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EDITORIAL POLICY

The purpose of this journal is to provide information on the archeology of the Texas Prairie-Savannah. We solicit articles from avocational archeologists, vocational archeologists and graduate students who have conducted extremely well done research.

As previously mentioned, the focus of the journal is articles on the Texas Prairie-Savannah; however, articles from adjoining areas also are welcome since the boundaries of the prairie-savannah are not well established but have transitional zones. Also, cultural boundaries are not truly dependent upon the boundary of some state that did not exist when the aboriginal inhabitants populated the area.

IF YOU HAVE QUALMS ABOUT YOUR WRITING SKILLS, DO NOT LET THAT PROHIBIT YOU FROM SUBMITTING AN ARTICLE. THE INFORMATION THAT YOU PROVIDE IS MORE IMPORTANT. WE HAVE PEOPLE THAT WILL HELP YOU WITH THE WRITING.

Sincerely,

Jesse and Antoinette Todd

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THE PREHISTORIC ARCHEOLOGY OF THE UPPER TRINITY RIVER BASIN, EASTERN NORTH CENTRAL TEXAS

Jesse Todd

I present an overview of the prehistory of the Upper Trinity River basin of eastern North Central Texas. Information such as the paleoenvironment, aboriginal life ways, artifacts, and subsistence patterns is discussed along with conclusions concerning long-term trends in prehistoric settlement and subsistence.

INTRODUCTION

The purpose of this paper is to present an overview of the prehistoric archeology of the Upper Trinity River basin. Previous syntheses have been done by Smith (1969), Skinner (1972), Lynott (1977a), Richner and Bagot (1978), Yates and Ferring (1986), and McGregor (1988). This paper focuses on summarizing and presenting information, although not comprehensive in scope, from archeological investigations surveys done on the many lakes and along some of the major rivers and creeks in the region.

In this study, the Upper Trinity River basin contains portions of the counties Collin, Cooke, Dallas, Denton, Parker, Rockwall, Tarrant, and Wise in North Central Texas (Figure 1). The four major drainages that make-up the Upper Trinity River are the Clear Fork, the East Fork, the Elm Fork, and the West Fork. Numerous tributaries to the major drainages include Denton Creek, Rowlett Creek, Whiterock Creek, Big Bear Creek, Village Creek, Mountain Creek and Walnut Creek (Peter and McGregor 1988:Figure 2-1). A generalized depositional history is provided in Table 1. The study area lies within the northern portion of the Gulf Coastal Plain and the Texan biotic province. Sandy soils support oak-hickory forests while clay soils support a tall grass prairie. Forty-nine species of mammals occur in the Texan province, including deer, raccoon, rabbits and opossum. Two species of terrapins (*Terrapene ornata* and *Terrapene carolina*) occur, as well as 9 species of lizards. In addition, 39 types of snakes occur, as well as 13 species of anuran fauna (Blair 1950:101-102).

The Blackland Prairie, the Eastern Cross Timbers, the Grand Prairie (Fort Worth Prairie) and the Western Cross Timbers make up the vegetative zones of the Upper Trinity River basin (Figure 1). The Blackland Prairie is named after the black, clay soils derived from the Cretaceous limestone in the area. Annual precipitation is approximately 30 inches in the western portion of the basin and 40 inches in the eastern portion. Grasses dominate the area, with bluestems in the east and buffalo grass in the west. There are some small stands of timber (elm, oak, pecan, etc.) in the prairie also. The area drains quickly, due to the clay soils promoting runoff, which causes frequent flooding and deposition of sediment on the floodplain (Mahler 1972:68, 69). The Eastern Cross Timbers is a narrow band of oak forest underlain by the Woodbine Formation. The soil consists of a fine sandy loam. Low, rounded hills typify the Eastern Cross Timbers region and these hills are covered with thick oak forests. In some areas there is a savannah-like environment with broken, patchy woodlands. The area is well watered, and water penetrates into the ground rather than running off (Skinner 1972:164), except in areas with clay on the surface. This run-off causes erosion in the areas with surface clay soils.

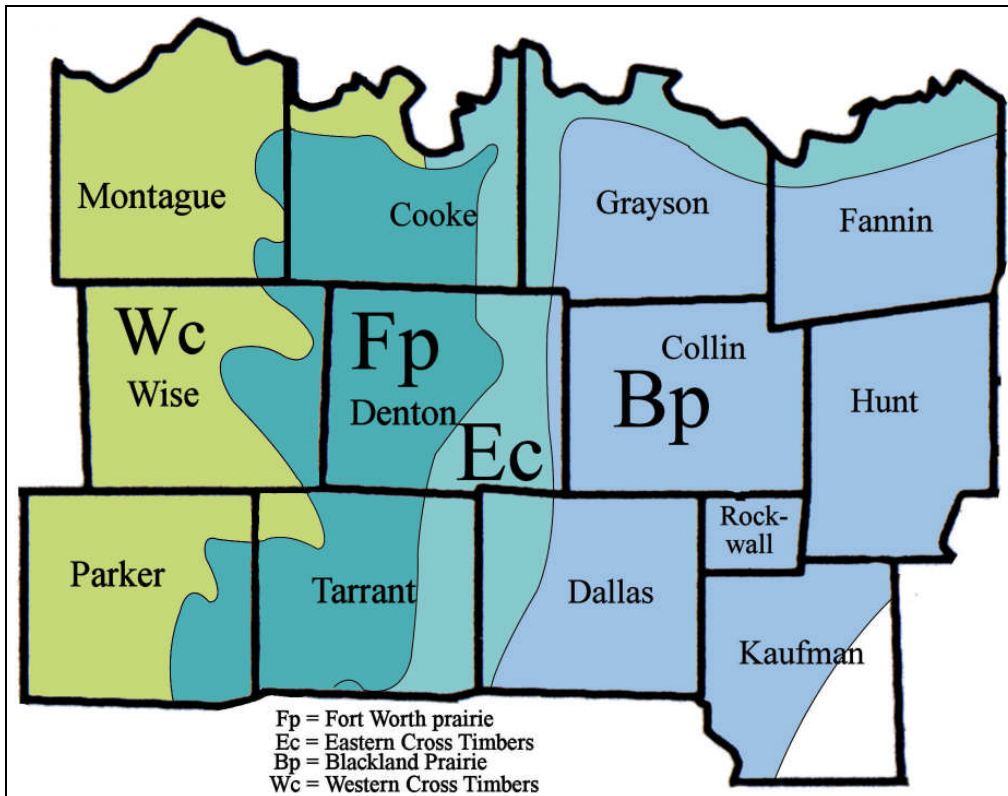


Figure 1. The study area and its ecoregions within the Upper Trinity River basin. Ecoregions modified from Diggs and others (1999:3).

According to McCormick (1976:40), at least thirty-two species of fur- and meat-bearing animals are present in the Eastern Cross Timbers along with three hundred twenty species of birds of which forty-three are migratory. Forty-four species of fish and over 150 edible species of plants also are present. With at least 14 species of freshwater mussels, the plants and animals provide an ideal hunting and gathering environment.

The Grand Prairie extends from near Gainesville southward to the Colorado River near Austin. The prairie consists of grassland and savannah and clay soils. Trees are found mainly along streams within the prairie. The terrain ranges from gently rolling to steep cliffs. Limestone and clay underlie the prairie. The Grand Prairie can be divided into a variety of ecoregions. European visitors to the Grand Prairie were amazed at the breadth and beauty of the park-like nature of the prairie (Hayward et al. 1992:7). The Western Cross Timbers, much like the Eastern Cross Timbers, consists of oak woodland savannahs (Diggs et al. 1999:46-47). Trees within the oak forest also include cedar elm, hackberry, pecan, juniper, and mesquite. Savannah grasses are mostly little and big bluestem and Indian grass, but various species of grama grasses and other perennials also are present. The main belt of the Western Cross Timbers lies on Cretaceous-aged rocks while the fringe (and rougher) area is underlain by Pennsylvanian-aged sediments. Remnants of virgin forests are still present in the Cross Timbers.

Table 1. Generalized depositional history of the Trinity River basin.
Based on Osburn and others (2005:21).

Alluvium	Lithology	Depositional Environments	Inferred Age
Recent	silt and clay grading to sand and gravel	meander belt alluvium, abandoned channel fill	alluviation <200 years
Pilot Point	silt and clay grading to sand and gravel	meander belt alluvium, overbank veneer over older alluvium	alleviation and soil formation from 4,500 years to present
Sanger	calcareous sand and clay; grades to sand and gravel	meander belt alluvium	alleviation from 11,000 to 7,500 years, soil formation from 7,500 to 4,500 years
Aubrey	bedded sand and gravel, finer-grained alluvial marls and lacustrine sediment	channel, abandoned channel fill, lake plain	alluviation > 15,000 years (25,000? To 15,000 years) soil formation from 15,000 to 11,000 years
Carrollton	loamy sediment grading to sand and gravel	meander belt alluvium	> 15,000 years (ca. 25,000 years?)
Coppell, Tioga, Irving	loamy sediment to sand and gravel	channel belt alluvium	> 30,000 years

PALEOENVIRONMENT

Determining the paleoenvironment for North Central Texas is problematic. The major work was done by Reid Ferring (1994) who examined terraces of the Upper Trinity River. Ferring believes the Early Holocene (11,000 to 7,500 years ago) was moister than today. During the Middle Holocene (7,500 to 4,500 years ago), there was a period of decreased rain, but moist conditions returned to North Central Texas during the Late Holocene (4,500 years ago to the present). Brown (1998) studied the oxygen isotopes from mussel shells at 41DL270. His conclusions were that warmer, drier conditions existed between 2600 and 3200 years ago B.P. (650-1250 B.C.) and that it was wetter after 500 B.C. The conditions became dryer after 1500 years B.P. (A.D. 450) and are similar to those of today.

Prikryl (1993:192-193) suggests that prior to 12,000 BC, the climate of North Central Texas was cooler and moister than at present. Between 12,000 and 8,000 B.C., the climate became warmer and this continued to the present, but with brief mesic periods. The presence of high grass pollen and low arboreal pollen between 5550 and 1050 B.C. further suggested a drying period with a return of arboreal pollen after 1050 B.C. The later change is similar to the environment of today. High grass pollen also occurs at approximately A.D. 450 and from A.D. 1550 to 1650, thus also suggesting drier periods. The presence of paleosols between A.D. 1 and A.D. 1000 points to an increase in moisture during this period with a return to drier conditions after A.D. 1,000.

Frederick (2011) argues that drier times occurred approximately a 1000 years ago based on the sediment deposition and a shift towards C4 plants. Todd (1999a) studied the succession of gastropod fauna from the Rough Green site (41TR163) located on a floodplain near Walker Branch and the Trinity River in the River Legacy Park in Arlington Texas. He concluded that an oak-savannah environment existed from

approximately A.D. 675 until today because the gastropod species did not change through time, but this paleoenvironmental analysis is very local in nature and may not be appropriate for all of the Upper Trinity River basin.

CHRONOLOGY

A definitive chronological framework for the Upper Trinity River basin and North Central Texas has been difficult to establish for several reasons. Bioturbation, vertisols, pedoturbation and plowing has mixed up artifacts on sites. Lynott (1975:122) states that fine stratigraphic controls for the excavation of the Sister Grove Creek site (41COL36) were unwarranted because the site was situated in Trinity-Frio soils. These soils are vertisolic and are constantly being churned by expansion and contraction due to the fluctuations in the moisture content. The effect of earthworms on archaeological sites has been discussed in detail by Canti (2003).

Krieger (1946:137-141) attempted a chronological framework for North Central Texas when he defined the Henrietta Focus. The type site was the Harrell Site along the Brazos River in Young County, Texas. Among the traits for the Henrietta Focus, Krieger listed small, triangular points, Alba-barbed points, Harrell and Washita points, contracting Perdiz points, Nocona Plain pottery, antler tines with blunt tips, bone awls, and trade pottery from the Southwest and Southeast. Prikryl (1987:12) states that the artifacts and features from the Henrietta Focus bear strong similarities to those at Plains Village sites in the Southern Plains area. Peter and McGregor (1988:367) note the following about the Henrietta Focus:

Unfortunately, the concept of the "Henrietta Focus" is not very useful for regional comparison. Krieger's (1946:87-159) definition of the Henrietta focus includes artifacts from a series of occupations covering perhaps thousands of years from the Early Archaic to the Late Prehistoric period. The actual chronological framework for the Henrietta focus is consequently unknown even though it is assumed to be of the Late Prehistoric period. Further research is necessary before the "Plains-like" adaptation can be documented and understood within North Central Texas.

Stephenson (1952:305-312) tried to create a chronological sequence for the Upper Trinity River basin when he defined the Wylie Focus, which he thought dated to between A.D. 1300 to 1600, based on shell and clay-grit tempered pottery which, he believed, was Caddo in origin. The Wylie Focus was characterized by Stephenson as having large circular pits, no indigenous pottery, flexed burials (both single and multiple and in poorly defined burial pits), maize agriculture and villages. Lynott (1977b) believes that the Wylie Focus sites were used by A.D. 1000. The Wylie Focus concept was discarded when Bruseth and Martin (1987:280) dated pits at the Bird Point Island and the Adams Ranch sites in the Richland Chamber Reservoir, which had been included in the focus, to the Late Archaic period. However, Crook and Hughston (2008) disagree and consider the Bird Point Island and Adam Ranch sites to be a separate phenomenon from the Wylie Focus.

Lynott (1977a:99-100) renamed the Late Prehistoric of North Central Texas the Neo-American Stage and divided it into two phases, the Early (A.D. 800 to 1200) and Late (A.D. 1200 to 1600). Lynott's (1977:99) Early Neo-American phase was considered equivalent to the Gibson Aspect of East Texas and the Austin Focus of Central Texas. The inhabitants of the Upper Trinity River basin continued a lifeway similar to that of the Late Archaic. There were numerous pits (presumably Wylie Focus pits) associated with this phase as well. Lynott (1981:105) later added that the presence of the domestic dog and the bow and arrow used in hunting were important characteristics of the Early Neo-American Stage, as well as the lack of horticulture. In addition, habitation sites tended to concentrate along major waterways (Lynott 1981:106). Pottery showed an affiliation to the Gibson Aspect pottery also. Skinner (1982:1-11) further added that the pottery could be grog-, grit-, or bone-tempered and that the dominant arrow point types were Alba, Scallorn, and Granbury. Lynott (1987:106) stated that the Neo-American Late Phase started around A.D. 1200 and lasted to the historic period. He saw a change in ceramics and projectile points, as well as the presence of limited horticulture, sedentary villages, storage pits and bison scapula hoes. According to Prikryl (1987:13), Lynott's Late Phase aligned with Krieger's Henrietta Focus. Prikryl added that diagnostic artifacts of the Late Neo-American were Fresno, Harrell, and Perdiz arrow points and Nocona and Late Caddo period pottery. Skinner (1982:1-11) thought that peoples of the Late Neo-American Phase were influenced by inhabitants of East Texas during the Fulton Aspect, the Toyah culture of Central Texas, the Plains Culture, and the Pueblo cultures to the west.

Prikryl (1990) surveyed the Lower Elm Fork Branch of the Trinity River and created a chronology based on the projectile points from mostly surface collections which is shown on Table 2. Influenced by Lynott's earlier work, Prikryl (1990:62) divided the Late Prehistoric into two phases, the Late Prehistoric I, dating from 1250 to 750 B.P. and Late Prehistoric II, dating from 750 B.P. to 250 B.P. Late Prehistoric I diagnostic traits consisted of maize horticulture, house remains, grog-tempered and sand-tempered pottery and Scallorn, Alba, Steiner, and Catahoula arrow points. Prikryl implied a subdivision of the Late Prehistoric I phase because the Steiner, Alba-Bonham, Scallorn and Catahoula arrow points are more common in the earlier portion of the Late Prehistoric I than the later. Late Prehistoric II seems to occur about the time that the climate of northern Texas became drier. Diagnostic traits include an emphasis on bison hunting, Washita, Fresno and Harrell arrow points, bison scapula hoes, "Plains-like" lithic artifacts, and settlements on sandy terraces above flood plains (Late Prehistoric I peoples lived on floodplains). It is important to note that Prikryl suggested that site placement in Late Prehistoric II times was suitable for agriculture, even though there appears to be no evidence of agriculture except for the bison scapula hoes, which will be discussed later. Ferring and Yates (1998:135), however, state that the separation of sites into these two phases was more difficult to determine during the archeological investigations at Lake Ray Roberts and Lake Lewisville

Based on their excavations in the Mountain Creek Drainage, Peter and McGregor (1988:364-367) created a threefold chronological framework of the Late Prehistoric. The first chronological period is the Early Phase, ranging from A.D. 700 to 1000. Diagnostic traits are Scallorn arrow points and grog-tempered wares. This chronological period may be similar to what Prikryl meant when he stated that Steiner, Scallorn, and Catahoula

points were more abundant in the earlier defined Late Prehistoric I phase. Subsistence and settlement patterns did not seem to change much during this time from those of the Late Archaic. During the Middle Phase, ranging from A.D. 1000 to 1300, maize horticulture and houses became dominant, implying a form of sedentism in contrast to the hunting-gathering lifestyle of the Early Late Prehistoric phase and Late Archaic times. Sedentism may be implied by the presence of vessels used for cooking or food storage or both, and house structures (Peter and McGregor 1988:149, 158). The Late Phase, ranging from A.D. 1300 to 1600, contained diagnostic artifacts such as Perdiz-like points and "Plains-like" scrapers. For the purpose of this paper, however, Prikryl's classification (Table 2) will be used since it is the most accepted in the region.

Table 2. Chronology for the Upper Trinity River Drainage Basin.

Time Period	Age, B.P.	Age, B.C./A.D.
Late Prehistoric II	750 to 250 B.P.	A.D. 1200 to 1700
Late Prehistoric I	1,250 to 750 B.P.	A.D. 700 to 1200
Late Archaic	3,500 to 1250 B.P.	1,550 B.C. to A.D. 700
Middle Archaic	6,000 to 3,500 B.P.	4,050 to 1,550 B.C.
Early Archaic	8,500 to 6,000 B.P.	6,550 to 4,050 B.C.
Paleoindian	pre-8,500 B.P.	pre-6,550 B.C.

CULTURAL HISTORY

Prehistoric Native American settlement in the Upper Trinity River basin and eastern North Central Texas began at least 10,000 years ago as attested to by the presence of distinctively shaped Clovis dart points at the Lewisville site (Crook and Harris 1957) and the Aubrey Clovis site (Ferring 2001). Moreover, artifact collectors report the presence of Clovis, Folsom, Midland, Plainview, Scottsbluff and other Paleoindian points from the surface of sites in the region (Jensen 1968; Meltzer and Bever 1995; Young 2011). The presence of exotic artifacts made from non-local, lithic resources indicate that these early people traveled to territories where higher quality lithics were available or were involved in a system of raw material trading. Story (1990:182-184) states that flakes made from Alibates, local quartzite and Central Texas chert were present at the Lewisville site. Ferring (2001:224) recovered lithics made of Alibates, Tecovas jasper, Edwards chert, and novaculite at the Aubrey Clovis site. The source area of the Alibates material is approximately 490 km from the site.

