a pot was simply a human-made container that held foodstuff for cooking and serving purposes. However, pottery also served as a medium depicting complex iconography that displayed indigenous groups' cosmological worlds in time and space. For this paper, I examine the temporal and spatial placement of pottery in 98 Craig Mound burials at the Spiro site in search for cosmological patterns in the vessels' iconography. Only burials that were not in context with the Great Mortuary or the Spirit Lodge are considered here, because they have been seriously understudied. Ultimately, I assert that burials outside of the Great Mortuary and the Spirit Lodge were also placed in specific areas of the Craig Mound to represent a cosmogram, a religious display that helped to maintain an important cosmological narrative.

Excavation, Geophysical Survey, and Interpretation of the Draper II Site (3HS151)
E. Katie Leslie (Arkansas Archeological Survey) and Jami J. Lockhart (Arkansas Archeological Survey)

The Draper II site (3HS151) is located along a ridge and swale of the Ouachita River in Hot Spring County, Arkansas. At the request of the landowner, the Arkansas Archeological Survey's Henderson State University Research Station surveyed the site for reported looter damage. Two 1 x 1 meter test units were excavated, revealing an assemblage consisting of chipped stone debris, fire cracked rock, and several small ceramic sherds. The few diagnostic artifacts point to use at least during the Fourche Maline and Caddo periods. Here, we will discuss the results of the test excavations, a gradiometry survey of 160 square meters, and the research potential of this site in relation to surrounding Caddo mound and habitation sites.

Temporary Structures in the Caddo World and Beyond
Patrick Livingood (University of Oklahoma), Amber Price-Butler (University of Oklahoma), Matthew Merideth (University of Oklahoma), and Cody Blackburn (University of Oklahoma)

Recent work at Spiro in the vicinity of Craig Mound has led to the hypothesis that there were numerous temporary structures during some event at the site. Archaeologists only rarely see evidence for temporary structures or only rarely can tell that excavated structures were temporary. Further, temporary structures did not always merit notice in ethnohistoric accounts. This paper will pull together the scattered evidence on temporary structures from archaeological and ethnohistoric examples from the Caddo, Eastern Woodlands, and Plains to see if we can better make an argument for or against temporary structures at Spiro.

So Many Sherds: What we know about Hasinai Caddo Ceramic Collections 40 years after the Deshazo Excavations and Remarks on the Future
Paul Shawn Marceaux (Center for Archaeological Research, The University of Texas-San Antonio)

This presentation will review previous efforts to determine how specific attributes of ceramic style and technology correlate with sites in the presumed locations of the different Hasinai Caddo tribes as indicated by the historical records. It will also discuss attempts to determine if and how Caddo ceramics can be used as social identifiers. That is, can certain shared and distinctive decorations as well as technological attributes distinguish between closely related communities and constituent groups of the Hasinai Caddo? Finally, the presentation will lay out the argument for and efficacy of using ceramics in future efforts to identify the Hasinai Caddo in the archaeological record.

Magnetic Gradient Survey and Aerial Survey at the M. S. Roberts (41HE8) Site in Henderson County, Texas

Duncan P. McKinnon (University of Central Arkansas), Arlo McKee (University of Texas at Dallas), Timothy K. Perttula (Archeological & Environmental Consultants, LLC), Paula Long (University of Central Arkansas), and Breanna Wilbanks (University of Central Arkansas)

The M. S. Roberts (41HE8) site is located in Henderson County, Texas, along Caddo Creek – an eastward-flowing tributary of the Neches River. In 1931, archaeologists from the University of Texas (UT) conducted surface collections at the site and excavated at least one trench in the low mound (approximately 1.5 m in height) where portions of burned and buried Caddo structures were identified. In 2015, the site was revisited, surface collections were obtained, an initial aerial survey was done, and shovel tests and auger holes were excavated in mound and habitation contexts. Based on the aerial survey, the mound dimensions had changed significantly from what was reported in 1931. In addition to new aerial survey work, in January 2016 the magnetic gradient survey of a large area of the site (1.12 ha, 2.77 acres) mapped the subsurface location of at least two structures within the mound, the location of the UT trench, and several possible pit features proximate to the mound. The combination of aerial and geophysical data and the excavation results are revising our understanding of the archaeological remains and preservation conditions of the site.

Hainai Settlement in Western Nacogdoches County, Texas

Tom Middlebrook (Texas Archeological Stewardship Network)

Beginning with the discovery of the J. T. King site (41NA15) in 1931 by A. T. Jackson, numerous Historic Caddo sites have been identified in western Nacogdoches County in East Texas. In addition to the Deshazo site (41NA27) investigations of Bob Turner and his dad during the late 1930s, Gus Arnold recorded the Dorsey site (41NA6) in 1940. Later systematic survey efforts in the area have included the avocational work of Tom and Janice Mayhew, the Lake Nacogdoches (Bayou Loco) survey project, both in the 1970s, and the more recent efforts of Mark Walters, Bo Nelson, Morris Jackson, and I. The 2006 East Texas Caddo Research Group meeting that focused on Historic Caddo archeology and Shawn Marceaux's 2011 University of Texas Ph.D. dissertation have stimulated additional discussions concerning ethnohistorical descriptions of various Hasinai groups in light of archeological findings. This paper will review findings at Historic Allen phase sites along Bayou Loco, Legg Creek, the Angelina River, King Creek, Bingham Creek, and Gibbons Creek in western Nacogdoches County and suggest their identification with the Hainai.

European Material Culture Found in Caddo Contexts in Western Nacogdoches County in East Texas

Tom Middlebrook (Texas Archeological Stewardship Network) and Morris K. Jackson (Texas Archeological Stewardship Network)

We discovered the original location of Mission Nuestra Señora de la Purísima Concepción de los Hainais and associated Caddo sites in 2010 and re-visited the Mayhew site/St. Denis trading post (41NA21) five miles to the east during that same year. Both sites have significant amounts of early 18th century cupreous, lead, and ferrous artifacts along with a solitary majolica sherd and a few glass sherds and beads. Stimulated by research at these two sites, I present a review of all known European artifacts from Caddo sites in western Nacogdoches County.

Salvage along the Red River: The Red Cox (3LA18) Site and its Place on the Caddo Landscape

Ryan Nguyen (University of Central Arkansas), Tyler Yeager (University of Central Arkansas), and Duncan P. McKinnon (University of Central Arkansas)

The Red Cox (3LA18) site is located in Lafayette County, Arkansas, along the Red River. As recounted in his weekly report of April 9, 1975, Dr. Frank Schambach received word that the site was being directly impacted by land leveling machinery. Salvage efforts collected remains from the floor of a burned Caddo farmstead. Remains include ceramic sherds, charred corn kernels and nuts, burned wood fragments, and bits of daub. We present results from a recent analysis of the salvaged materials and situate the farmstead within the broader Caddo landscape during the Late Caddo Belcher phase.

The Texas Historical Commission and Ongoing Research at Site 41MR211

Kerry Nichols (Texas Historical Commission)

The historical record offers only brief references to the village of Sha'chahdinnih or Timber Hill as the last Caddo settlement in the traditional Caddo homeland. Unfortunately, not long after its abandonment in the early 1840s, its true location was lost to historians. In 1998, the combined efforts of archival and archeological research succeeded in locating a site designated as

41MR211, and believed to be a possible location for Timber Hill. In the interest of confirming the identity and significance of 41MR211, the Texas Historical Commission (THC) conducted test excavations there in 1999 with volunteers and stewards of the Texas Archeological Stewardship Network. This research helped make the argument that the site was most likely Timber Hill, but that further research was needed. To this end, the THC is currently working with the landowner in ongoing research in an effort to map settlement components and help answer questions about the exact nature of the occupations at 41MR211.

Sound and Ecstasy: The Depiction of Auditory Hallucination and Other Possible Iconographic Evidence for a Datura Cult in the Southeast
James A. Rees, Jr. (Arkansas Archeological Survey)

In articles published in *The Arkansas Archeologist*, George Lankford suggested that, among other influences, a complex of Datura shamanism from the Southwest spread into the Southeast in Mississippian times. The present study takes a fresh look at this possibility by using an iconographic configuration for the use of entheogenic plants developed by South American archeologists studying Middle Horizon cultures in Peru. This configuration, based on the depiction of the physical, neurological, and psychological effects of entheogens, is applied to a sample of iconographic images from the Spiro site. The outcome of this analysis is then compared to Lankford's findings.