These early people hunted now-extinct large game, but certainly also foraged off the land. Interestingly, a potential well was found at the Aubrey site (Ferring 2001: 128-129) that was dug by the Paleoindian inhabitants. The Dickie Carr site (41PR26) is located on the border of the Grand Prairie and the Western Cross Timber ecozones in the Mill Creek valley. The site is in an upland setting (Byers 2007). Two types of Paleoindian points were recovered from the site, Plainview and Dalton which indicates that peoples that made these points different point types used the site as a temporary hunting camp (Byers 2007:120). Bever and Meltzer (2007:76) believe that one reason

that the presence of Paleoindian sites is not abundant in North Central Texas is due to their being deeply buried and only sporadically exposed to archeologists.

The subsequent period, the Archaic, lasted from as early as 7,000 or 6,000 B.C. to possibly as late as A.D. 700 to 800. The Archaic peoples lived throughout the Upper Trinity River basin but particularly along the major and minor stream valleys where they were able to hunt and gather native foods. Dart points, grinding stones, fire-cracked rock, and scrapers are common artifacts found on Archaic sites. The earliest Archaic peoples continued making and using exotic cherts for dart points, but as time passed, there was a shift toward the use of local lithics for chipped stone tools. These local materials are described as Uvalde Gravels (Menzer and Slaughter 1971). Large Archaic sites are generally located on terraces or ridges that overlook the Elm Fork of the Trinity. Smaller lithic scatters have been recorded in upland areas throughout the region. These sites appear to be Archaic in age, but none have been thoroughly studied (Prikryl 1990). Early Archaic points are split-stemmed varieties whereas Middle Archaic points include Carrollton, Morrill, Wells, Pedernales, and basal-notched types (Prikryl 1990:53). Dallas, Edgewood, Elam, Ellis, Ensor, Gary, Godley, Marcos, Trinity, and Yarborough dominate the Late Archaic point assemblage (Prikryl 1990:54). A Motley point was recovered from Late Archaic-aged sediments at site 41DN270. According to Anthony (1994:184), the Motley point is more associated with aboriginal cultures in East Texas and Louisiana rather than North Central Texas.

Todd (1999b) suggests that some form of agriculture existed in the Upper Trinity River basin drainage during the Late Prehistoric period based upon the presence of shell hoes. Obsidian from New Mexico and ceramics from the Caddo area are evident during the Late Prehistoric at some sites.

Table 3 presents important/excavated sites in the Upper Trinity River basin. If possible, the radiocarbon date is presented. Radiocarbon dates are presented when available; if there are a series of radiocarbon dates, the youngest and oldest dates are provided.

SITE LOCATIONS

Prikryl (1990:80) states that Late Archaic and Late Prehistoric I occupations occur on clay floodplains and the sandy terraces above the floodplains. However, Late Prehistoric II people lived on sandy terraces above the floodplain. This occurrence may be due to the submergence of the floodplains due to increasing moisture or possibly the importance of horticulture to the economy after A. D. 950 and the presence of easily tillable soil along the terraces. Ferring and Yates (1998:146) note that sites within the Lewisville Lake study area are located along the eastern edge of the Eastern Cross Timbers either near or in contact with the Blackland Prairie grasslands. The site locations were probably chosen so that the aboriginal inhabitants could hunt white-tailed deer instead of harvesting the mast crops within the Eastern Cross Timbers. Also, based on the presence of bison bones on Late Prehistoric , bison were being procured from the prairie, but at Lake Ray Roberts, bison bones were scarce or non-existent on Late Prehistoric sites. Interestingly, at Lake Ray Roberts, the sites were located within the middle portion of the Eastern Cross Timbers. Skinner (Skinner and Baird 1985:5-12) hypothesized that occupations within the Lake Ray Roberts area took place only during specific seasons of the year, and the purpose of the sites were for gathering plant resources, especially mast

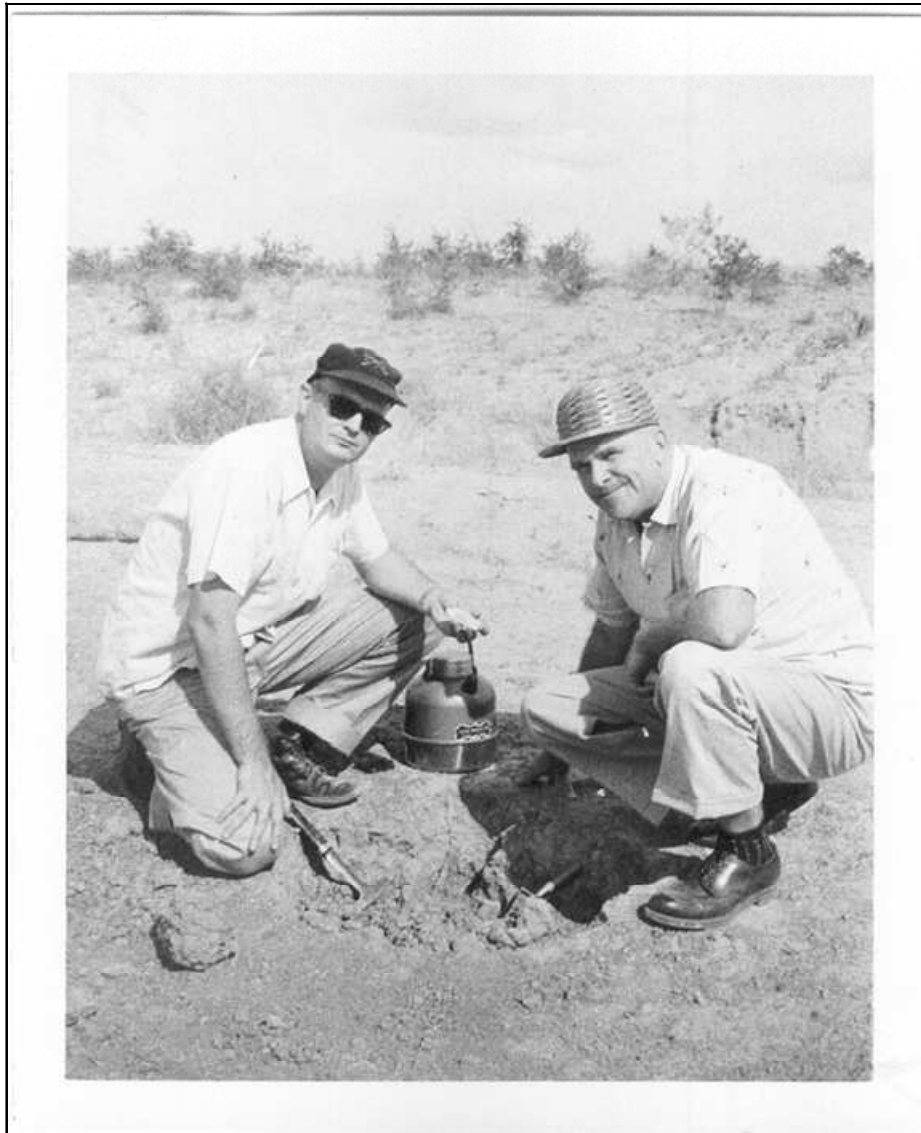


Figure 4. R. King Harris and William Crook, Jr. uncovering a Folsom point at Lake Lewisville. Photograph provided by Mr. Wilson “Dub” Crook, III.

West Fork Paleosol

In the Upper Trinity River Basin, the “West Fork Paleosol” contains shell midden sites as well as other kinds of sites. According to Ferring (1994:59), the “West Fork Paleosol” formed in the upper part of the Pilot Point Alloformation between about 4,500 years ago and today. Sites found within the paleosol yield very little lithic material, burned rock, burned daub and mammal bone (Buysse 2000:172). The amount of freshwater mussels varies although they are present in almost every site.

Table 3. Important/excavated sites within the Upper Trinity River basin. Some are repeated due their having multiple occupations.

Paleoindian, Early, and Middle Archaic		
Site	Radiocarbon date	Reference
41DL270	Middle Archaic	Anthony and Brown 1994
Lake Lewisville	Paleoindian	Crook and Harris 1957
Aubrey (41DN479)	ca. 9600 B.C.	Ferring 2001
41DN20	Early/Middle Archaic	Ferring and Yates 1998
Calvert (41DN102)	Middle Archaic	Ferring and Yates 1997
Dickie Carr (41PR26)	Paleoindian	Byers 2007
Late Archaic		
Jaryn (41CO144)	424 to 244 B. C.	Ferring and Yates 1997
Late Archaic/Late Prehistoric		
Bobby D. (41CO141)	A.D. 105 to 1372	Prikryl and Yates Ferring and Yates 1997
Gemma (41CO144)	A.D. 200 to 1210	Ferring and Yates 1997
Butler Hole (41COL8)		Housewright et al. 1947
41DL270	A.D. 730 to 1200	Anthony and Brown 1994
Dalby (41DL350)	A.D. 450 to 1500	Skinner et al. 2005
41L203	1440 B.C to A.D. 1440	Tinsley and Dayton 2011
41DN27	A.D. 1160 to. 1390	Ferring and Yates 1998
Calvert (41DN102)	A.D. 623 to 763 A.D. 1187 to 1227	Ferring and Yates 1997
Lower Rockwall (41RW1)		Lorraine and Hoffrichter 1968
Upper Rockwall (41RW2)	A.D. 1180 to 1420 A.D. 930 to 1110	Ross 1966; Prikryl 1975 Lorrain and Hoffrichter 1968
Glen Hill (41RW4)		Ross 1966
Rough Green (41TR162)	A.D. 665 to 1435	Skinner et al. 1999
Late Prehistoric		
Hogge Bridge (41COL1)	A.D. 930 to 1070	Lynott 1975
Sister Grove Creek (41COL36)	A.D. 950 to 1600(?)	Lynott 1975
Cobb-Pool (41DL148)	A.D. 1000 to 1365	Peter and McGregor 1988b
Bagget Branch (41DL149)	A.D. 1000 to 1590	Peter and McGregor 1988c
41DN27	A.D. 1342 to 1502 A.D. 1192 to 1372	Ferring and Yates 1998
41KF134	A.D. 1190 to 1400	Todd and Skinner 2005; Todd and Trask 2008
Chambers (41TR114)		Glasgow 1990 Ferring and Byers 2007

According to Ferring (2000:20), the West Fork Paleosol exhibits a wider variety of elements and facies because of its high stratigraphic position. Pedogenesis may not occur at various localities because not enough time has passed to destroy the primary structures or the heterogeneity of its lithofacies. In their description of the West Fork Paleosol at 41TR170, Lintz et al. (2008:48) describes the paleosol as “largely devoid of pedogenic features such as clay skins or clay accumulations, blocky or ped structure or secondary carbonates.” (For a discussion of the presence of secondary carbonates see Abbott 2011.) The paleosol at 41TR170 consist of fine-grained sands, silts and clays derived from Lower Cretaceous-aged bedrock which are mainly limestone, shales and marls (Lintz et al. 2008:49). Yet Fredrick and others (2006:36), in their study of the Trinity Parkway in Dallas found the West Fork Paleosol consistent with Ferring’s observations that the soil is characterized by a large number of pedogenic features, including well developed structure, pressure faces, slickensides and secondary carbonate development.

As Table 4 shows, various ages are recorded at various depths on various drainages for the West Fork Paleosol. The dates probably are related to the deposition or the “draping over” of the paleosol over the uneven underlying floodplain terrain as was the case at 41TR170 (Lintz et al. 2008:48).

Table 4. Dates from selected archeological sites within the West Fork Paleosol.

Site	Depth (cm)	Drainage	Date	Reference
41DL12	300	East Fork	A.D. 740 to 920	Ferring 1986
41DL319/357	370-385	Elm Fork	330 to 375 B.C.	Buyse 2000
	(Lower West Fork)			
41DL338	170	Elm Fork	A.D. 1405 to 1460	Buyse 2000
	(10 to 15 cm below West Fork surface)			
41DL356	170-173	Elm Fork	A.D. 1000 to 1170	Buyse 2000
	(60 cm below West Fork surface)			
41TR167	100 cm below top of West Fork	West Fork	A.D. 779-1010	Buyse 2000
41TR170		Clear Fork	ca. 2,300 to 1,000 B.P.	Lintz et al. 2008
41TR227	82 cm	West Fork	A.D. 430 to 620	Todd 2008b
	113 cm		A.D. 1030 to 1230	

Skinner et al. (2003:38) agree with Bruseth and Perttula’s (1996) concept that the West Fork Paleosol consists of a strip along drainages. Skinner analyzed the finding from trenches excavated for 16 projects (163 trenches) along the Trinity River. Of the 16 projects, the West Fork Paleosol was encountered in only seven. The results mirror that of deep testing at the East First Street Bridge west of and adjacent to the West Fork (Todd et al. 2008b). The furthest trench, which was approximately 160 m from the river, did not contain any West Fork Paleosol which supports the concept that the West Fork Paleosol is a “strip sediment.” Cliff et al. (1999:78) consider that the strip, the archeologically high potential area, is about 1.0 km wide at the center on the channel.

AR Consultants, Inc. (Skinner et al. 2003) excavated 20 trenches extending to approximately 5 m in the floodplain of the Elm Fork of the Trinity River in south Dallas. Despite the deep testing, no West Fork Paleosol was encountered. Skinner et al. (2005) dated charcoal from a hearth from the Dalby site (41DL350) at a depth of 4.86 m at A.D. 540 to 680 (Late Archaic). Skinner interpreted this to mean that the West Fork Paleosol was actually deeper at the site and hidden by the overlying sediment. He also believes that is why the West Fork Paleosol was not encountered in the floodplain of the Elm Fork. If so, with the discovery of the Aubrey and Dalby sites and Bever and Meltzer's (2007) conclusions about deeply buried Paleoindian sites in North Central Texas, there may be a great potential for discovering deeply buried sites in the Trinity River floodplain, some of which could be in the West Fork Paleosol.

Prikryl (1987:108) noted that if the formation of the West Fork Paleosol represents a moister climate, then floral and faunal regimes would have been different from those in the past and those in the future. Vegetation would have been lush and the Eastern Cross Timbers may have been a true oak woodlands. Greater mast would have been available; therefore, the fauna who eat mast would have been more abundant and more available to the aboriginal people who not only hunted the animals but also gathered and used the mast.

LITHIC RESOURCES

Menzer and Slaughter (1971) discuss the upland gravels found in North Central Texas which were recorded by Harris and Kirkland (1941) and Hatzenbuehler (1942a). Previously, the gravels were thought to have been laid down by the Trinity River or a proto-Trinity river. However, Menzer and Slaughter believed that the gravels were from the Rocky Mountains and the pre-Pliocene Ogallala Formation. In their opinion, the Ogallala Formation has retreated some 425 km west of the Dallas area. Byrd (1971:9) agreed with this interpretation and classified the upland gravels as Uvalde gravels which was first used by Plummer (1933). Byrd defined the Uvalde gravels as a disseminated deposit of cobbles ranging in size from 5-15 cm in diameter that consist mainly of limestone, quartzite, quartz, chert, jasper and igneous rock that occurs in isolated patches on stream divides and well-developed terraces. Banks (1990:56-57) further defined the Uvalde gravel as relict gravels on terraces of Late Tertiary and Pleistocene upland interfluvies and erosional remnants of the retreating High Plains. According to Byrd (1971:17), Uvalde gravels range from Dallas and Tarrant counties, Texas to northern Mexico.

Lithic quarry sites are found in the Uvalde deposits in the Upper Trinity River Basin. Trask (2005:5-7) recorded five lithic quarry sites (41DL407-412) overlooking the East Fork of the Trinity River in Mesquite, Texas. The single layer of gravel covers approximately 860 acres but is probably much larger. The western extension of the gravel may have been recorded as 41DL112 by R. King Harris in 1941. About 80 percent of the tested material was quartzite and the remainder was chert.

Prikryl (1990:83), in his study of projectile points from sites along Little and Big Bear creeks and the Elm Fork of the Trinity River, determined that Paleoindian and Early and Middle Archaic points are made predominantly of chert, but quartzite was preferred for dart point manufacture by the Late Archaic peoples. Chert and quartzite were almost

used equally during Early Late Prehistoric I times and chert dominates the assemblage in Late Prehistoric II period. Prikryl thought that the use of chert had implications for trade, mobility and technology since Uvalde gravel studies indicate that quartzite makes up about 90 percent of the gravels and chert another 7 percent. Prikryl notes that the non-local chert was Edwards chert which can be found 150 km to the south and west of his study area. He further added that the dominance of chert, then quartzite and then chert again indicates possible restrictions in mobility that changed through time or that there were important trade connections for chert at different times. The high population mobility of the Paleoindian inhabitants of the Upper Trinity River basin gradually decreased through the Early and Middle Archaic. The marked population increase in the Late Archaic led to increased territoriality and less access to non-local chert; therefore, the local quartzite was heavily used. This trend continued through Late Prehistoric I times, but by the Late Prehistoric II period, chert again became more popular in assemblages indicating greater group mobility, trade or both.

Over 86 percent of the lithic debitage from the Branch site (41DL149), which is Late Prehistoric II in age, was chert. Quartzite dominated the Late Archaic and Late Prehistoric I lithic debitage and tools in the remainder of the sites at Joe Pool Lake. McGregor (1995:197-200) states that the lithic resource availability was not constant throughout the Upper Trinity River basin. Sites where local lithic availability, such as the southern tributaries of the West Fork, was poor tended to have lower densities of lithic artifacts. Despite a substantial occupation at Joe Pool Lake, artifact densities are limited. McGregor believes that the high use of chert at Joe Pool Lake was from imported sources even though the local quartzite was used while populations across the rest of the Upper Trinity River basin appear to have used the local quartzite gravels.

Chert made up from 8 to 32 percent of the lithic assemblage from the sites at Lake Ray Roberts excavated by Ferring and Yates (1997:294-296, 299). Ferring and Yates state that the frequency of chert is due to the high small-large flake ratio from the tool maintenance activities. It appears that Middle Archaic inhabitants imported and curated both cores and blank-preforms at sites but used local raw materials for about half of the unifacial and bifacial tools. Only a few chert cores and chert blank-preforms occur on Late Archaic sites. Chert appears to have been used infrequently for unifacial and bifacial tools. The general absence of chert cores and blank-preforms strongly suggests that most Late Archaic people transported and curated chert tools as opposed to cores or blank-preforms. However, the presence of chert blank-preforms, the moderate to high use of chert for projectile points, and lower small-large chert debitage ratios suggest that Late Prehistoric peoples transported and curated flake blanks rather than finished tools. Overall, the data from Lake Ray Roberts tend to support Prikryl's study of the Elm Fork except that the use of chert in in situ assemblages is quite high for all periods. The debitage data suggest that chert use is tied to projectile point manufacture-transport. Ferring and Yates explain that the higher use of chert for projectile points from the Lake Ray Roberts area may be due to the fact that Prikryl's study area included samples from farther south and closer to the West Fork of the Trinity River.

Lithic material used at the Lake Lewisville site excavations (Ferring and Yates 1998:148-149) appear to be similar to those from Lake Ray Roberts. A high non-local use of lithic was found in one Middle Archaic site. The non-local use of raw lithic materials may be a result of large group territories such that the inhabitants procured the

lithic materials themselves or else had extensive trade networks. Quartzite appears to be the dominant local material used in the Late Archaic and local materials were used in both Late Prehistoric I and II times. Chert debitage frequencies for the sites range from 12 to 31 percent and chert appears to be the most commonly used raw resource for tools. However, none of the blank-preforms from the Middle/Late Archaic component at 41DN20 are made from chert, suggesting the movement and curation of finished chert tools. Overall, the pattern at the sites is one where there was a use of local materials for on-site manufacture of all tools, a strong dominance of chert for retouched tools and a high to moderate use of chert for projectile points.