New Patterns from Old Data: Combining Ceramic Petrography Findings from Several Caddo Site Collections in Northeast Texas
David G. Robinson (Texas Archeological Research Laboratory)

Four periods of ceramic petrographic research in Northeast Texas have been defined by shifting technical and cultural concerns by archeologists. Amassed data have been assessed largely from the perspective of individual sites, with rare and refreshing exceptions. Published ceramic petrographic data from nine studies examining 15 sites are combined here to investigate larger regional patterns in Caddo pottery making. The obstacle to this method is the inconsistent terminology and reporting methods used by ceramic consultants. Results make clear the need for consistently shared data categories across site projects, regions, and the methods used by working petrographers.

Archaeological and Bioarchaeological Comparisons between the Millwood Reservoir and the Skull and Mandible Cemetery at the Crenshaw Site
John R. Samuelsen (Arkansas Archeological Survey and University of Arkansas), Heidi S. Davis (University of Arkansas), Ashley E. Shidner (University of Arkansas), Nicole E. Smith-Guzmán (University of Arkansas), and Teresa V. Wilson (Louisiana State University)

The Millwood Reservoir Bioarchaeology Project analyzed biological aspects of people disinterred during the 1950s and 1960s in salvage excavations surrounding the Millwood Reservoir in southwest Arkansas. Previous researchers suggested that particular biological features indicated that the 352 people in the skull and mandible cemetery at the nearby Crenshaw site were most likely war trophies from other regions. A recent reanalysis of strontium ratios suggests they might be individuals participating in a local burial practice. The human remains from the Millwood Reservoir were analyzed as a comparison population because of their cultural, spatial, and temporal proximity. The archaeological record, cranial modeling, demography, and dental features were compared between the populations. The results of the archaeological and biological analyses challenge key portions of the conclusions that these people are not Caddo.

The Bowles Creek (41CE475) and Peach Orchard (41CE477) Sites in the Bowles Creek Valley: Historic Caddo Allen Phase Neche Cluster Components
Kevin Stingley (Cherokee County Historical Commission), Timothy K. Perttula (Archeological & Environmental Consultants, LLC), and Duncan P. McKinnon (University of Central Arkansas)

The Bowles Creek (41CE475) and Peach Orchard (41CE477) sites are among several historic Caddo archaeological sites recently recorded by Kevin Stingley in the Bowles Creek drainage in the middle Neches River basin in Cherokee County, Texas. Archaeological investigations completed at the sites includes pedestrian survey, systematic surface collections at the Peach Orchard site, intensive shovel testing, the excavation of several 1 x 1 m units at the Bowles Creek site, and remote sensing by Dr. Duncan McKinnon at both sites. The results of this work is discussed in the paper, along with a summary of the recovered material culture remains, especially Caddo ceramic vessel sherds. The ancestral Caddo sherd collection from the sites strongly suggest they are locations of post-A.D. 1680 Historic Caddo settlements, probably by the Neche or Nechas Caddo peoples. Patton Engraved sherds, the principal Allen phase fine ware ceramic type in the Neches River

basin, are common in the site assemblages, and other aspects of the ceramic assemblage are consistent with Neche cluster sites. Perhaps these sites are settlements occupied by a Neche or Nechas Caddo group around the time of the late 17th-early 18th century Spanish colonization of the middle reaches of the Neches River, but before sustained French trading activities, when several missions were established in this general locale.

Caddo Indians in the Ouachita Mountains: Update on 3MN298 Ceramic Analyses
Mary Beth Trubitt (Arkansas Archeological Survey)

Archeological site 3MN298 was the focus of the Arkansas Archeological Survey/Society Training Program excavations in 2013 and 2014 designed to investigate ancestral Caddo Indian lifeways in the Ouachita Mountains. Households and communities of people used this location near the upper Ouachita River in west-central Arkansas at least from 2300 B.C. to A.D. 1650. With support from the Ouachita National Forest and the Arkansas Archeological Society, we have results of analyses of AMS dates, floral and faunal samples from features, and stone tool residues. Currently, we are using technological and stylistic attributes of pottery and stone tools to interpret production habits and choices made by residents living here in the past, as a way to understand "communities of practice" and "communities of identity." Here, I discuss preliminary results of ceramic analyses that show spatial and temporal variation across the site.