According to Ferring (2000:223-224), of the approximately 9,800 lithic artifacts recovered from the Aubrey site, all of the lithic raw materials are non-local. The Tecovas-like quartzite was from the escarpment of the Llano Estacado approximately 380 km west of the site. Other lithic materials and the distances to their sources are Alibates chert (490 km), Edwards chert (250 and 475 km), quartzite and chalcedony from the Catahoula Formation (315 km) and possibly novaculites, cherts and quartzites from the Western Ouachitas (155 km) and Hot Springs, Arkansas (400 km). Prikryl (1990:64) suggested that the absence of local lithic resources was due to the mobility of the Paleoindian peoples who were following game.

Chert appears to dominate the lithic assemblage during the early part of the Late Archaic occupation at 41DL203 (Tinsley 2011). However, during the latter phase of the Late Archaic, there is a marked dependence upon local materials for tool manufacture. The importance of Central Texas lithic materials returns during the Late Prehistoric period of occupation at the site.

Interestingly, two crystalline quartz flakes were recovered from 41TR174 on the West Fork (Lintz et al. 2004). According to Lintz and others (2004:126), the nearest source for the crystalline quartz is in Arkansas in the Ouachita Mountains in the vicinity of Hot Springs. The quartz outcrop is located approximately 325 km east-northeast of site 41TR174. However, quartz may be found in the Red River gravels downstream from the Kiamichi confluence with the Red River (Pertulla, Personal Communication, 2013). The layer that the quartz crystals came from dates to ca. A.D. 1015. Also, lithics made of Edwards Chert was recovered from a deposit dating to 2000 years B.P. and 1,000 years B.P. The nearest source of chert from the site is about 40 km to the south. Crook and Hughston (2011) discuss a cache of Edwards chert “quarry blanks” from Rock wall County as well. The lithic source is unknown.

Todd (2013) has hypothesized that Uvalde gravels, and, therefore, quarry sites are present along the West Fork of the Trinity River in southeastern Wise County. It appears that quarry sites are present along first and possibly second terraces along the river. In addition, buried deposits are present on second terraces along the drainage. The source of the lithic material found on archeological sites along the Clear Fork appears to be derived from gravels along the Brazos River some 35 to 40 km away (Lintz et al. 2004; Todd et al. 2009). Obsidian arrow points and at least one obsidian scraper also have been discovered in this area. Based on X-Ray Fluorescence analysis, the source of some of the obsidian was the Taos-Santa Fe, New Mexico area (Crook 2013). Obsidian flakes from an unknown source also were discovered at 41WS38 (Moseley 1996:41).

ARTIFACTS

The usual wide variety of tools are present on Upper Trinity River basin sites such as arrow points and dart points, scrapers, bone flaking tools and awls, and bone hooks. However, the artifacts discussed below are either unique, different from those found in most tool assemblages in Texas or provide distinct chronological and/or trade information.

Lithics

Bi-notched cobbles (Figure 2) have been found on archeological sites in eastern North Central Texas. The bi-notched cobbles commonly are referred to “Waco Sinkers,” a term coined by Frank Watt (1983). Watt divided the bi-notched cobbles into 12 types and illustrated a variety of notched cobbles and discussed a variety of uses for the cobbles and compared those from Texas to those from other parts of the United States. Watt (1932:59) concluded, “Until some proven data is discovered relating to their definite association with certain uses, any name or function applied to them is only through an apparent adaptability or resemblance based on modern conceptions.”

Boyd and Shafer (1997:270) believe that the cobbles were not net weights but were used to procure some type of game in the early Holocene, but they were not in use by the Middle Archaic. In their argument, Boyd and Shafer (1997:267) mention that the notched cobbles are found in creek gravels, which is where one might expect the sinkers to be if they were used to weigh down nets. Based upon an examination of sites within eastern North Central Texas containing notched cobbles, the sites have substantial Early Archaic components and it is believed that the notched stones all date to this period (Todd 2009).

Although not numerous when one considers the number of sites that have been recorded in the eastern North Central Texas area and their true purpose being unknown, the presence of the bi-notched stones on archeological sites is interesting. Based upon analogy, archeological evidence, and ethnographic data (Speck 1915; Workman et al. 1980; Bryan 1984), the bi-notched cobbles possibly were used for net weights or hand-thrown seines used to retrieve fish as well as other fauna such as ducks and migratory fowl.

Crook and Hughston (2007) defined what they believe is a new, distinctive lithic tool, the “East Fork Biface.” The tool (Figure 3) is roughly triangular in shape as well as wedge-shaped. Lengths vary from 30 to 64 mm and widths from 26 to 49 mm. The ratio of length to width is fairly standard, about 1.25:1. Thickness ranges from 8 to 23 mm. Due to repeated use and sharpening, the working edge is typically a straight edge but can be slightly convex to concave on rare occasions. The tool was probably hafted. Experimental tools were used in scraping bone and wood, especially “green” bois d’arc wood. The wood was thick enough to make a bow. Scraping wood provided the crushed edge that is typical of the tool. The tool may be specifically for wood working, but only future studies can substantiate that hypothesis. The tool is found on Late Prehistoric sites along the East Fork. One problem in defining the specific use of the tool is its lack of abundance at East Fork sites.

In the western portion of the study area, tools made from hematite are found, especially celts (Mosley 1996). The shape of the celts range from the traditional rectangular to oval to triangular forms. The ends opposite the working edge are usually rough, probably to facilitate hafting. The celts may be Late Archaic in age. When compared to East Texas hematite celts and axes, those from the study area are generally smaller. The tools appear to be concentrated in the Western Cross Timbers portion of the study area.



Figure 2. “Waco Sinkers” collected from Collin County, Texas. Photograph provided by Mr. John McCraw.

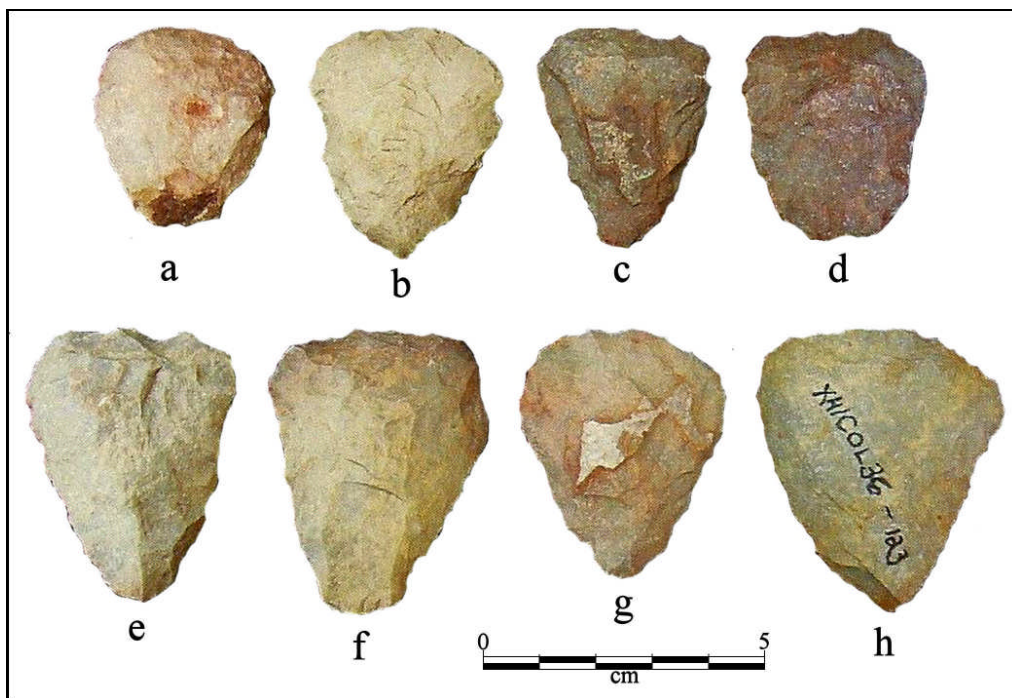


Figure 3. “East Fork Bifaces” (Crook and Hughston 2007:60).

Ceramics

Ceramics began to be made by the prehistoric inhabitants of the Upper Trinity River basin by at least A.D. 1000 although grog-, grit- and bone-tempered pottery may have been used at the Baggett Branch site as early as A.D. 750±100. Pottery is not abundant in North Central Texas as demonstrated by the fact that only 14 percent of the 238 sites investigated by Prikryl (1990) on the Elm Fork contained pottery. The pottery ranges from plain to decorated non-shell tempered wares similar to East Texas Caddo vessels dating about A.D. 1000 to 1300 and shell tempered Nocona Plain wares which are found on Plains Village age sites after about A.D. 1250/1300. Caddo type wares represent (a) trade wares, (b) locally manufactured ceramics copies from Caddo pottery, (c) ceramics from Caddo settlements in the Upper Trinity River basin, or (d) a combination of the above. Caddo wares discovered during the archeological survey of Lake Lavon (Harris and Suhm 1963:Figures 5, 6) included Haley Complicated Incised, Crockett Curvilinear Incised, Pennington Punctated-Incised, Canton Incised, Maydelle Incised, Killough Pinched and Monkstown Fingernail Incised. Also sherds of the Plains type Nocona Plain were found. Prikryl and Perttula (1995:190) suggest that one should look to the Caddo groups of the upper Sabine River and middle Red River for vessel form and stylistic comparisons of ceramics recovered from the Upper Trinity River Basin. They go on to comment that a Sanders Engraved vessel, which was manufactured in the upper Sabine and middle Red River area, was recovered from a burial context at the Upper Rockwall site on the East Fork of the Trinity River (Ross 1966:Figure 10e). Perttula (1998) discussed Caddo pottery sherds from two sites in Dallas County along the Elm Fork. Based upon the ceramic types, the sites date to ca. A.D. 1400 to 1680, which is atypical since most Caddo ceramics in the Blackland Prairie as well as the East Fork usually predate A.D. 1300. However, Crook (2007b) recovered a similar aged Foster Trailed-Incised vessel (Figure 4) from the Sister Grove site (41COL36). Caddo wares have been found on prehistoric archeological sites along the Clear Fork of the Trinity River in Parker County (Todd et al. 2009).

Wares that appear stylistically Caddo may be found within the Mountain Creek drainage, but they may be a result of trade or the copying of the Caddo wares by inhabitants of North Central Texas. Peter and McGregor (1988) argue that the Cobb-Pool and Baggett Branch may represent sites occupied by Caddo peoples that moved into the Mountain Creek drainage area. If the pottery wares recovered from the sites were a result of trade or copying, then there was no intrusion of Caddo peoples into the Mountain Creek area; therefore, the inhabitants of the Mountain Creek drainage area were native to that area.

The Nocona Plain ceramics which are found on sites dating from ca. A.D. 1200 to 1600 have tempers have shell, fossil shell and calcareous material used as temper. These wares resemble Plains Village ceramics and take the form of globular and vase-like jars with outflaring rims and round or flat disk bases and barrel-shaped cups. Decorations on the jars are minimal and consist of rows of nodes, appliqué fillets, lip tabs and cord-marking. The cups have corncob-roughened exteriors (Prikryl and Perttula 1995:192).



Figure 4. Reconstructed Foster Trailed Incised Jar, Sister Grove Creek site (41COL36), Collin County, Texas (Crook 2007b:71).

After about A.D. 1000, Southwestern ceramics occur on sites in North Central Texas. The best example is the ca. A.D. 950-1050 stirrup-spout Arboles Black-on-White vessel recovered from the Lower Rockwall site (Lorrain and Hoffrichter 1968) at Lake Ray Hubbard on the East Fork of the Trinity River. Petrographic analysis showed that the basalt-tempered vessel was manufactured among Puebloan groups along the upper Rio Grande in New Mexico (Prikryl and Perttula 1995:192). Several Southwestern sherds from Santa Fe Black-on-White, Chupadero Black-on-White, Mimbres Black-on-White and Jemez Black-on-White vessels have been recovered from archeological sites along the East Fork of the Trinity River (Crook 2013).

At 41DN372, Ferring and Yates (1998:114) discovered sherds unusual to the area. Cord-marked sherds were found that resemble ceramics found in Plains Woodland cultures in south central Oklahoma as well as the Llano Estacado. Also found was an interior slipped bone-tempered sherd that resembles Cooper Boneware. This is a Woodland period Fourche Maline type made between ca. 2300 to 1800 B.P. It is the only one of its type recovered from the Upper Trinity River basin.

Bone Tools

A bone-barbed “harpoon” was recovered from the Upper Farmersville site (41COL34). The barbed point is 13.7 cm long and made from deer bone. One end is pointed and the base has been deliberately shaped. Two 2 cm long barbs are on the point (Figure 5). Microscopic examination indicates that considerable wear is present on the shaped basal end as if some play occurred between the point and the shaft socket. Bone

points are usually associated with coastal-living people and are very rare in inland settings. Crook (1984:12-13) hypothesized that the point could have been used to procure rather large fish (for example, those that weigh about 110 lbs) in deep water for which small bone fish hooks would have been inefficient.

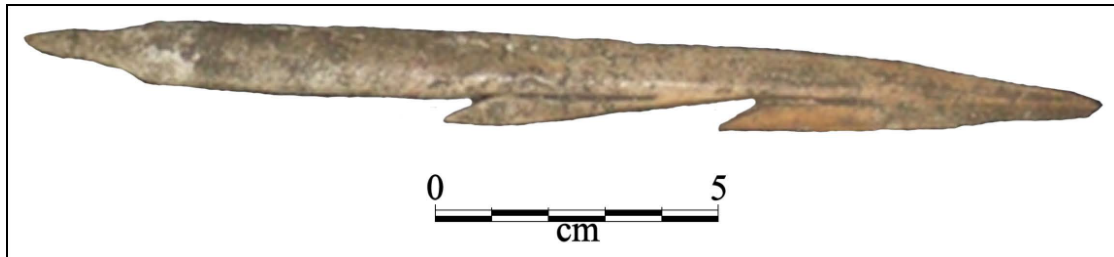


Figure 5. Bone “harpoon” from the Upper Farmersville site (41COL34). Photograph provided by Mr. Wilson Crook, III.

Bison scapula hoes (Figure 6) and other bone agricultural tools have been found in North Central Texas archeological sites. Barber (1969:19, 23) recovered two bison scapula hoes and a digging stick from the Hackberry site in Denton County. Lynott (1979:91-92) argued that the bison scapula hoes found in burials in North Central Texas may have been widely traded status items and were not used for agricultural purposes. The fact that the bison scapulae from the Upper Farmersville site (41COL34) appear to have been arranged on a bed of freshwater mussel shells and ash (Harris1945:37) supports that argument.

An unusual bone tool (Figure 7) whose purpose is unknown was recovered from 41DL425 (Todd and Skinner 2003) on Bear Creek, a tributary to the West Fork. The bone tool is a polished antler approximately 54 mm long and with an average diameter of 16 mm. The knob’s diameter is about 27.15 mm and the cut and polished end has a diameter of approximately 14.5 mm. The central portion of the cut and polished end has been drilled.

Shell Tools

Todd (1999b) argues that some form of agriculture was being conducted by Upper Trinity River basin aboriginal inhabitants based upon the presence of a possible shell hoe from the Cobb-Pool site (Raab 1982:266) and the Camp Wisdom site (41DL336) (Skinner et al. 2007). Harrington (1924:Plate 3) illustrated what would be considered a hoe, based on modern day analogies, from an Arkansas Ozark Bluff shelter. The mussel shell was centrally perforated and hafted to the thick wooden portion of the hoe (Harrington 1924:6). Todd (1999b) conducted experiments with shells as hoes, and those with the broader posterior shape worked quite well.



Figure 6. One of the cache of eight socketed bison scapula hoes discovered in Burial 1 at the Upper Farmersville site (41COL34) by R. K. Harris (Crook and Hughston 2009:31).

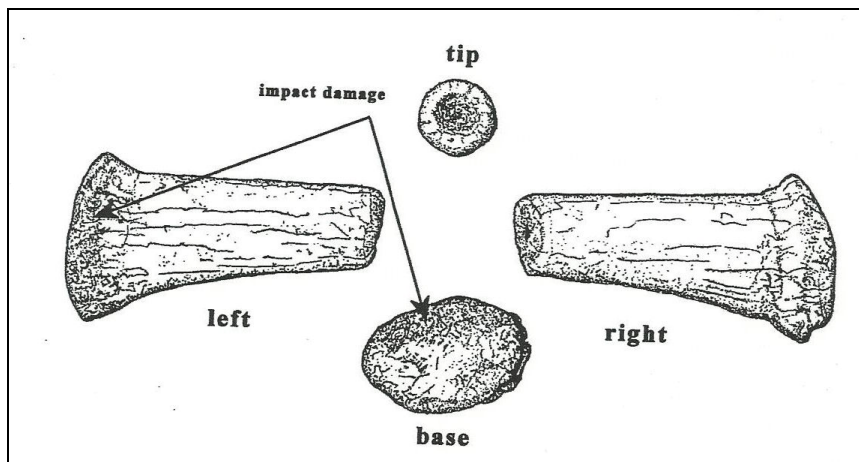


Figure 7. Bone tool from 41DL425. Drawn by Lance K. Trask and reprinted with permission of AR Consultants, Inc.

Shells with serrated edges have been recovered from eastern North Central Texas archeological such as Butler Hole (41COL2) (Housewright et al. 1947), Glenn Hill (41RW4) (Ross 1966), Lower Rockwall (41RW1) (Harris and Suhm 1963; Lorrain and Hoffrichter 1968); 41DL270 (Anthony and Brown 1994) and 41DL336 (Skinner et al. 2007). The presence of the serrated mussel valves indicates some form of plant processing. Ethnographic evidence indicates that serrated shells were used for scraping

corn, although a variety of tasks may have been performed using the shell tools. Gradwohl (1982) provides evidence from historical and personal sources for the Illinois, Sauk, Fox, Winnebago, Hidatsa and Pawnee using mussel shells to scrape corn.

Fired Clay Balls/Objects

Fired clay balls (Figure 8) in archeological sites in the Upper Trinity watershed occur as apparently purposefully made, spheroid to oval-shaped objects (Crook 2009). The fired clay balls may range in age from Early to Middle Archaic times (Crook 2009), although Lorrain (2011) and Frederick and others (2011) have recovered clay balls from Late Archaic contexts as well.

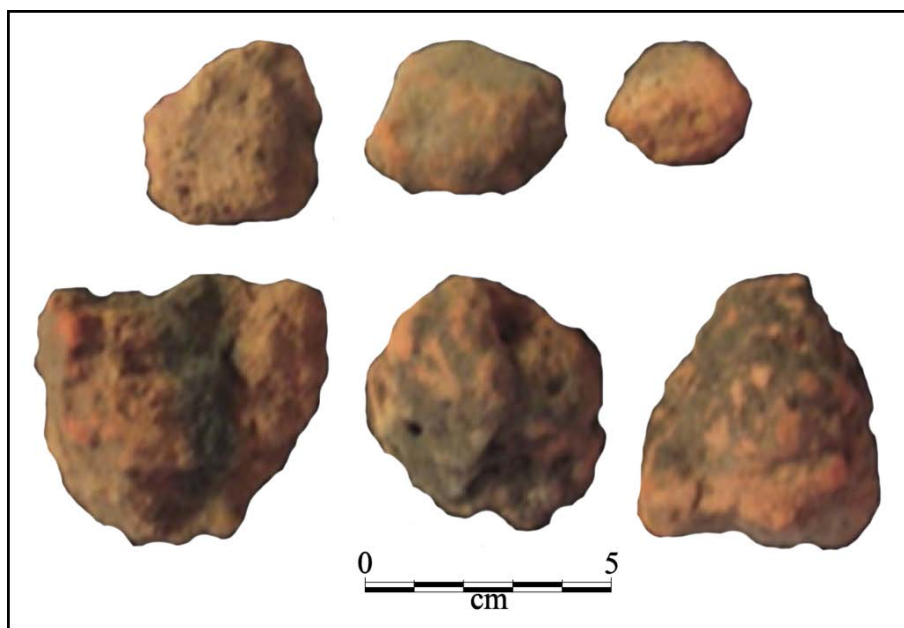


Figure 8. Fired clay ball/objects from North Central Texas (Crook 2009).

Frederick and others (2011:105) refer to the fired clay balls as irregular-shaped broken fragments of burnt or baked clay although ball shapes are present. Sizes range from 15-20 mm to as much as 100 mm in diameter, with the overwhelming majority being in excess of 40 mm. No evidence has been found of wattle or finger impressions. The balls are universally composed of a reddish sandy clay which is compositionally indistinguishable from the sandy clays of the Albritton Formation of the T-1 terrace along the main branch and Elm and West Forks of the Upper Trinity River. The only discernable difference between the clay balls and the Albritton is that the clay balls typically have turned a slightly darker reddish-brown from apparent exposure to heat. Cross-sections of the clay balls from multiple sites show a similar pattern, with reddish-brown exterior surfaces and dark gray to black cores. In fact, many of the centermost part of the balls are such a vitreous black color that they have the visible characteristics of charcoal. The firing process appears to have acted as a consolidating and preserving agent. Frederick and others (2011), in their study of clay balls found at 41DL203,

mention that a sandy material was present in the clay and that the balls were purposely brought to the site. Those clay balls that were dried slowly appeared to be more durable. However, in their experiments, the prehistoric clay balls did not have the black cores the experimental ones did. The conclusion is that the prehistoric clay balls were exposed to a high temperature environment for longer or on more occasions than were the experimentally-produced clay balls.

At 41DL238, there appears to be a filled-in, bowl-shaped pit with a layer of the fired clay objects at the bottom of the pit (Lorrain 2011). As the pit area was excavated, approximately 200 fired clay balls were uncovered in a roughly circular pit about 1.2 m in diameter. The burned clay objects were in a single, flat layer in no apparent order. The exterior color of the clay objects was fairly uniform, but their color gradation in the cross-section indicated differential heating. The feature is presumed to be an earth oven. Earth ovens that used rocks as heating elements are more common, but, apparently, if rocks were not available, fired clay objects could be substituted.

BURIALS

A burial was discovered in the Upper Trinity River basin among Pleistocene fossils in a sand pit in Dallas, Texas (Shuler 1923). The large adult male skeleton was found about 1.5 m below the ground surface. The Pleistocene age was suggested because the sand and dirt left on the bones matched the sand and dirt level from which Pleistocene fossils were found and the degree of fossilization of the skull was similar to that of a camel recovered from the same layer. However, no artifacts were found with the burial that would indicate a Pleistocene age. Another burial was found near Carrollton on a terrace overlooking the Elm Fork of the Trinity River (Albritton and Pattillo 1940). No burial goods were associated with the burial and the Albritton and Pattillo did not verify that the burial was Mid-Pleistocene in age, nor did they establish that it was in situ in the terrace deposits. They do mention that the cranial measurements fall within the lower limits available for the Caddo and Wichita groups.

The major known burials from archaeological sites within the Upper Trinity River basin are presented in Table 5. For specific information on the burials, the reader should refer to the cited references.

Most of the burials found in the Upper Trinity River basin are flexed and with no grave goods. Cremations and bundle burials comprise only a small percentage of the known burials. Almost all the burials are single interments although they may occur in cemeteries. The supposed mass burial at the Harbor Pointe site is suspect because the area was disturbed and the burials could easily represent four single burials. There are exceptions, however. Crook and Hughston (2009:30) state that two cemeteries were present at the Upper Farmersville site, one on a small rise with six burials and the other with three burials associated with a large pit structure. The burial at 41DL396 (Hibbs and Hibbs 2006) is unusual. The burial was found about 0.9 m bs and it contained three males of varying ages ranging from late/mid-life to about 12 years old. The burials were found lying against each other and, from the drawing, it appears the oldest male had his arm across the other two. No burial goods were associated with the grave and no cause of death was postulated. Another interesting multiple burial was discovered at 41DL8 on Lake Ray Hubbard. The burial consisted of the highly fragmented remains of four adult

male individuals who ranged in age from 35 to 45 years of age (Whitley and Skinner 2012). In one of the skeletons the external auditory meatus and the tympanic bone failed to develop; this is referred to as complete external auditory atresia. Seven dart points were discovered in the burial. The one sigma calibrated radiocarbon dates from Femur 5 were 1260-310 B.C. and 1210-1240 B.C. A one sigma calibrated radiocarbon date from Femur 7 was 1000 to 1050 B.C. The burials date to the Late Archaic.

Huff and Briggs (1963) examined the skeletal material from Lake Lavon, and Navey (1975) examined skeletal material from the Upper Rockwall, Lower Rockwall, Glenn Hill, Upper Farmersville, White Rock Spillway, Lavon Reservoir, Sister Grove Creek, Hogge Bridge and the Branch sites. They discovered that about 20 percent of the skeletons showed evidence of hematological disorders and periostitis and osteitis were found in about 30 percent of the samples. Dental abscesses were present in all of the samples and heavy wear on the teeth was prevalent due possibly to their hunting and gathering diet and ground-up stone material in the food. Nutritional stress also was present throughout the sample. The skeletal material investigated by Cliff and others (1996:24) found dental abscesses and nutritional stress. At Lake Ray Roberts, Gill-King (1997) interpreted the skeletal remains of one individual as having died from disease and another possibly starved to death. Evidence of nutritional stress also was present. An adult female from 41CO141 experienced a period of dietary or metabolic stress between the ages of 7 and 10 (Gill-King 1987). Her diet may have been oriented toward plant foods due to the low iron content in her bones.

At the Merrill site (41DN99) at Lake Ray Roberts, two skulls and a long bone, probably a femur, were uncovered in a poorly defined pit. The burials were overlain by five large sandstone boulders placed in a circular fashion and a metate. The skeletal material was lost during a flood. Another burial was found in an oval, stone-lined pit with several slanting sandstone and hematitic sandstone slabs and several flat-lying slabs marked the grave floor (Ferring and Yates 1997:182). This burial is similar to others found in the Western Cross Timbers (see Forrester 1991) indicating possible shared cultural relationship. The burial of "Clear Fork Woman" (41PR12) reportedly was surrounded by a ring of Lower Cretaceous-aged oyster shells and at one time, a long curved animal tooth probably was embedded in her face behind her left zygoma (Todd et al. 2009:48). These characteristics suggest that this was a ritual burial. Blair (1960:5) indicates that a burial from the Lower Rockwall site (41RW1) had a bed of mussel shells placed in the pit before the body was placed in the grave.

Crook and Hughston (2009:31) have argued that the generally accepted concept that Late Prehistoric graves along the East Fork have no burial furniture is misleading. They have compiled records of 87 buried individuals, and of those 87 individuals, approximately 40 percent (35 individuals) have associated grave goods. Whitley and Skinner (2012:36) examined multiple burials from the East Fork of the Trinity River and found that of the 69 burials (99 individuals), 28 (41 percent) contained artifacts. Children only make up about 10 percent of the burials. Bone beads appear to be the grave goods associated with the children (Kirkland and Harris 1941; Harris 1947).

Table 5. Select burials within the Upper Trinity River basin.

Site	No. of Burials/ individuals	Grave Goods	Reference
Branch (41COL9)	2/2)	None	Crook 2007
Butler Hole	5/6	Fourteen deer bone flaking tools, Bone awl, conch shell gorget	Housewright and Wilson 1942
41CO141	1/1	None	Prikryl and Yates 1987
Calvert (41DN102)	3/3	None	Ferring and Yates 1997
Gilkey Hill (41DL406)	3/3	None; a skull burial also was present	Harris 1942
Glen Hill (41RW4)	8/8	Dart point; six mussel shells Yarborough point and red ocher	Ross 1966,
Hackberry Creek (41DL383)	2?/2?	None	Barber 1969; Barber and Lorrain 1984; Yates 1984; Skinner and Ferring 1999
Harbor Pointe (41DL369)	1/4	Sixteen shell beads and gorget	Cliff et al. 1997
Hogge Bridge (41COL1)	7/13	None	Stephenson 1952
Lower Rockwall (41RW1)	14/14	Dart point, scraper, biface and round stone, boatstone and knife; large mussel shell; large mussel shell and limestone rock containing calcite crystals; bone tools nearby	Blair 1960; Lorrain and Hoffrichter 1968 Whitley and Skinner 2012
Merrill (41DN99)	1/1	None	Ferring and Yates 1997
Ragland (41KF4)	1/2	None	Hatzenbuehler 1942
Sister Grove Creek (41COL36)	5/5	Dart point	Hanna 1940; Lynott 1975
Spring Creek (41DL373)	1/1	None	Peter and Glow 2000
Upper Farmersville (41COL34)	10/17	Eight bison scapula hoes; fourteen bone beads; Sanders Engraved Water bottle; boatstone; bone awl; Small mano; six polished stone balls; Small fossil oyster shell containing green pigment	Crook and Hughston 2009
Upper Rockwall (41RW2)	12/18	Dart point, conch shell beads; Sanders Engraved vessel; worked shell, bone needles and awls and arrow points nearby	Harris 1948, 1960 Sollberger and Harris 1949; Harris et al. 1957; Ross 1966; Whitley and Skinner 2012
White Rock Spillway	2/3	Eighty-one polished bone beads with child	Kirkland and Harris 1941
41DL8	1/4	Seven dart points (Figure9)	Whitley and Skinner 2012
41DL184	1/2	Bone fish hook, worked bone	Peter and McGregor 1988
41DL396	1/3	None	Hibbs and Hibbs 2006
41DN26	2/2	None; one burial primary, the other secondary	Ferring and Yates 1998
41DN27	1/1	None	Ferring and Yates 1998
41D99	1/ 1	None	Ferring and Yates 1997
41DN197	1/ 1	None	Ferring and Yates 1997
41PR12	1/1	Ring of fossil oyster shells	Todd et al. 2009
Sandy Camp (41PR108)	1/1	None	Todd et al. 2009

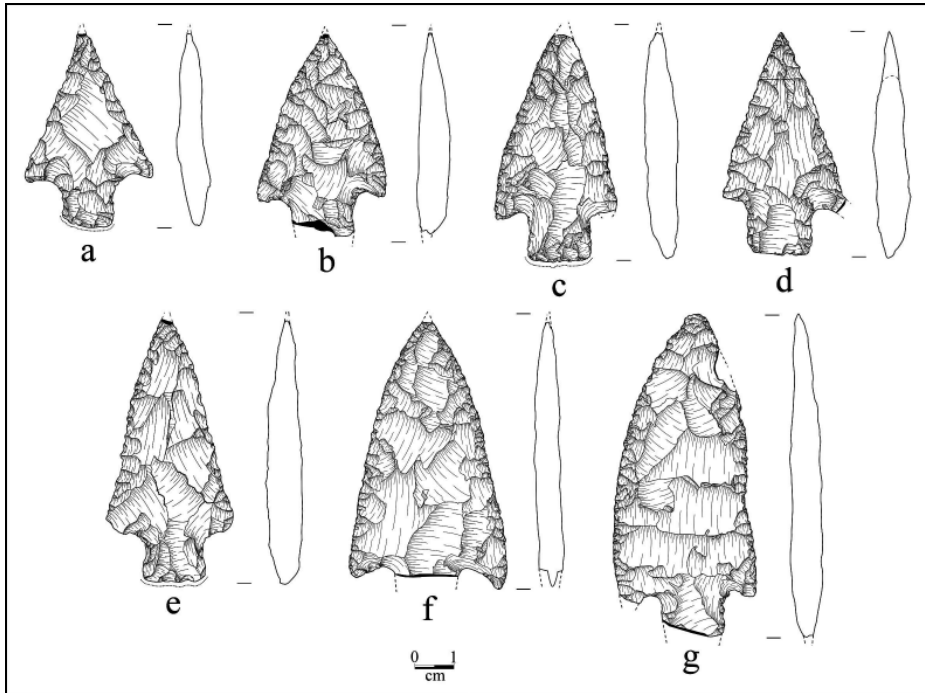


Figure 9. Dart points from 41DL8. Illustrated by Lance K. Trask. Figure courtesy of AR Consultants, Inc.

The taking of human mandibles as war trophies occurred during the Blow Out Mountain phase in West Central Texas (Boyd 1995:482, 504) which dates from ca. A.D. 500 to 1100. If the two mandibles at 41DN26 (Ferring and Yates 1998) were war trophies, it may indicate that there were cultural ties between the aboriginal inhabitants of the Lake Lewisville area and West Central Texas. Lynott (1975:33) discovered the burial of an adult male with three small projectile points located in the ribs at the Sister Grove site (41COL36) in Collin County. Also, a burial of a decapitated male with three embedded darts recovered from the Lower Rockwall site (Whitley and Skinner 2012:34). Harris (1942:50) noted the presence of a skull burial at the Gilkey Hill site (41DL406). If the mandibles were war trophies, their presence would indicate warfare between groups, but the points in the bodies and decapitation may indicate inter-group violence as well as potential acts of warfare between groups.

Very few burials have been radiocarbon-dated. The burial at the Harbor Pointe site on Rowlett Creek (Cliff et al. 1996:28) yielded a radiocarbon date of 970 ± 60 years B.P. (A.D. 1010-1265). The burial from 41DL373 on Spring Creek (Peter and Clow 2000:20) is dated to A.D. 1155-1275. Two radiocarbon dates were obtained from the skeleton from Feature 15 at the Sister Grove site (Lynott 1975:70). The dates average to about A.D. 1160. Two burials from site 41DL8 date to approximately 1130-1380 B.C. and 930-1120 B.C. (Whitley and Skinner 2012). The Sandy Camp site (41PR108) has a burial with a blue glass trade bead indicating that it dates to European contact times.

ARCHITECTURE

A few house structures and what may be house structures have been found in eastern North Central Texas Late Prehistoric sites. These include Butler Hole (41COL8) and Cobb-Pool (41DL148). The Butler Hole site contained one house (Housewright et al. 1947:8-16; Stephenson 1952:310) and the Cobb-Pool site had three house structures and a few other post hole features that may be drying racks, storage platforms or animal or hide processing areas (Peter and McGregor 1988:182-184). The house structure at the Butler Hole site is 4.2 m east-west and 3.1 m north-south. A hearth was located near the center of the house. Based upon the presence of burned shell-tempered clay daub material that contained impressions of grass and twigs, the researchers felt that the outside of the house had been plastered and then burned when it was abandoned. A house structure is inferred by the presence of three post holes at the Calvert site (41DN102) at Lake Ray Roberts, but its architectural form could not be determined (Ferring and Yates 1997:254).

The three structures at the Cobb-Pool site are probably a winter house (Structure 1), a summer house (Structure 3) which may not have been enclosed and a main house (Structure 2). This structure had an arrangement of post-holes that suggest there was an interior bench-like feature that may have been for sitting/sleeping, storage or both. Structure 1 appeared to have been rebuilt or reinforced to withstand inclement weather. Structure 1 was about 5 m in diameter, Structure 2 was ca. 5.4 m in diameter while Structure 3 was ca. 5.1 m in diameter. Charcoal from post hole 7 from Structure 2 has a corrected date of A.D. 1274 \pm 88 (use calibrated date) while ceramic sherds recovered from post holes 1 and 33 from Structure 3 have thermoluminescence dates of A.D. 720 \pm 240 and A.D. 1380 \pm 90. If the thermoluminescence dates are accurate (which seems unlikely given their large standard deviation and wide differences in their ages, Structure 3 may have been abandoned later than Structure 2. Also Structure 2 may have been burned on abandonment, similar to the house at the Butler Hole site.

SUBSISTENCE

Floral Remains

No definitive statement can be made about plant food used by the inhabitants of the Upper Trinity River basin because of the limited number of floral analyses that have been done. Plants recovered from the Sister Grove site (Lynott 1975:66) include hackberry, balloon-vine and white-dog's-tooth-violet. At Lake Ray Hubbard, *Chenopodium* and *Amaranth* seeds were recovered from archeological sites (Winchell 1985:A.3-4). These seeds were exploited intensely by aboriginal populations located in woodland environments. Only hackberry seeds were recovered from the Lake Lewisville site (Crook and Harris 1957:27) and lamb's quarter was recovered from 41DL270 (Derring 1994:240). Charred pecan shell was recovered from 41TR170 (Dering 2008:F-4). Dering believes the shell was accidentally charred because the pecan nut does not require being boiled to extract the oil or the meat from the shell. In all probability, the pecan nuts were being harvested at 41TR170 by the site occupants during other subsistence activities.

The Cobb-Pool site (41DL148), discovered on Village Creek, provides a different perspective. The majority of the plant remains are maize, followed by nuts, cucurbits, maygrass, lamb's quarter and sumpweed. The presence of maize (Fritz 1993:241) indicates short-term sedentism, perhaps as part of a seasonal round of farming or gardening where an aboriginal group was already dependent on wild plant food such as nuts. Peter and McGregor (1988:194) state that the inhabitants may have used the Cobb-Pool site as a base camp, although a temporary one, from which they ventured for special or seasonal activities. Some form of agriculture may have been conducted based upon the presence of a possible shell hoe from the Cobb-Pool site (Raab 1982:266).

Martin (1988:348) suggests that the Cobb-Pool site inhabitants selected the location because the land was suitable for agriculture, and they had access, not only to the forest, but to the Trinity River as well. The forest and river habitats provided most of the wild food resources, but the sandy areas adjacent to the Trinity River were utilized for growing maize. According to Peter and McGregor (1988:167) and Fritz (1993:237), approximately 72 percent of the 43 flotation samples contained maize. The cupules from the Cobb-Pool Site are smaller than normal for domesticated maize (Fritz 1993:238). Peter and McGregor (1988:167) believe, based on the amount of maize recovered, that the maize was domestic, not imported although the site inhabitants may have brought the maize with them.