1938-1940 Excavations at the Deshazo Site (41NA27)
Robert L. Turner, Jr. (Texas Archeological Stewardship Network) and Tom Middlebrook (Texas Archeological Stewardship Network)

During the late 1930s, Robert L. Turner, Sr., a Physics Professor at Stephen F. Austin State College, and his then teenage son, Robert L. Turner, Jr., conducted a series of excavations at a small Hasinai Caddo cemetery along the middle reaches of Bayou Loco in western Nacogdoches County, Texas. Their exceptionally well documented avocational research prompted greater scrutiny of potential impacts to Caddo cultural resources when Lake Nacogdoches was constructed in the area 35 years later. Ultimately, extensive investigations of the Deshazo site (41NA27) were conducted by Elton Prewitt of the Texas Archeological Survey in 1975, and by Dee Ann Story during University of Texas field schools in 1975 and 1976. This paper will review the Turners' findings and evaluate their implications for understanding early 18th century Hasinai interactions with Europeans.

The Misplacement of Mission San Francisco de los Tejas in Eastern Texas and Its Actual Location at San Pedro de los Nabedaches
Robert S. Weddle (deceased), Donald E. Chipman (University of North Texas), and Carol A. Lipscomb (Independent Scholar, Fort Worth)

Where is the site of Mission San Francisco de los Tejas, the first Spanish mission in Texas? It assuredly was not at the representative structure, dedicated in 1935, in Mission Tejas State Park near Weches. This paper (to be published in the July 2016 issue of the Southwestern Historical Quarterly)—based primarily on the original diaries of 10 Spanish expeditions that visited the mission during its existence from 1690–1693 and its abandoned site for many year thereafter—attempts to provide the mission's approximate location relative to its distance from the Camino Real's crossing of the Trinity River and from the Neches River. Because there has been no systematic archeological search for the mission site due to the opposition of land owners in the target area, archeologist Timothy K. Perttula (who read this work as a manuscript critic for the SHQ) has deemed our research a potential boon to archeologists.

Caddo Mounds State Historic Site Friends Association and the Caddo Grass House Project
Jeffrey M. Williams (Stephen F. Austin State University)

A traditional Caddo grass house is being constructed through a partnership with Caddo Nation elder Phil Cross, Friends of Caddo Mounds Inc., and other community volunteers. This house will replace the one built on the site in 1981 that stood for approximately 15 years before it was ceremoniously burned by the Caddo Nation at the end of its life span. The new grass house will be used for interpretation and public education about the Caddo: how their houses were designed and built, the materials that were used in the construction of traditional Caddo houses, the Caddo lifestyle and culture, and the activities that were conducted inside the houses.

CURRENT RESEARCH BRIEFS

A Biface Cache from Lake Wright Patman in Northeast Texas
Robert L. Brooks (University of Oklahoma)

In 1980, Donald Stewart donated a biface cache to the Museum of the Red River. It was reportedly found during construction of Lake Texarkana (now Lake Wright Patman) in Northeast Texas. Although the context for the cache is unknown, the composition of

the 39 bifaces in the cache is documented. Additional thoughts are given on the nature of the cache and its cultural historical placement.

The Sargent Collection: A Gift to Arkansas
Ann M. Early (Arkansas Archeological Survey)

In August 2015, the Arkansas Archeological Survey received the Sargent collection, assembled by four generations of the Sargent family from sites near their homes in Hot Springs National Park. This collection is the largest ever donated to the Survey by private citizens, and will be a valuable research and public education resource for decades to come. Mr. Sargent was particularly interested in Archaic and Paleoindian sites, and the thousands of artifacts in the collection from these cultural periods will help to re-write what we know about ancient Arkansas people and lifeways. For their many years of interest in Arkansas's heritage, their care of this collection, and their generosity in donating it to the people of the state, the Sargent Family received the McGimsey Preservation Award given by the Arkansas Archeological Society in the fall of 2015.

POSTERS

Caddo Temper Networks: Preliminary Results from East Texas
Robert Z. Selden Jr. (SFA Center for Regional Heritage Research) and Timothy K. Perttula (Archeological & Environmental Consultants, LLC)

While many of our efforts of late have focused upon contributions of the shape, form and size of Caddo vessels, we have also begun to explore the contribution of sherd assemblages analyzed during the course of Cultural Resource Management (CRM) and other documentation studies. Those results illustrated here represent only a single component of a much larger, and comprehensive, analysis of Caddo networks; however, they do demonstrate the variable nature of Caddo temper use through time. Using those data garnered from sherds analyzed during CRM and documentation efforts we highlight global trends, as well as those associated with specific temporal subsets. Importantly, these networks are dynamic; meaning that they can be animated to illustrate when--and where--sites occur with similar suites of attributes. These networks are currently being expanded to include decorative attributes associated with fine and utility wares, and can be expanded annually to include those data from recently-discovered sites in East Texas