Maize was recovered from the Butler Hole, the Campbell Hole and the Hogge Bridge sites (Stephenson 1952:305). However, R. King Harris, who helped Stephenson gather information about the Wylie Focus, said that Stephenson recovered only a single kernel of maize from his excavations (Marmaduke 1975:155). Fritz (1993:240) mentions that maize's role in the subsistence of the Wylie Focus groups as defined by Stephenson was questioned by Lynott and Marmaduke after their excavations in the Lake Lavon area in Collin, Dallas and Rockwall counties. Lynott (1975:69) did not find any maize cupules or pollen in his analysis of the Sister Grove site and argued that the absence of maize at the site is an indication that maize agriculture was not practiced there. Ferring and Yates (1998:153), in their analysis of stable isotopes from four skeletons from Lake Ray Roberts and Lake Lewisville that ranged in time from the Middle Archaic to the Late Prehistoric, indicate that the diet was based on significant meat consumption and that the consumed plants were not maize. The prehistoric inhabitants were eating "cool season" plants and the animals that ate those plants. Marmaduke (1975) suggested that the presence of bison scapula hoes on Wylie Focus sites indicates that agriculture could have been practiced or at least known by the Wylie Focus peoples. Peter and Clow (2000:26) argue that maize was becoming a part of the diet in North Central Texas during the early thirteenth century based upon the presence of maize at the Cobb-Pool site and the fact from isotopic analysis that the burial from 41DL373 had consumed maize although it was not a primary plant in her diet.

The Baggett Branch site (41DL149), on the other hand, was probably a seasonal hunting and gathering site. Although maize was present, the dominant plant food resources are wild, mainly walnuts and *Pediomelum* (Peter and McGregor 1988:230). Other sites along Village Creek include 41DL189 and 41DL199. *Psoralea* tuber was recovered from 41DL189, mainly occupied during the Late Archaic. A radiocarbon date for the site ranges from 450 to 570 B.C. (Peter and McGregor 1988:57). At 41DL199, a nutshell belonging to either walnut (*Juglans nigra*) or hickory (*Carya* sp.) was recovered

as well as *Psoralea* tuber and *Vicia*-type seeds (Peter and McGregor 1988:80). The site contains artifacts that range from the Middle Archaic to the Late Prehistoric (Peter and McGregor 1988:59).

Plant gathering activities can be inferred from the presence of groundstone tools. Lorrain and Lorrain (2001) discovered several manos on Middle and Late Archaic-aged sites along Denton Creek. The manos could be divided into two types: circular and oblong; metates were absent. The opposite situation was found at 41DN381 (Ferring and Yates 1998). Fourteen unprepared manos, four prepared manos and fourteen unprepared metates indicate the importance of plant processing at the site. The groundstone probably was cached at the site for use when the site inhabitants returned.

Site 41DN544 (Jennings and Todd 2006) is an unusual site which consists of a 5.78 m long rock-lined occupation surface buried beneath 2 m of sediments in a tributary to Walnut Creek. A layer of charcoal which dates from A.D. 1430 to 1670 (Beta-219491), contains within it a limestone rock surface (Figure 10). The limestone rocks, which range in size from 3 to 15 cm, appear to be a single rock thick. After a rain, the site was revisited and a limestone metate was found at the top of the soil slump approximately 64 cm below the rock layer. Deep testing was conducted to recover diagnostic artifacts and determine whether the site extended significantly into the bank. A backhoe trench was excavated approximately a meter north of and parallel to the exposed site. Approximately 4.78 m of a 15 cm thick zone fire-cracked rock and charcoal. Occasionally a mussel shell and a deer bone also were uncovered. Bush (2006) analyzed a charcoal sample and identified plum/cherry, hackberry, and elm wood. The plum/cherry wood dominated the assemblage.

Based on the floral material recovered from sites discussed here, the prehistoric inhabitants of the Upper Trinity River basin exploited the post oak forests, floodplains, and the prairie. Grapes, hackberry, nuts, balloon-vine and white-dog's tooth-violet can be found in a post-oak environment as well as nuts, and prairie turnip, maygrass, and cucurbits can be found in a prairie environment. Sumpweed can be found in a prairie environment, but it is usually associated with large river floodplains such as the Trinity River. Lamb's quarter can be found on floodplains as well, but may grow in disturbed areas such as in occupied sites. Maygrass may be found in disturbed areas also.

Faunal Remains

Animals utilized by the prehistoric inhabitants of the Upper Trinity River basin were varied and apparently abundant. Todd (2000) lists at least twenty-nine species of mammals, five species of birds, five frog species, seven turtle species, two species of snakes and fourteen freshwater mussel species that were utilized by the Late Prehistoric inhabitants of the Upper Trinity River basin. These same species were exploited during the Archaic as well as during Paleoindian times. However, during Paleoindian times, extinct turtles as well as other extinct Pleistocene animals were utilized at the Lewisville site (Crook and Harris 1957) as well as the horse and *Bison antiquus* at the Aubrey site (Yates and Lundelius 2001:106-107).



Figure 10. Ash and fire-cracked rock layer at 41DN425. View is to the north. Photograph courtesy of AR Consultants, Inc.

It appears that the prehistoric inhabitants exploited all six environmental zones mentioned by Bousman and Verrett (1973): drainages, floodplains, floodplain rises, fluvial terraces, upland slopes, and uplands. The fauna taxa (Table 6) recovered from archeological sites at the Joe Pool Lake generally represent the types of animals found on sites within the Upper Trinity River basin. Deer was the dominant large mammal found at all of the sites. Raccoon and opossum are next in numerical prominence. These mammals are found along forest edges, drainages of both the forest and prairie, and on floodplains and floodplain rises. The presence of both bison and pronghorn suggests that the upland prairie was utilized as well by the Late Prehistoric inhabitants. The ornate turtle further suggests the use of the prairie as a potential subsistence resource. Numerous beavers, turtles, fish and mussels indicate the use of aquatic sources. The box turtle, found on almost every site, can be found in upland slopes, wooded hillsides or open woodlands. Interestingly, it appears that more species of rodents were utilized at the Aubrey site than in later times. Todd (2004) hypothesized that rodents on prehistoric sites with cultigens were utilized more as a subsistence resource than on hunter-gatherer sites. Rodent bones were about seven times more abundant at the Cobb-Pool site than in hunter-gatherer sites at Lake Ray Roberts.

Numerous sites in the Upper Trinity River basin have been recorded that contained either shell lens or large numbers of freshwater mussel shells. One of the most interesting is the Rough Green (41TR162) site on Walker Branch, a tributary to the West Fork (Skinner et al. 1999). The site ranges from Late Archaic to Late Prehistoric in age. The shell deposit is approximately 50 cm thick and covers an area of ca. 60x25 m and at least two separate occupations were defined by shell middens in a trench profile.

Approximately 3,870 freshwater mussel valves were identified in the middens consisting of at least twelve species. Based upon the amount of known site area, it is estimated that approximately 63,000 individual mussels are present in the deposits. At this point in time, this makes the Rough Green site unique, not only in the number of freshwater mussels present, but also in the variety of species. However, Alan Skinner and I may have discovered a similar site approximately 7 km west of the Rough Green site. The new site was eroding out of the east bank of a tributary flowing into the West Fork.

Story (1990:361) has noted that the increased hunting of bison is one of the more distinctive characteristics of the late phase (ca. A.D. 1500) of the Late Prehistoric period. Bison remains are most common in North Central Texas after A.D. 1200. Nonetheless, there is no archeological evidence for vast numbers of bison. Bison herds were probably small, sporadic bands (Lynott 1979:92, 98). There has not been enough bison bones recovered from archeological sites in the area to suggest a shift in the subsistence practices of the inhabitants of the Upper Trinity River basin. Lynott (1979:98) concluded that after A.D. 1200, remains of white-tailed deer and other woodland mammals far outweighed the presence of bison on archeological sites. This may not be true for the archeological record at Lake Lewisville, where bison bones matched the number of deer bones on 41DN27 and 41DN381. Bison probably were taken in chance encounters and were not systematically hunted as a group. Although some bison skeletons/bones have been found (Prikryl 1987), there is not enough to establish that bison were selectively hunted over deer and other mammals. Anthony and Brown (1994:303) believed that the inclusion of bison in the diet is “almost certainly a factor of the presence or absence of the bison in the area.”

Dickens and Weiderhold (2003) echo this conclusion, noting that bison bones would not be found on archeological sites because the meat was removed from the bones and taken back to camp and the skeleton left in place. The single kills that was butchered and left in place at two archeological sites in Dallas County (Harris and Harris 1970; Morris and Morris 1970) support such a conclusion. However, at 41DN27, an unusual bison bone refuse pit was discovered (Ferring and Yates 1998:83-86). The pit was capped by two bison calf skulls and bison bones consisting of skulls, vertebrae, ribs and limbs throughout the pit. At the bottom of the pit nine scapula were laid out intentionally to cover the bottom of the pit (Figure 11). At least six individuals were represented by the bones. Several boulders/cobbles also were present. The pit was dug in a manner that indicates that it was planned and the only thing to indicate it was also used as a refuse pit was the haphazard placement of the bison bones in it.

Animal interments have been found in the Upper Trinity River basin (Todd 2012). A puppy interment was discovered at the Sister Grove Creek site (41COL36). The puppy was between 2.5 to 4 months old and found in a Wylie focus pit that dated to ca. A.D. 1160. Stephenson (1952:301, 303) reported that the burial of a wolf was uncovered at the Hogge Bridge site (41COL1), a “Wylie Focus pit” site on the East Fork of the Trinity River in Collin County. The wolf, possibly a red wolf, was uncovered on the south interior slope of a large circular depression or pit. The grave was oval, no burial furniture was present and the style of the burial pit was similar to those in which human remains were interred. Although not in direct association with the wolf burial, human burials were recovered on the eastern rim of the pit. The burial may have been some form of animal worship (Stephenson 1952). Marmaduke (1975:151), however, referred to the burial as

that of a “young” bear based upon Stephenson’s notes, not a wolf. According to Stephenson’s notes, a fully articulated bear skeleton was found on the south interior slope of the pit and prior to photographing and mapping, a violent rain storm prevented further work until the area was dry. It appears that before Stephenson could return, individuals had removed some of the important diagnostic skeletal elements and scattered the rest of the bones.

Table 6. Selected fauna and their environments recovered from archeological site in the Joe Pool Lake Project area (from Martin 1995:24).

Forest	Aquatic	Prairie
Reptiles	Fish	Reptiles
Box turtle	Sunfish/Bass	Whiptail lizard
Spiny Lizard	Crappie	Horned Lizard
Birds	Bluegill	Birds
Turkey	Freshwater Drum	Prairie Chicken
Quail	Buffalo fish	Dickcissel
Bluejay	Bowfin	Mammals
Mammals	Catfish	Bison
Whitetail Deer	Gar	Jackrabbit
Cotton Tail Rabbit	Reptiles	Pronghorn Antelope
Opossum	Cooter/Slider	Badger
Raccoon	Common Snapping Turtle	Prairie Vole
Woodrat	Softshell Turtle	Cotton Rat
Squirrel	Musk/Mud Turtle	Thirteen-lined Ground
Skunk	Water Snake	Squirrel
	Birds	
	Night Heron	
	Heron/Egret	
	Great Blue Heron	
	Duck	
	Amphibians	
	Frog	
	Salamander	
	Mammals	
	Beaver	

A buried buffalo skeleton (Figure 12) was discovered approximately 0.76 m bs in a front yard of a residence in Aledo in Parker County (Todd 2012). The skeleton was excavated by the Tarrant County Archeological Society and Bonnie Yates analyzed the bones. The bison was young and had been skinned but no cut marks were present. The burial pit had been dug through the sand into the clay. Flint skinning tools and a Martindale point were found associated with the burial.

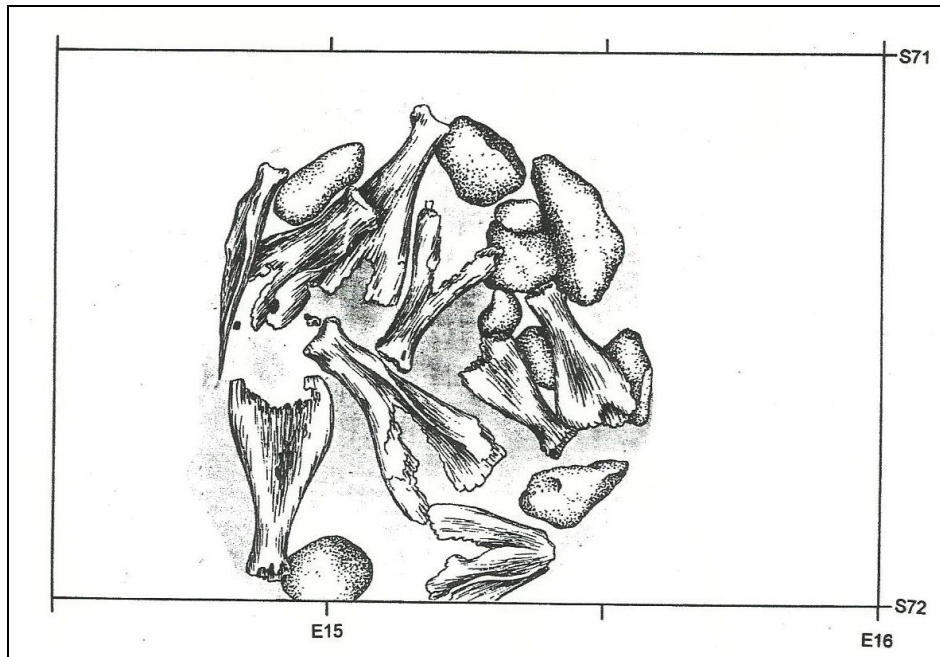


Figure 11. Bison scapulae present at the refuse pit (Feature 2) at 41DN27 (Ferring and Yates 1998:86).

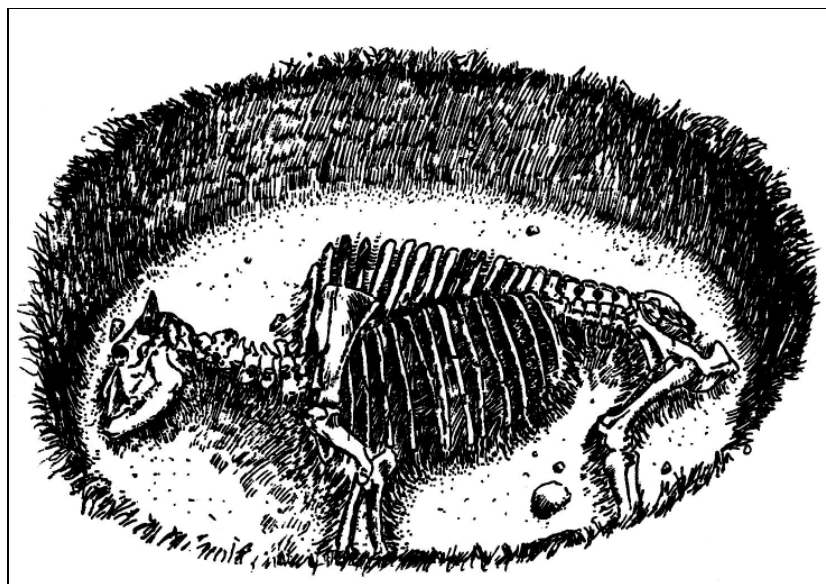


Figure 12. Burial of young bison in Parker County. Courtesy of Mr. Homer Norris.

ART

Cliff and others (1996) discovered a gorget made from a *Busycon contrarium* shell at the Harbor Pointe site (41DL369) at Lake Ray Hubbard in Dallas County dating to approximately to A.D. 1035. The gorget was made from the convex side of the shell and is 88 mm long and 70 mm wide. The shell is similar to Forms 6 and 8 in Hall's (1981) discussion of conch shell gorgets from Allens Creek. Hall (1981:302) believes that trade interaction east of the Trinity River was mainly with Caddo peoples during the Late Prehistoric and may have been reduced or completely absent with peoples living in Central Texas. Drilled freshwater mussel shell pendants were discovered at 41DL270 (Anthony 1994:186). Both shells had a hole drilled beneath the umbo. The species are *Lampsilis teres* and *Quadrula mortoni*. The shells are probably Late Archaic in age.

Along with shell gorgets, stone gorgets also have been recovered from the area. A limestone gorget fragment was discovered at 41DL137 in Dallas County (Peter 1982). Stone gorgets have been recovered from the Butler Hole site in Collin County (Lorrain and Lorrain 1982), in Rockwall County (Lorrain and Lorrain 1982), at an unnamed site in Rockwall County (Housewright 1941) and the Gilkey Hill site (41KF42) in Kaufman County (Harris 1942). (After further investigations at the Gilkey site, its location was placed in Dallas County and given the trinomial 41DL406 [Skinner 2001:23]).

A possible brown sandstone bear effigy (Figure 13) was discovered approximately 85 cm bs at the Fire Wagon Factory Camp site (41PR109) on the South Fork of the Trinity River. A sandstone mano and a possible sandstone gorget were associated with the bear effigy. Dart points dating from the Middle to Late Archaic have been found at the site (Todd et al. 2009:54).

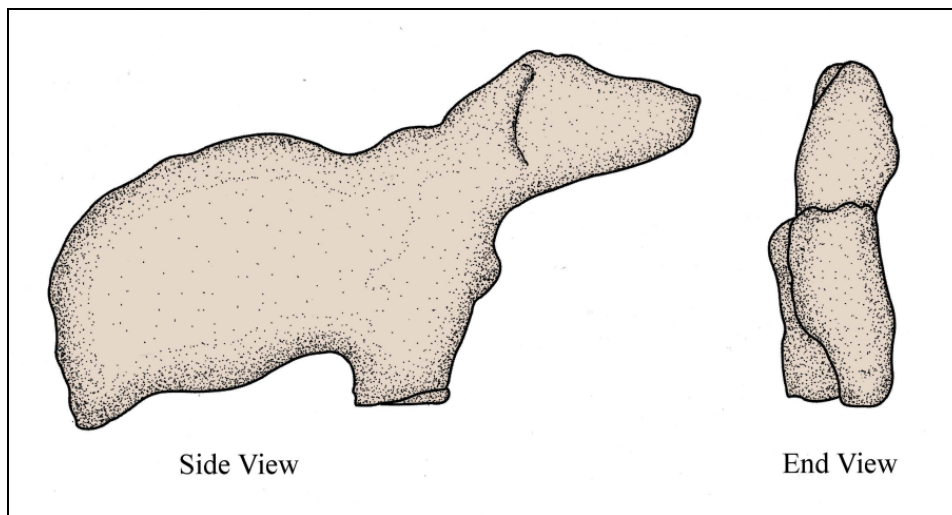


Figure 13. Bear effigy from the Fire Wagon Factory Camp site (41PR109). Redrawn by Lance K. Trask Reproduced with permission of Homer Norris and Marvin Glasgow.

CONCLUSIONS

Two important conclusions can be derived from the archeological information discussed in this paper. First, no significant changes in hunting and gathering strategies occurred from the Archaic to the Late Prehistoric. An indigenous cultural development occurred in North Central Texas from the last part of the Lake Archaic to the first part of the Late Prehistoric (Prikryl 1990:83). Due perhaps to a climatic drying trend during Prehistoric II times, an artifact assemblage appeared that had strong similarities with those found on typical Southern Plains sites. Ferring and Yates (1997:305, 1998:153), based upon their research at Lake Ray Roberts and Lake Lewisville, indicate that except for the introduction of the bow, little changed between the Late Archaic and the Late Prehistoric. There was no evidence of decreased mobility, an increase of patch exploitation or a decreased diversity of floral and faunal resource procurement practices.