Utilizing Archival Information to Re-Locate or "Stumble Upon" Lost Archeological Sites
Waldo Troell (Texas Department of Transportation)

For a multitude of reasons, many of the archeology sites recorded in the first half of the 20th century are plotted incorrectly or not at all on the Texas Archeological Sites Atlas. Several Texas Department of Transportation projects in Northeast Texas have resulted in the relocation of previously lost sites, which have emerged still relatively intact. Traditional archival tools, such as historic highway maps, photos, and TARL site files not currently on the Atlas, can help identify the location of these lost sites. This poster will examine some of the relocated sites and the archival tools that were used to find them. Sites rediscovered include Caddo farmsteads, villages, and two mounds originally identified during The University of Texas 1930s excavations and the River Basin Survey from the 1940s.

Report:

Caddo Culture Club Activities Report

Michael Meeks III

Caddo Culture Club Chairman

Founded in 1988, the Caddo Culture Club is a non-profit organization devoted to the preservation of Caddo tribal songs and dances. The Caddo Culture Club was the first known group established to help preserve the songs and dances of the Caddo Indians. As a Caddo organization, we find it very humbling being able to perform the very songs and dances that their ancestors once performed.

Over the past year we've taken part in many different events, activities and functions. The following are some of the different events and functions that the Caddo Culture Club participated in during the year 2016:

58th Annual Caddo Conference

In 2016, the 58th annual conference was held in Nacogdoches, TX, near the campus of Stephen F. Austin State University. We performed various Caddo songs and dances and honored various individuals throughout the performance.

Cultural Exchange Dance at Kickapoo Tribe of Oklahoma

In May 2016 we were invited to the annual cultural exchange dance hosted by the Kickapoo Tribe of Oklahoma's Head Start and Education/JOM programs. Both the Kickapoo and Caddo performers exchanged their songs and dances, served a meal, and honored the children of the Kickapoo Head Start program.

24th Annual Caddo Culture Club Dance

In June, the Caddo Culture Club held its 24th Annual Dance at the Caddo Nation Dance Grounds. The event began with the Turkey Dance and Flag Song, followed by a meal for all who were in attendance. The evening session saw various Caddo social dances and intertribal songs being performed. We are always happy to see a large attendance at our annual dance and we are looking forward to next year's dance!

25th Annual Clara Brown Dance

In September, the Caddo Culture Club served as singers for the 25th Annual Clara Brown Dance held at the Caddo Nation Dance Grounds. The event began with the Caddo Turkey Dance, followed by an evening meal and Caddo Social Dancing. We saw many people in attendance and always look forward to participating in this dance.

Native American Days at Winterville Mounds State Park

This past October we were invited to perform as part of the annual Native American Days celebration at Winterville Mounds State Park in Greenville, Mississippi. We performed for local school groups that were in attendance as well as public attendees. As part of our visit to the Winterville Mounds, we were invited to perform on the local television station, "The Delta News" morning program-WXVT where we exhibited the Caddo Fish Dance.

Co-hosting Opportunities

In the past few months we have been fortunate to serve at various powwows as event co-hosts. Some of the events that we participated in were the Oh Ho Mah Society Benefit Powwow, Esa Rosa Descendants Powwow, and the Comanche Homecoming Benefit Dance.

Parade Exhibitions

This past year we participated in a few parades and exhibited some of our traditional songs. In July we participated in the Hinton, OK Kiwanis Rodeo parade; in August we performed during the Annual American Indian Exposition parade in Anadarko, OK; and in November we were invited to perform with

the Southwestern Oklahoma State University Native American Student Association (SWOSU NASA) in the SWOSU Homecoming Parade in Weatherford, OK.

None of these events would have been possible without the participation and dedication of all our club members. Since its establishment our club has been open to all who want to join in the hopes of learning and preserving the songs and dances of the Caddo Tribe as our parents, grandparents and so on would have wanted us to do. This club has been in existence for almost thirty years and it is my hope that it will be in existence for thirty more years and beyond!

The Caddo Culture Club would like to thank the Caddo Conference Organization and all of its members for their long-continued support and inclusion of our annual report in the Caddo Conference Journal.

The Caddo Culture Club would also like to give a special thank you to the Caddo Nation of Oklahoma and its Tribal Council members. In 2016 we were given a new and larger drum to help facilitate our singers at different events and functions. This is greatly appreciated and it will certainly allow us to accommodate more singers at our Caddo dances!