Although houses and some form of agriculture may have occurred as well as bison hunting in the Late Prehistoric at some times and places, it was on such a limited scale as to not reflect a basic change in the lifeway of the prehistoric inhabitants of the Upper Trinity River basin. The presence of storage pits at the Hackberry site, the houses at the Cobb-Pool and the Butler Hole sites indicate some form of sedentism (Ferring and Yates 1998:53). The question is, "How long was the sedentism?" and "Were the structures constructed so that the inhabitants could revisit them on a seasonal basis?"

This leads to the possible second conclusion, that the Late Prehistoric inhabitants of the Upper Trinity River basin were nomadic since there appear to be very few sites that may have been occupied year round. Since no winter settlements have been found, winter camps were presumably located elsewhere in the local region. Peter and McGregor (1988:194) argued, based upon the low density of artifacts, that the occupation of the Cobb-Pool site (41DL148) never extended beyond a few years and that the primary occupational period was from spring until fall; possibly the site occupants used the Cobb-Pool site as a base camp from which they hunted and performed other seasonal activities. The majority of the faunal and floral resources utilized in the Mountain Creek drainage during the Late Archaic were those that would not have been available during the winter months (Peter and McGregor 1988:363). The location of sites in the Blackland Prairie suggests that the sites were temporary because the amount of food needed by a group of people would not have been supplied by living on the prairie alone. Even living on the floodplains would have restricted the hunting and gathering season because plants and animals existing there may have had a seasonal range as well.

Skinner and Connors (1979:51-52) have suggested that Late Archaic sites in the Mountain Creek drainage were the product of groups who were based in the central Brazos River basin, possibly along the Nolan River drainage, and that the Mountain Creek area was peripheral enough that the Late Archaic people could visit the area without fear of reprisal from the peoples occupying the Trinity River area. They base their conclusions on the fact that lithic materials found on the sites resemble materials from the central Brazos River. They also state that evidence of the potential route of peoples moving from one basin to another can be found at Lake Alvarado and the Ham Creek site where the lithic material more closely resembles that of the central Brazos basin area and not lithic materials local the Upper Trinity River basin. Lintz and others (2004) suggest that the same possibility at 41TR174 on the West Fork.

Williams (2004:236) makes an interesting statement about the aboriginal peoples that inhabited sites along the East Fork. Williams hypothesized that the people who inhabited the East Fork belonged to a different culture than those of the Elm and West Forks. The basis for this statement is probably the fact that regularly spaced central base camps are present along the rivers that are not present along the other drainages. In addition, violence may have occurred among the East Fork peoples as they expanded westward (Williams 2004). This tends to be supported by the findings at the Sister Grove Creek site (41COL36) and the Lower Rockwall site (41RW1). Interestingly enough, Shafer (2006:7) places the separation between the Northern and Southern Prairie Caddo east of Joe Pool Lake. Might not the territorial boundary be marked by the East Fork of the Trinity River?

Finally, the archeology of the Upper Trinity River basin would be enhanced by the study of ephemeral sites such as the Dalby site (41DL350) (Skinner et al. 2005) and at Joe Pool Lake (Peter and McGregor 1988), and 41DL270 (Anthony and Brown 1994). The Dalby site ranges in age from ca. A.D. 450 to 1500, yet no intensive occupation was found there. Except for one hearth and one burial, the use of the site by the aboriginal population was recognized by burned clay, charcoal, utilized freshwater mussels, and a scatter of artifacts. In other words, the occupations were brief. Vertically stratified deposits offer us a chance to deal with a single occupation episode that can be dated and which offers the opportunity to look at a distinguishable living surface if enough area is excavated. Looking at the tool kits, residue from limited and specific tasks provide an ideal setting for describing work/living areas and their relationship to features, artifact scatters, etc (Skinner et al. 2005). These archeological data sets thus can contribute key insights into the lifeways of specific groups of people across the landscape such as a family activity or a hunting, and gathering activity by larger task groups.

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A SMALL KILLOUGH PINCHED VESSEL FROM THE UPPER FARMERSVILLE SITE (41COL34), COLLIN COUNTY, TEXAS

Wilson W. Crook, III

INTRODUCTION

A complete Killough Pinched jar, a Middle to Late Caddo (ca. A.D. 1200-1500) ceramic type in the upper drainage system of the Neches River (Anderson, Cherokee, Henderson, Smith and Van Zandt counties), has been recovered in North-Central Texas from the Upper Farmersville site (41COL34) in Collin County. This is the first known occurrence of a complete Killough Pinched vessel and only the fourth reported occurrence of the type in any of the Late Prehistoric sites along the East Fork. This paper discusses the find and the character of the vessel, and puts on record further evidence of contact between the Caddo and Late Prehistoric populations living in the Upper Trinity River basin.

UPPER FARMERSVILLE SITE (41COL34)

The Upper Farmersville site is located in North-Central Collin County about 8 km (5 miles) northwest of Farmersville. The site lies on either side of Farm Road 2756 immediately west of the confluence of Pilot Grove and Indian Creeks. The original landowners, the Warren Dugger family, cultivated the section of land north of the road leaving the smaller southern part of the site largely undisturbed. This untouched southern portion of the site contained remnants of a large Wylie Phase "rim-and-pit structure". The author began a study of the site in 1971 and continued periodic work until the mid-1970's, with a special emphasis on the undisturbed portion south of Farm Road 2756 (Crook and Hughston 2009). Enlargement of the Lavon Reservoir in 1979 was believed to result in the raising of Pilot Grove Creek and the inundation of part of the site. As a result, a significant portion of the remaining southern part of the site was removed as fill material for the construction of a new elevated portion of Farm Road 2756. Only a small remnant of the southernmost portion of the rim-and-pit structure was left after road construction with a telephone pole located on its top (Figure 1).

The author is currently involved in co-writing a detailed re-evaluation of the Late Prehistoric cultures along the East Fork of the Trinity. As part of this work, the author returned to the Upper Farmersville site in December, 2013 to photograph Pilot Grove Creek and the remnant part of the rim-and-pit structure. On inspection of the pit rim, it was found that local dirt bike riders have been using the rim as a launching platform for jumps. As a result, there has been significant erosion on both the upper surface and the western face of the structure. On the top of the rim, freshly exposed by dirt bike tracks, was the base of a small ceramic vessel (Figure 2). Subsequent excavation showed the vessel to be a complete jar of the Killough Pinched type (Suhm and Krieger: Plate 41(f); Suhm and Jelks 1962: Plate 46(f)).



Figure 1. Remnant Part of the Rim-and-Pit Structure, Upper Farmersville (41COL34) Site, Collin County, Texas.



Figure 2. Base of Killough Pinched Vessel Exposed on Surface of Rim Structure by Dirt Bike Riders, Upper Farmersville Site, Collin County, Texas.

KILLOUGH PINCHED JAR

The recovered vessel was carefully cleaned using water and a firm brush. A root had grown through one side of the vessel and caused a large pressure crack which resulted in a general weakening of the vessel. As a result, the artifact was in an unstable condition and needed to be strengthened. This was accomplished by coating it with a 90:10 solution of acetone and Duco cement. The restored vessel is shown in Figure 3.



Figure 3. Killough Pinched Vessel from the Upper Farmersville site (41COL34).

The vessel is a small jar, 80.9 mm in height. It has a distinctive form with a small, flat base (45.8 mm across), a gently rounded body and an everted rim with rounded exterior folded lip. Diameter of the orifice is 90.0 mm which slopes inward to an interior opening of 57.3 mm at the base of the rim.

Wall thickness of the vessel varies from 5.0 mm near the rim to 7.5 mm in the main part of the body to approximately 8.0 mm at the base. These data suggest that the vessel appears to have been built from the base upwards to the rim (cf. Krause 2007). As the vessel was almost complete, internal clay characteristics were difficult to observe. However, by placing the root-formed crack under a binocular microscope (20-60x), the temper was judged to be finely-crushed grog; no bone was observed. The color of the vessel is a dark gray-brown (10YR 4/1–10YR 3/2) with the core darker than the surface,

suggesting it had been fired in a low oxygen or reducing environment, and then pulled from the fire to cool, leaving lighter-colored interior and basal surfaces. The base in particular shows some fire mottling (see Figure 2). The interior of the jar is highly smoothed, almost polished in terms of surface treatment.

The vessel has a distinctive decoration that consists of tightly spaced, vertically applied rows which have been carefully pinched end-to-end while the clay was wet to form corn-like patterns (see Figure 3). The rim is separated from the body by a series of narrow horizontal incised lines. These lines appear to have been made by either a bone or wood tool given their nature. A single line of pinch marks occurs immediately below the folded rim. Table 1 below summarizes all the features and measurements of the Upper Farmersville vessel.

Table 1. Measurements / Features of Upper Farmersville Killough Pinched Vessel

Major Attributes	Measurements / Observations
Vessel Type	Jar
Color	Dark Grayish Brown (10YR4/2) to Very Dark Grayish Brown (10YR3/2)
Fire Mottling	Yes
Temper	Grog
Height	80.9 mm
Base	Flat, 45.8 mm
Body	Gently Rounded
Wall Thickness	5.0 mm (Rim) to 7.5 mm (Sides)
Max. Diameter Orifice	90.0 mm
Diameter Base of Rim	57.3 mm
Rim Type	Everted with Exterior Folded Lip
Body Decoration	Vertical, Tightly Spaced Rows
Rim Decoration	3 Horizontal Incised Lines; 1 Horizontal Row of Pinches at Rim

The seriation of Middle Caddo pottery types from burial features on sites in Northeast Texas indicates that Killough Pinched vessels were made by the Caddo in the Upper Neches River basin, the Mid- and Upper-Sabine basin, and in the Big Cypress Creek basin between ca. A.D. 1200-1500 (Perttula 1992; Perttula, et al. 2011). Killough Pinched is most common in the Upper Neches River basin in contexts dating after ca. A.D. 1400 (T. K. Perttula, personal communication, 2014). Other kinds of resident pottery made by these Caddo groups include Poynor Engraved, Bullard Brushed, Maydelle Incised, and LaRue Neck Banded.

CONCLUSIONS

Killough Pinched is one of the Caddo pottery types made primarily by Frankstown Phase Caddo peoples living in the drainage areas of the Upper Neches and Upper Sabine River valleys in northeastern Texas (Perttula, 2007; Perttula, et al., 2011). This includes eastern Anderson and Henderson Counties, northern Cherokee County, southern Smith County and southeastern Van Zandt County. The type has been found as far east as Morris County (Kreiger 1946). The type was not extensively traded to the west like other Caddo pottery types but was traded 100-150 km to the northwest along the Trinity. Ceramic analyses indicate that Killough Pinched was primarily made and used by the Caddo between ca. A.D. 1200 and ca. A.D. 1500, but was particularly abundant after A.D. 1400.

Killough Pinched pottery has been previously identified from three sites along the East Fork including 10 sherds from Upper Farmersville (Harris, 1948), 6 sherds from the Upper Rockwall (41RW2) site (Harris and Suhm 1963; Ross 1966), and 4 sherds from the Butler Hole (41COL2) site (Housewright and Wilson 1942; Housewright et al., 1948). The discovery of the vessel described herein adds to this recorded presence. The occurrence of Killough Pinched vessels in Late Prehistoric sites on the East Fork of the Trinity clearly indicates trade between an East Fork aboriginal group and one of the Neches or Sabine River Caddo groups. Caddo pottery was widely traded across Texas and surrounding states (Perttula 2002: Figure 5.1) in both prehistoric and historic times, especially after about A.D. 1400, when there were apparently periodic contacts and interaction between several different and non-Caddo aboriginal groups and southern Caddo groups.

A total of twelve radiocarbon dates exist from Late Prehistoric sites along the East Fork of the Trinity. While none have been recorded from Upper Farmersville, dates have been obtained from Hogge Bridge (41COL1), Sister Grove Creek (41COL36), and Upper Rockwall (41RW2). All three of these sites have been demonstrated to be culturally identical to Upper Farmersville (Stephenson 1952; Lynott 1974; Ross 1966; Crook and Hughston 2009). These dates span the range from A.D. 950-1590 with the majority being in between A.D. 1160-1330. The discovery of a Killough Pinched vessel at the Upper Farmersville site corroborates these radiocarbon dates and further establishes that the Late Prehistoric inhabitants of the site were present from A.D. 1200-1500.

Lastly, the presence of the vessel in the pit rim at the Upper Farmersville site suggests that it may have been part of a burial complex at one time. The author has shown frequently high status individuals were buried within the rims of the rim-and-pit structures along the East Fork (Crook, 2007; Crook and Hughston 2011). Contrary to what has been previously supposed about the Late Prehistoric of the East Fork (Bruseh and Martin 1987), many of these burials do contain some grave furniture. In particular, the author excavated an adolescent burial from the pit rim at Upper Farmersville in 1973 (Crook 1984). While this burial contained no pottery, a total of 12 items were recovered in direct proximity to the body including 6 circular pecked sandstone balls, a miniature mano, a well-made awl, three bones beads and a small oyster shell containing green pigment (which was later shown by X-ray Power Diffraction to be malachite). In Caddo contexts to the east and southeast of the East Fork, the discovery of such a relatively

small, finely made pottery vessel as described herein would likely accompany the burial of an adolescent of some rank (Timothy K. Perttula, personal communication, 2014). Whether this was true in the case of the Upper Farmersville vessel is unknown as so much of the rim-and-pit structure has now been destroyed by construction and the remaining portion (see Figure 1) is unavailable for excavation.

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A MAYDELLE INCISED JAR FROM THE LOWER ROCKWALL SITE (41RW1), ROCKWALL COUNTY, TEXAS

Wilson W. Crook, III

INTRODUCTION

The author is currently involved in co-writing a detailed re-evaluation of the Late Prehistoric cultures along the East Fork of the Trinity. As part of this work, we have let the local avocational archeology community know that we are interested in seeing any private collections from the East Fork so we can record contextual information as well as the material collected. In 2013, an artifact dealer contacted me saying he had purchased the collection of a Collin County man, now deceased, who had artifacts from a number of the major sites along the East Fork in both Collin and Rockwall counties. Of note, was a group of 34 pottery sherds from the Lower Rockwall site (41RW1) which appeared to be from the same ceramic vessel. The local collector was a known avocational archeologist who kept good site records, so the collection was purchased for its study value.

The Lower Rockwall sherds have now been reconstructed into a partially complete Maydelle Incised jar, a Middle to Late Caddo (ca. A.D. 1200-1500) ceramic type common in the upper drainage system of the Neches, Sulphur, Angelina and Sabine Rivers. This is the first known occurrence of a near complete Maydelle Incised vessel and only the third reported occurrence of the pottery type in any of the Late Prehistoric sites along the East Fork. This paper discusses the characteristics of the vessel, and puts on record further evidence of contact between the Caddo and Late Prehistoric populations living in the Upper Trinity River basin.

LOWER ROCKWALL SITE (41RW1)

The Lower Rockwall site is located in East-Central Rockwall County about 1.5 km (1 mile) southeast of the center of Rockwall. The site was on the east side of the East Fork on a low rise in the river floodplain. A large 24 x 16 meter (80' x 52') rim-and-pit structure was present on the eastern side of the site (Lorrain and Hoffrichter, 1968).

Midden debris was found over an area of approximately 200 x 200 meters (Harris and Suhm, 1963). Members of the Dallas Archeological Society extensively worked the site in the 1940's and 1950's (Hanna, 1942; Harris, 1948; Blair, 1960), recovering a large number of diagnostic Late Prehistoric artifacts. This included one sherd of Maydelle Incised pottery. They also excavated eleven burials, many of which had accompanying grave furniture items (bone awls, dart points, scrapers, etc.).

In anticipation of the construction of Forney Reservoir (later named Lake Ray Hubbard) and the inundation of many East Fork sites, Harris and Suhm (1963) recommended that Lower Rockwall receive high priority for a detailed excavation of its rim-and-pit structure. This excavation was completed in the summer of 1965 with the results published in 1968 (Lorrain and Hoffrichter, 1968). A large number of artifacts were recovered across the site including a near complete Arboles Black-on-White stirrup vessel from North-Central New Mexico (Lorrain and Hoffrichter, 1968; McIntyre and McGregor, 1982). No other complete pottery vessels were found. In 1970 the site was inundated and remains beneath Lake Ray Hubbard today.

MAYDELLE INCISED JAR

The 34 sherds described herein were reportedly collected from the surface of the site on a single day in the early 1960's. There were no associated notes on their discovery and it is unknown if they were found with one of the burials or from what part of the site they came from. None of the breaks are new and many of the edges have undergone extensive weathering and warping making reconstruction of the vessel difficult as edge-to-edge fits are less than precise. Some form of reconstruction had been attempted in the past so each of the sherds were carefully cleaned of old glue using warm water and a firm brush and then hardened in a weak solution of Muriatic acid (HCl). Despite this effort, old stains from some type of cement were still present. After cleaning, individual sherds were measured and studied under a binocular microscope prior to reconstruction. As much of the lower base on one side was missing, restoration without plaster infill was somewhat tenuous but it was still possible to determine the basic shape of the vessel. The temporary reconstruction of the vessel is shown in Figure 1.

The vessel is a medium-sized jar, 121.5 mm in height. It has a distinctive form with a small, flat base (83.2 mm across), a gently rounded body and an everted rim. Diameter of the outermost orifice is 141.2 mm which slopes inward to an interior opening of 128.9 mm at the base of the rim.

Wall thickness of the vessel varies from 10.2 mm at the base, thinning to 8.1-6.5 mm along the sides, and 6.0 mm near the rim. The base, in particular, appears to have been constructed separately from the rest of the vessel. These data suggest that the vessel appears to have been built from the base upwards to the rim (Krause, 2007). It is tempered with fine grit and crushed bone and has a compact clay paste. The color of the vessel varies from dark gray (5YR 4/1) to olive-gray (5YR 4/2) to a grayish-brown (2.5YR 5/2). Cores of the sherds are darker than the surfaces, suggesting the jar had been fired in a low oxygen or reducing environment, and then pulled from the fire to cool. Extensive fire mottling is present over the base and sides of the vessel (see Figures 1 and 2). The interior of the jar is highly smoothed, almost polished in surface treatment. Parts

of the interior have a very greasy sheen, potentially the result of cooking residue (Figure 2).

The vessel has a distinctive decoration pattern that consists of vertical, parallel lines starting near the base and extending upwards to within 32 mm of the rim. Above these lines are a series of diagonal incised lines which are pitched in alternative directions. The areas interior to these diagonals are filled with many small punctations. Above this pattern are three parallel, horizontal incised lines ending immediately below the rim, which is slightly everted (Figure 3). All of these lines appear to have been made by either a bone or wood tool given their nature. The decoration pattern matches perfectly the description for Maydelle Incised as characterized in Suhm and Krieger, 1954 (Plate 46) and Suhm and Jelks, 1962 (Plate 52). Table 1 summarizes all the features and measurements of the Lower Rockwall vessel.



Figure 1. Maydelle Incised Jar from the Lower Rockwall site (41RW1)

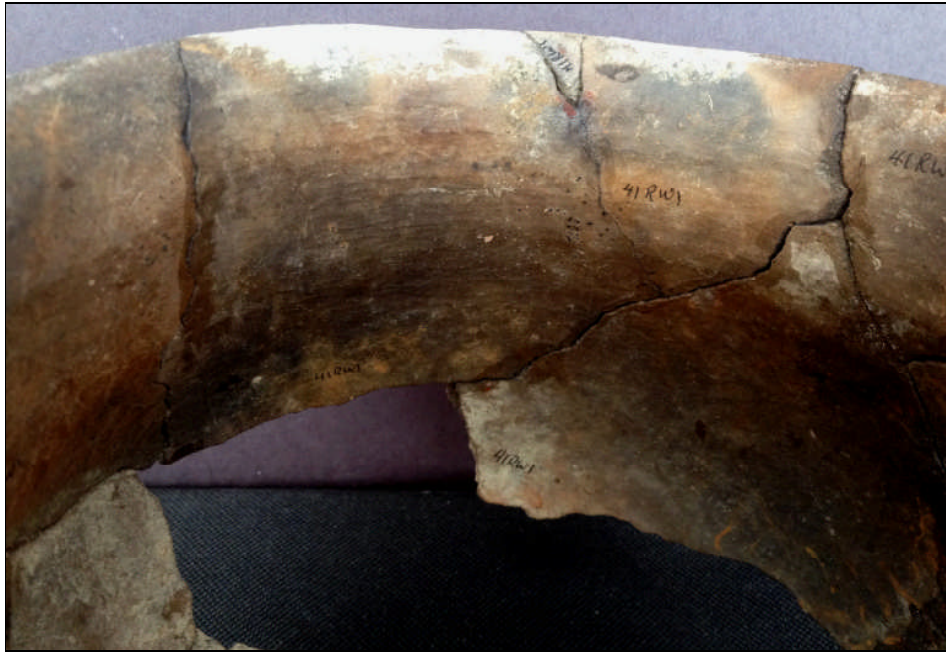


Figure 2. Interior of Lower Rockwall Maydelle Incised Jar showing greasy staining possibly from food residue

The seriation of Middle Caddo pottery types from burial features on sites in Northeast Texas indicates that Maydelle Incised vessels were made by the Caddo in the Upper Neches River basin, the Angelina River basin, the Sabine River basin, and in the Upper Sulphur River basin between ca. A.D. 1200-1500 (Perttula 1992; Perttula, et al., 2011). Moreover, Maydelle Incised was widely traded into Central and Northern Texas among non-ceramic peoples. Other kinds of resident pottery made by these Caddo groups include Poynor Engraved, Bullard Brushed, Killough Pinched, and LaRue Neck Banded.

CONCLUSIONS

Maydelle Incised is one of the Caddo pottery types made primarily by the Frankston Phase Caddo peoples living in the drainage areas of the Upper Neches and Upper Sabine and Sulphur River valleys in northeastern Texas (Perttula, 2007; Perttula, et al., 2011). This includes eastern Anderson and Henderson Counties, northern Cherokee County, southern Smith County and southeastern Van Zandt County. The type, like Poynor Engraved, was extensively traded to the south, west and north including along the Trinity. Ceramic analyses indicate that Maydelle Incised was primarily made and used by the Caddo between ca. A.D. 1200 and ca. A.D. 1500.

Maydelle Incised pottery has been previously identified from two sites along the East Fork including 2 sherds from the Upper Rockwall (412RW2) site (Ross, 1966), and a single sherd from the Lower Rockwall site (Harris and Suhm, 1963). The inclusion of

the vessel described herein significantly adds to this recorded presence. The occurrence of Maydelle Incised vessels in Late Prehistoric sites on the East Fork of the Trinity clearly indicates established trade between an East Fork aboriginal group and one of the Neches, Sabine or Sulphur River Caddo groups. Caddo pottery was widely traded across Texas and surrounding states (Perttula 2002: Figure 5.1) in both prehistoric and historic times, especially after about A.D. 1400, when there were apparently periodic contacts and interaction between several different and non-Caddo aboriginal groups and southern Caddo groups.



Figure 3. Detail of Decoration on Maydelle Incised Jar from the Lower Rockwall site (41RW1)

No radiocarbon dates have been obtained from the Lower Rockwall site. However, two dates were obtained from the Upper Rockwall site 3 miles to the north. Upper Rockwall has been shown to be culturally identical to Lower Rockwall (Harris, 1948; Ross, 1966; Lorrain and Hoffrichter, 1968). These dates range from A.D. 1020 to A.D. 1330 (Ross, 1966; Lynott, 1974, 1978), well within the age range established in East Texas for Maydelle Incised pottery.

Table 1. Measurements / Features of Lower Rockwall Maydelle Incised Jar

Major Attributes	Measurements / Observations
Vessel Type	Jar
Color	Dark Gray (5YR4/1) to Olive Gray (5YR4/2) to Grayish-Brown (2.5YR 5/2)
Fire Mottling	Extensive
Temper	Grit / Bone
Height	121.5 mm
Base	Flat, 83.2 mm
Body	Gently Rounded
Wall Thickness	10.2 mm (Base); 6.5-8.1 mm (Wall); 6.0 mm (Rim)
Max. Diameter Orifice	141.2 mm
Diameter Base of Rim	128.9 mm
Rim Type	Everted
Body Decoration	Vertical, Parallel Incised Lines from Base to within 32 mm of Rim
Rim Decoration	Diagonal Incised Lines Pitched in Alternate Directions with Punctates Filling Areas Between Them; 3 Parallel, Horizontal Lines Below Rim

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A SMALL LITHIC CACHE FROM NEAR LAKE LAVON, COLLIN COUNTY, TEXAS

Wilson W. Crook, III

INTRODUCTION

In 2007, the author described a unique zoomorphic chipped stone artifact that was found on the east side of Lake Lavon in Collin County (Crook 2007c). The artifact's discoverer, Mr. David Scott McDonald of Nevada, Texas, had been walking cross-country back toward his home in the town of Nevada to get fuel for his car. The artifact was seen eroding out near a small tributary of Price Creek just to the east of old Highway 78. Mr. McDonald collected the artifact, but having left his vehicle back near the intersection of Highways 78 and 6, he did not have time to explore the area further for additional material and context. While always meaning to return, other priorities intervened and a follow-up visit to the site was postponed.

Some three years later, Mr. McDonald who is a long-time resident of the area and an avid avocational archeologist, returned to the site and conducted a detailed exploration of the area where the zoomorphic artifact was found. Approximately 3 meters from the artifact's location, Mr. McDonald found a small cluster of artifacts partially exposed. Carefully clearing the surface soil revealed the presence of four artifacts in a small cache. A fifth artifact, a circular scraper, was found a few meters away. Further exploration of the area failed to reveal any additional artifacts including debitage.

The artifacts recovered by Mr. McDonald in the cache consisted of four small quartzite bifaces of roughly equal size. Thus the six artifacts recovered from the area (the four bifaces, the circular scraper plus the zoomorphic chipped stone artifact) appear to be part of an isolated cache and not part of a larger occupation. Mr. McDonald has graciously allowed the writer to study the entire collection in detail. This paper serves to record their description and occurrence.

CACHE LOCATION

The location of the cache is on the southeast side of Lake Lavon in eastern Collin County. The cache was found immediately east of Old Highway 78 (which is just east and parallel to current Highway 78) on the south side of the bridge which crosses an arm of Lake Lavon where Price Creek empties into the lake. Elevation of the location is 158 meters (519').

The four bifaces were found essentially together in a cluster about 8 x 8 cm in size; the circular scraper was about two meters away. As mentioned above, the chipped stone zoomorphic artifact was found in the same area about 3 meters from the location of the cache. Whether all 6 artifacts are part of the same cache is uncertain, but the total lack of any other artifacts in the area, including debitage, makes it a distinct possibility.

ARTIFACT DESCRIPTION AND ANALYSIS

As noted above, the McDonald cache consists of four ovoid shaped bifaces and one circular scraper (Figure 1). All five artifacts are constructed of local Ogallala gravel quartzite (Byrd 1971; Menzer and Slaughter 1971). Color ranges from a waxy red-gray to reddish-brown; the reddish color and waxy appearance likely due to heat treating. Thin red hematitic streaks are also common along micro-fractures. Minor cortex was observed on only one specimen (Biface #1) and then only on less than 10% of one surface.

Maximum dimensions of the five artifacts are listed in Table 1. As can be seen, the four bifaces not only have the same general ovoid-leaf shape but are of similar dimensions. In fact, excluding Biface #4, the other three artifacts are within 5% of each other in terms of maximum length and width. This is likely not accidental but instead represents purposeful construction for some reason. Moreover, their general shape is almost identical, with a nearly vertical right lateral edge and a slightly convex left lateral edge (see Figure 1) as if the left edge was designed as the working face (cutting and/or scraping) face. The scraper is also very equi-dimensional making it a nearly perfect circle (41.7 x 41.0 mm). There is a large knot on the proximal end of the dorsal surface which results in the 15.1 mm maximum thickness. Away from the knot, average thickness across the tool is on the order of 8-10 mm.



Figure 1. Contents of the McDonald Lithic Cache, Lake Lavon, Collin County, Texas.
 Left-to-Right: Biface #1-4, Circular Scraper.
 Note the intense coloration from heat-treating, the similar size of the biface, and their straight right lateral edge and convex left lateral edge.

Table 1. Physical Measurements of the Lavon Cache Artifacts.

Artifact	Length (mm)	Width (mm)	Thickness (mm)	Weight (gm)	Color	Material
Biface #1	55.0	23.1	11.0	17.8	2.5 YR 5/4-4/4 Reddish-Brown	Quartzite
Biface #2	53.9	21.5	10.0	13.2	10 YR 6/1 Reddish-Gray	Quartzite
Biface #3	52.9	21.1	9.4	12.4	2.5 YR 5/4-4/4 Reddish-Brown	Quartzite
Biface #4	45.1	22.6	10.1	9.5	2.5 YR 6/1-7/1 Red-Gray	Quartzite
<i>Average</i>	<i>51.8</i>	<i>21.8</i>	<i>10.1</i>	<i>13.2</i>		
<i>Range</i>	<i>45-55</i>	<i>21-23</i>	<i>9-11</i>	<i>10-18</i>		
Circular Scraper	41.7	41.0	15.1	29.3	2.5 Y 6/2-7/2 Lt. Grayish-Brown	Quartzite

Microscopic examination of the artifacts at 20-200x shows no observable use wear, either from hafting polish or edge wear. This is true for both the four bifaces as well as the circular scraper. The lack of any use wear on any of the artifacts supports the theory that they were constructed, buried together as a small cache, and then never recovered and used.

CONCLUSIONS

Lithic caches are known from virtually every occupational time period across Texas (Miller 1993). The practice of caching artifacts is believed to be due to the fact that the distribution of lithic raw material suitable for making sharp edged tools is not uniform across the state (Banks 1990). The area of the East Fork of the Trinity drainage is particularly so being limited mainly to a few local cobble fields which contain predominantly orthoquartzite. The cobble fields are the remains of ancient Pliocene outwash fans from the Rocky Mountains which have been picked up and reworked in Pleistocene and Holocene streams (Banks 1990). They were subsequently collected in stream beds and gravel outcrops by Archaic, Woodland and Late Prehistoric groups as raw material for chipped stone tools.

As a lithic raw material orthoquartzite is difficult to work with even if heat treated (Peter and McGregor 1987). Heat treating clearly facilitates workability, a characteristic that is reflected in the yellow to reddish color seen in many of the East Fork's quartzite artifacts. All six of the McDonald cache artifacts have been extensively heat-treated resulting in a waxy sheen in addition to the reddish coloration.

While caches of lithic material have been discovered in North-Central and Northeast Texas, they are typically of high quality chert from the Edwards Plateau (Miller 1993; Crook and Hughston 2011). Caches of quartzite are rare; the most prominent being a cache of 28 equi-sized, heat-treated pear-shaped artifacts found at the Tunier Farm (41HP237) in Hopkins County (Shafer and Green 2008). These were determined to be probable blanks for Gary points and of Late Woodland (1-600 AD) age (Shafer and Green 2008). The McDonald cache described herein would constitute another occurrence of cached orthoquartzite lithics.

Given the lack of use wear on any of the artifacts, their apparent burial together, and their complete lack of association with any known site in the area, all lend credence to the idea that they represent a small lithic cache. This presumption is further supported by the biface components' near equal size. The bifaces could either have been constructed as intentional end-use tools (knives) and/or could have been blanks left for final reduction and completion into smaller tools such as arrow points. The purpose of the association of the chipped stone zoomorphic artifact and the scraper with the four other bifaces is unknown.

Absent any direct association with either arrow points or ceramics makes determination of a cultural affiliation with the cache problematical. Similar sized bifaces and scrapers have been found in Terminal Archaic, Late Woodland and Late Prehistoric assemblages in the area (Cliff 1998; Crook 2007a; 2007b; Crook and Hughston 1972; 2009; Lynott 1974). However, the presence of the zoomorphic chipped stone artifact, constructed of Arkansas novaculite (Crook, 2007c), lends weight to the age being either

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Late Woodland or more likely Late Prehistoric period when extensive trade networks with East Texas were in play.

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UNIQUE TRADE ITEMS AND/OR “PICK-UP” ARTIFACTS FROM SITES ALONG THE EAST FORK

Wilson W. Crook, III

INTRODUCTION

Late Prehistoric sites along the East Fork of the Trinity River have from time to time produced some unusual, one-of-a-kind artifacts. At the Lower Rockwall (41RW1) site, Lorrain and Hoffrichter (1968) found a near-complete Arboles Black-on-White stirrup vessel, whose origins were shown to be in North-Central New Mexico some 1,500 km to the west. Likewise, immediately west of the Branch (41COL9) site the writer found a small concentration of Puebloan pottery and bead-making equipment including turquoise nuggets, red coral, drills, and a drill platform (Crook 1985). Journey and Young (1995) as well as Crook (2013) have noted similar occurrences of turquoise, obsidian and Puebloan pottery at other East Fork sites. All of these occurrences are evidence of long-distance trade to the west.

Trade with the main Caddo area to the east/southeast has produced several Sanders, Alto, and Frankston phase pottery vessels and other items not commonly found in East Fork sites. In particular, Harris (1945; 1948) reported on a Sanders Engraved water bottle and a cache of eight bison scapula hoes from two burials at the Upper Farmersville (41COL34) site. More recently, a complete Killough Pinched vessel has been found from the same site (Crook n.d.). In fact, over 20 Caddoan pottery types have been recognized from the East Fork, all of which are the product of trade.

Exotic lithic material was also sought out and traded for by the prehistoric inhabitants of the East Fork. The author excavated a cache of some 64 arrow points from the Upper Farmersville site in 1973, many of which were constructed of cherts and novaculite from southern Arkansas (Crook 2009).

Currently the author is involved in co-writing a detailed re-evaluation of the Late Prehistoric cultures along the East Fork of the Trinity. As part of this work, we have examined every artifact from the collections of all previous excavations from 1948-1974, as well as artifacts from the collections of major avocational archeologists in the area. Collectively, these represent over 30,000 artifacts.

In addition to the recognized diagnostic lithic, ceramic, bone and shell artifacts, a number of unique items including fossils, quartz crystals, concretions and rocks with natural holes have been recovered. Many of these items do not occur naturally in the area and in fact are found a considerable distance (>100 km or more) from the East Fork. As such, they represent evidence of either long distance trade and/or pick-ups from hunting forays. This paper documents the occurrence of these artifacts and attempts to demonstrate a probable location of their origin.

ARTIFACT DESCRIPTION AND ANALYSIS

As mentioned above, some of unusual lithic artifacts found in East Fork sites are clearly of local origin. Items such as ironstone concretions, rocks with natural holes in them, can be found in the gravels present in both the East Fork and its tributaries (as well as

downstream along the main branch of the Trinity) (Thurmond 1967; Byrd 1971; Menzer and Slaughter 1971). It is unknown if after collection these items were subsequently used for pendants. The author has examined a few naturally-holed rocks found in Late Prehistoric sites along the East Fork under a binocular microscope and found no evidence of wear patterns within the hole. So their occurrence remains problematical.

Other unusual items found in East Fork sites include fossils and mineral specimens. The most common fossils present are Cretaceous age pelecypods, mainly oyster shells. Examples of *Gryphaea washitaensis*, *Graphaea graysonana*, *Exogira texana* and *Exogyra ponderosa* have been found in a number of sites, including Upper Farmersville (412COL34), Mantooth (41COL167), Sister Grove (41COL36), Hogge Bridge (41COL1), Butler Hole (41COL2), Thompson Lake (41COL3), Upper Rockwall (41RW2), Lower Rockwall (41RW1), Randle (41RW10) and Gilkey Hill (41KF42). In particular, a small specimen of *Gryphaea washitaensis* coated with malachite ($\text{Cu}_2(\text{CO}_3)_2(\text{OH})_2$) was found in an adolescent burial at the Upper Farmersville site, apparently as a miniature paint pot (Crook 1984) (Figure 1). Similar but larger pelecypod fossils have been found at Upper Farmersville and other sites with red ochre in them (Crook and Hughston, 2009). Figure 2 (Top Row, middle) shows a *Gryphaea washitaensis* fossil found at the Mantooth site (41COL167). Lastly, a single specimen of *Neithea texana*, a Pecten-type Cretaceous pelecypod was found in the midden at the Randle site (41RW10).

All of the above referenced pelecypod species can be found in the Upper and Lower Cretaceous rocks (Austin Chalk, Taylor Marl, Fort Worth Formation, etc.) found in Collin and the surrounding counties (Grayson, Hunt, Dallas, Tarrant) (Matthews 1960; Finsley 1999).

Other fossils found in Late Prehistoric sites include various casts of ammonites (typically on pieces of Austin Chalk), individual crinoid columnals, corals, and shark's teeth. Crinoid columnals have been found drilled out and coated with red ochre potentially for use for beads at the Branch site (Crook 1985). Crinoid species are virtually impossible to identify from single columnal (Finsley 1999); however, the color and shape of the Branch artifacts are identical to crinoids found around the edge of Lake Bridgeport in Wise County, 150 km to the west (Boston 1998).

A single solitary (rugosid) coral was found at the Lower Rockwall site (see Figure 2, Top Row, left). Examination shows it to be a member of the genus *Lophophyllidium*, a small Pennsylvanian to Permian solitary coral found prominently around Lake Bridgeport (Boston 1998; Finsley 1999). The presence of a number of external tubercles (see Figure 2) lends support that the specimen is probably *Lophophyllidium spinosum*.



Figure 1. Small Fossil Pelecypod with Malachite Staining from a Juvenile Burial at the Upper Farmersville site, Collin County, Texas (top left in small box)

Lastly, a number of shark's teeth have been found in midden material at several East Fork sites. A number of different genera are represented including *Leptostyrax* (probably *Leptostyrax crassidens*), *Cretoxyrhina sp.*, *Cretodus sp.* (Lamnoid shark), and *Squalicorax* (probably *Squalicorax falcatus*) (Tiger shark). All of these can be found in the Upper (Austin Chalk, Eagle Ford Shale, Navarro Formation) and Lower (Fort Worth Formation) Cretaceous units which crop out in north-central Texas. While many of these can be found in Collin County, the best exposures which have produced abundant shark's teeth are found in Dallas and Tarrant counties 50 km (32 miles) to the southwest. Examples of various sharks' teeth from East Fork sites can be seen in Figure 2 (Middle and Bottom Rows).

In addition to unusual natural rocks and fossils, several examples of mineral specimens have been found throughout the region. The most common of these are red and yellow ochre, which are the minerals hematite (Fe_2O_3) and limonite ($\text{FeO}(\text{OH})\cdot n\text{H}_2\text{O}$), respectively. Both can be found locally in the East Fork and its tributaries as well as in all the river beds to the east (Sulphur and Sabine Rivers and their tributaries). As mentioned above, one fossil oyster shell found at the Upper Farmersville site was filled with a green ochre which X-Ray Power Diffraction showed to be the mineral malachite ($\text{Cu}_2(\text{CO}_3)_2(\text{OH})_2$) (see Figure 1). Malachite is completely unknown in the area of the East Fork, as well as all of north-central Texas. The closest locations are in the Central Mineral Region (Pavitt-White Eagle Mine, Burnet County) and north-central Oklahoma (Pawnee and adjacent Counties) (Heine 1975; Sellards and Baker 1934). Both are about 400 km (250+ miles) in distance.

A few specimens of the mineral galena (PbS) were reported from Branch (Robert L. Stephenson and R. K. Harris, personal communication, 1973) and from the Randle site (unpublished notes of Lester L. Wilson). The specimens from Branch were not present in

the River Basin Survey collections at the Texas Archeological Research Laboratory (TARL), but two small fragments were observed in the Housewright-Wilson-Vance collection from the Randle site. Small deformed galena crystals can be found in and around the edge of present day Lake Buchanan in central Texas (Llano and Burnet Counties) as well as small veins at the Pavitte Mine in Burnet County, 400 km the Randle and Branch (Sellards and Baker 1934). It is also present in the Tri-State district of extreme northeast Oklahoma-Northwest Arkansas-southwest Missouri, over 500 km (325 miles) to the north. The specimen in the collections from the Randle site appears much more similar to the Tri-State material in both crystal form and color.

Lastly, several quartz crystals have been recovered from Upper Farmersville, Branch and both Upper and Lower Rockwall. The crystals are relatively small, ranging from 25 to 40 mm in length, are terminated (often bi-terminated – See Figure 2, Top Row, right), and unusually clear from inclusions. The latter distinguishes them as “rock crystal” as opposed to “milky” quartz. Quartz occurs throughout Texas and the surrounding states but the only locality which produces specimens of the same crystal clear quality as those observed from the East Fork are the quartz crystal deposits in and around Hot Springs, Arkansas, 400 km (250+ miles) to the northeast (Engel 1951).

CONCLUSIONS

Some of the artifacts described above do occur within Collin and Rockwall Counties and could easily have been found and brought back to sites by the Late Prehistoric inhabitants of the East Fork. However, an even larger number must be the product of either long distance trade and/or are “pick-ups” by the local inhabitants on long distance hunting or raw material forays. For example, the presence of bison bone in the East Fork sites (Harris 1948; Lynott 1974; Crook and Hughston 2009) shows that the Later Prehistoric peoples of the East Fork did make periodic, if not seasonal, hunting trips to the plains to the west for buffalo. These trips could have easily taken them through Dallas, Denton and Tarrant counties where many of the best collecting sites for Cretaceous age fossils (pelecypods, shark’s teeth) are found. Moreover, such hunting trips could also have easily taken them as far west as the prairie plains around Wise County (150 km) where extensive Pennsylvanian and Permian age fossils (crinoids, corals, etc.) litter the surface. Alternatively, the Late Prehistoric sites along the East Fork have a large amount of shell-tempered Nocona Plain pottery, believed to be almost exclusively the product of trade with the plains peoples to the west (Crook and Hughston 2008). The fossils from the areas west of Collin County could have also been brought in through trade.

Trade between the East Fork and the Caddo areas both to the east and southeast is well known (Lynott 1974; Crook 2007; Crook and Hughston 2009; Crook and Perttula 2008). Likewise, trade between various Caddo area as well as between Caddo areas and the Mississippian areas to the northeast is also well established (Brown et. al. 1990; Perttula 2002). While ceramics and lithic and wood raw materials were probably the focus of this trade, objects of ornamentation and power such as beads, gorgets, etc. were also major items of trade (Perttula 2002; Schambach 1995; 2001; 2002). Among these items of special significance were unique looking fossils, such as shark’s teeth, ammonites, corals, crinoid columnals, etc. (Schambach 1995).



Figure 2. Examples of Unique Trade and/or “Pick-Up” Items found in
Late Prehistoric Sites of the East Fork

Top Row Left to Right: Rugosid Coral (*Lophophyllidium spinosum*) – Lower Rockwall Site, Pelecypod (*Gryphaea washitaensis*) – Mantooth Site, Quartz Crystal – Upper Farmersville Site

Middle Row Left to Right: Tiger Shark’s Teeth (*Squalicorax falcatus*) - Lower Rockwall Site (2), *Leptostyrax sp.*, from the Glen Hill Site, *Cretoxyrhina sp.* from the Upper Rockwall Site

Bottom Row Left to Right: Shark’s Teeth (*Cretodus sp.*) – Lower Rockwall Site, Upper Rockwall Site

Mineral samples were also traded, again as sources of raw materials for ochre or paint (hematite, limonite, malachite, galena, etc.). Galena was especially valued, and has been found in large quantities in the burials at Spiro (Craig Mound) (Hamilton 1952; Merriam and Merriam 2004). In addition, high quality quartz crystals, especially those from the Hot Springs area of Arkansas, had high value as objects of great power (Timothy, K. Perttula, personal communication, 2014).

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Schambach (1995), Bruseth et. al. (1995) and others have postulated that major sites along the Red River in Texas, such as the Sanders site (41LR2), could have served as a Spiroan entrepots for trade between the two regions. It is intriguing that the unique fossil and mineral artifacts described above have almost exclusively come from the largest sites along the East Fork (Upper Farmersville, Branch, Upper Rockwall and Lower Rockwall). It is probable that these sites were the centers of trade between the East Fork and the people both to the west and east of the region, thus serving as the principal entrepots for the East Fork.

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AN ENGRAVED SLATE GORGET FROM THE UPPER ROCKWALL SITE (41RW2), ROCKWALL COUNTY, TEXAS

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INTRODUCTION

An engraved gorget made of slate was recovered in eastern North Central Texas from the Upper Rockwall (41RW2) site in Rockwall County. While stone gorgets have been found in a number of Late Prehistoric sites along the East Fork of the Trinity, this is the first known occurrence of one constructed from slate as well as one with extensive engravings. Origin of the gorget is clearly from outside the region of the East Fork and as such, likely represents a valued trade item. This is further reinforced by the fact that after breakage, a third perforation was drilled in order to salvage the remaining part of the artifact. Based on the location of the find within the Upper Rockwall site, the artifact was at one time probably associated with the burial of a high status individual. This paper describes the find in detail and puts on record further evidence of contact between the Late Prehistoric populations living in the Upper Trinity River basin and peoples to the northeast.

UPPER ROCKWALL SITE (41RW2)

The Upper Rockwall site is located in east-central Rockwall County about 4 km (2.5 miles) northwest of the city center of Rockwall. The site lies on a slight rise above the floodplain on the east side of the East Fork of the Trinity River (Lynott 1974). To the east of the site is a prominent terrace which overlooks the main occupational area. A large 27 x 21 meter (90' x 70') northeast-to-southwest trending rim-and-pit structure was built into this terrace (Ross 1966). Thick (up to 120 cm) midden debris was found over an extremely large area of approximately 365 x 135 meters (1,200' x 450') (Harris and Suhm 1963). Members of the Dallas Archeological Society extensively worked the site in the 1940's and 1950's (Hanna 1942; Harris 1948), recovering a large number of diagnostic Late Prehistoric artifacts. This included one gorget made from banded limonite ($\text{FeO}(\text{OH}) \cdot n\text{H}_2\text{O}$). They also excavated ten burials, several of which had accompanying grave furniture items (bone needles, awls, dart points, arrow points, conch shell beads, etc.) (Harris 1960; Wilson and Vance 1989).

In anticipation of the construction of Forney Reservoir (later named Lake Ray Hubbard) and the inundation of many East Fork sites, Harris and Suhm (1963) recommended that the Upper Rockwall site receive high priority for a detailed excavation of its rim-and-pit structure. This excavation was completed in the summer of 1965 with the results published the following year (Ross 1966). A large number of artifacts were recovered in and around the rim-and-pit structure. Two additional burials were excavated which produced a Sanders Engraved bowl and over 500 shell beads (Ross 1966). In 1970, the site was inundated ending all archeological investigation.

The extended drought over the last several years has significantly affected the lakes along the East Fork of the Trinity with both Lake Lavon (Collin County) and Lake Ray Hubbard (Rockwall and Dallas counties) now being well below conservation levels (National Weather Service 2014). As a result, the easternmost side of the Upper Rockwall site, including the area of the rim-and-pit structure, has become exposed (Figure 1).



Figure 1. Upper Rockwall (41RW2) site, Rockwall County, Texas looking south. All the ground to the right of the terrace has been under Lake Ray Hubbard (right) since 1970. The gorget was found just to the right of the terrace at the left side of the photo.

Over 40 years of wave action has severely deflated the site including eroding most of the surface evidence of the rim-and-pit structure. This erosion has exposed several sets of human remains on the surface. AR Consultants, Inc. was contracted by the City of Dallas (who controls the lake as part of its city water supply) to conduct a cultural resource management assessment of the site including proper reburial of all human remains. In November of 2013, the authors visited the site to make an initial assessment of cultural features present, amount of the site exposed, etc. In the area where the rim-and-pit structure was believed to have been located, part of an engraved slate gorget was recovered.

ENGRAVED SLATE GORGET

The recovered artifact was carefully cleaned using water and a firm brush. Both the obverse and reverse faces of the cleaned gorget are shown below in Figure 2.



Figure 2. Engraved Slate Gorget from the Upper Rockwall site (41RW2) with obverse face (bottom) and reverse face (top) (Photograph by Lance K. Trask).

The artifact is constructed of fine-grain slate and is light gray (N7) to medium gray (N6/5) in color. It is ovoid in shape, 65 mm in length by 28 mm in width, and ground and polished to form a thin edge all the way around. Maximum thickness is 3.5 mm near the center of the artifact; less than 1 mm at its edge. The gorget was originally more spherical in shape with two perforations drilled near the center. Sometime during its lifetime, the artifact was broken through its centerline and a third hole was drilled near one edge in order to maintain its usefulness. This likely resulted in the gorget being worn vertically as opposed to its original horizontal position. Diameters of the original holes are 5.0 and 5.5 mm, respectively. Diameter of the third hole (see Figure 2, left hole) is 7 mm with an actual perforation of 3 x 4 mm. All three perforations show evidence of having been drilled from both sides, meeting in the middle.

Two concentric circles were engraved around one of the original center holes. In addition, at least two and possibly a third ladder-like structure were engraved on the obverse face from the center of the gorget to the edge. A number of other marks are present on both faces but it is impossible to ascertain if they are intentional and/or represent use wear over time and subsequent burial and erosion. A detailed line drawing of the gorget is shown in Figure 3 which clearly shows the drill cones on both faces for each of the three perforations, as well as the ladder-like structures on the obverse face. A summary of the physical measurements of the artifact is presented in Table 1.

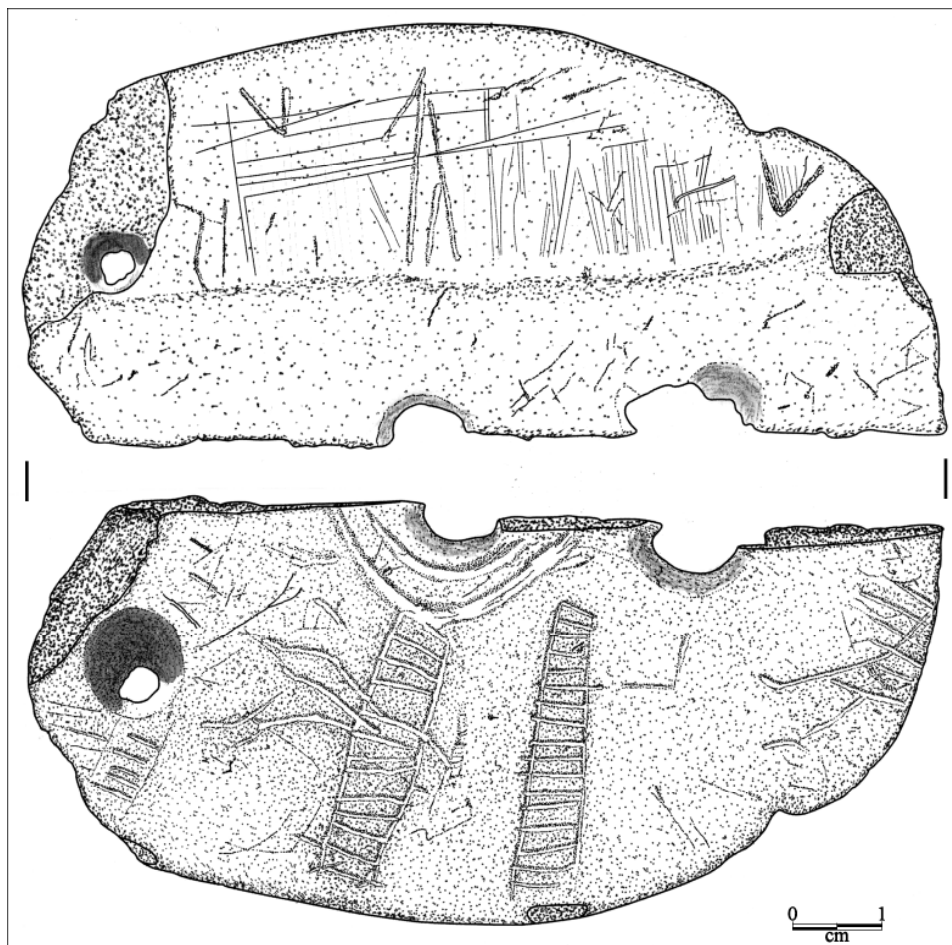


Figure 3. Line Drawing of Engraved Slate Gorget from the Upper Rockwall site (41RW2) with obverse face (bottom) and reverse face (top). (Drawings by Lance K. Trask.)

Table 1. Measurements / Features of Upper Rockwall Engraved Slate Gorget

Major Features	Measurements / Observations
Shape	Ovoid
Edges	Polished from center on both faces to create a thin edge
Length	65.0 mm
Width	28.0 mm
Thickness	3.5 mm (maximum)
Color	Light Gray (N7) to Medium Gray (N6/5)
Diameter Center Hole	5.0 mm
Diameter Right Hole	5.5 mm
Diameter Left Hole	7.0 mm (actual perforation is 3 x 4 mm)
Obverse Decoration	Two concentric circles around center hole; Two ladder structures from central hole to gorget edge; possible other marks on both obverse and reverse faces

CONCLUSIONS

Gorgetts are a rare but consistent component of the lithic assemblages from sites along the East Fork and its tributaries (Crook and Hughston 2008). In particular, five gorgets have been found at Butler Hole (41COL2), 1 from Branch (41COL9), 12 from Upper Farmersville (41COL34), 2 from Upper Rockwall (41RW2), and 5 from Gilkey Hill (41KF42/41DL406) (Harris, et al. 1948; Harris and Suhm 1963; Crook and Hughston 2009; Crook 2011). Without exception, these artifacts are ovoid in shape and have two drilled holes; the latter are positioned variously from artifact to artifact such that some could be worn horizontally and others vertically. Lithic material varies from sandstone to limestone to banded limonite. All are polished to one degree or another. Other than the two perforations, no other markings have been observed on any of the artifacts.

As mentioned above, the Upper Rockwall gorget is made of a fine-grained slate. The nearest outcrops of slate to the East Fork are the Central Mineral Region of Texas (Llano and Burnet counties) and the Ouachita fold belt in eastern Oklahoma and western Arkansas. With regards to the former, much of the slate found in Central Texas is really not true slate but rather siliceous argillite and/or graphitic schists that grade into slate (Sellards and Baker 1934). Conversely, in Southeastern Oklahoma, Paleozoic shales (Silurian Missouri Mountain Formation) have been intensely folded and metamorphosed into fine-grained, high quality slates. This is especially true in East-Central McCurtain County where slate outcrops up to 5 meters (15') have been exploited both in Prehistoric

and Historic times (Davis 1960). In fact, to this day, the area has a Slate Creek and slate roofing companies prominently advertise locally. Distance from the slate outcrops to the Upper Rockwall site is approximately 260 km (160 miles).

Lintz and Zahai (1985) in their study of ground stone gorgets throughout Oklahoma have noted a number of occurrences, especially in eastern Oklahoma. Gorgets have been found constructed from several raw materials, but slate and silicified shales seem to be preferred toolstone. In particular, there is some indication that a gorget manufacturing area may have existed in parts of McCurtain County as exemplified by the Lamas Branch site (Don G. Wykoff, personal communication, 2013). Typically a rough preform would be shaped by percussion using a hammerstone and then finished by polishing and grinding (Lintz and Zahai 1985). "Talley marks" are sometimes present on the edges along with other symbols including the ladder motif seen on the Upper Rockwall artifact. Gorgets that were broken were commonly salvaged by retaining the larger remaining portion and adding new perforations (Lintz and Zahai 1985).

Similar slate gorgets have been found in a few Caddo sites in East Texas. Walters (2011), for example, notes several examples found in Gregg County, 200 km (125 miles) to the southeast of the Upper Rockwall site. While they do not have the engravings found on the artifact described herein, they are ovoid in shape, have been broken and repaired, with a third perforation added.

Gorgets in Oklahoma have been found in both Late Woodland and Late Prehistoric (Caddo/Mississippian) contexts (Lintz and Zahai 1985; Schambach 1998; 2001; 2002). Trade between the East Fork and the Caddo areas both to the east and southeast is well known (Lynott 1974; Crook and Hughston 2008; 2009). Likewise, trade between various Caddo areas as well as between Caddo areas and the Mississippian areas to the northeast is also well established (Brown, et. al. 1990; Perttula 1992; 2002). While ceramics and lithic and wood raw materials were probably the focus of this trade, objects of ornamentation and power such as beads, gorgets, etc. were also major items of trade (Perttula 2002; Schambach 1995, 2001, 2002).

Schambach (1995), Bruseth et al. (1995) and others have postulated that major sites along the Red River in Texas, such as the Sanders site (41LR2), could have served as a Spiroan entrepots for trade between the two regions. It is intriguing that the engraved gorget described above comes from one of the largest sites along the East Fork. It is probable that Upper Rockwall, along with other sites like Upper Farmersville, Branch, and Lower Rockwall, served as centers of trade between the East Fork and the peoples east of the region, thus serving as the principal entrepots for the East Fork.

Lastly, the presence of the gorget in the area where the rim-and-pit structure was located at the Upper Rockwall site suggests that it could have been part of a burial complex at one time. Crook and Hughston (2008; 2009) have shown that high status individuals were frequently buried within the rims of the pit structures along the East Fork. Contrary to what has been previously supposed about the Late Prehistoric of the East Fork (Stephenson 1950; Bruseth and Martin 1987), many of these burials do contain some grave furniture items. A rare item such as an engraved gorget must have had considerable significance as an object of power and status, and as such, would have likely been buried with its owner upon his death.

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