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Cover illustration: the Zimms site house pattern from Scott Brosowske’s article, this issue.

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From the Editors’ Digs

Happy Autumn to all of you. It seems we are coming up to a very busy time of the year with lots of interesting activities on the horizon.

The Fall Survey is planned for Lake Murray from October 11-14. This is the third and probably final year for the Lake Murray survey. It’s a beautiful area and a great time to be out. This is important work, folks. According to Dave Morgan, over 50 sites have been added to the site files at the Oklahoma Archeological Survey based on the OAS Fall Surveys at Lake Murray. There’s more information and a sign up sheet in the back of this issue of Oklahoma Archeology.

The Plains Conference will be hosted this year by the Oklahoma Archeological Survey in Oklahoma City at the Biltmore Hotel from October 23-26. If you’ve never attended a professional archeological conference, this is a great opportunity to hear about current research all over the Great Plains. Contact Rich Drass (405-325-7246 or rdrass@ou.edu) for more information.

Our own Fall Meeting is planned for that same weekend. You can read more about a fantastic line-up of speakers on page 8 of this issue.

We’ve got our first in a series of articles called Society Spotlight featuring OAS members. Our first spotlight is on Loy and John Flick, two long-time Society members. Rich and I finally figured out we’re doing this Spotlight mostly ‘cause it gives us a good reason to go visit some old friends around the state. However … we hope you’ll enjoy reading about fellow Society members. If you’ve got someone you’d like to see appear in the Spotlight, send us their names and we’ll do the rest. Thanks.

Mary Ann Drass
Richard Drass
June 15, 2002

Screenings from the Fourth Level

Hello, everybody. We had a very successful dig at Jake Bluff since a lot of folks showed up to help out. The road ("road" is stretching the definition thereof by a considerable amount) in from the main county road to the dig site is likely to be the source of stories told around the campfires and restaurant tables for a long time. Anyway, it appears that the discovery of Clovis tools are likely to make the site a very important and historic one.

I hope that everyone has had a good summer, not too hot and with at least some rain. The October meeting is shaping up with a report on Jake Bluff and with other speakers from the Plains Conference. I hope to see all of you there.

--- Dale McHard

Welcome to the Society

New Members, 06/01/2002 through 08/15/2002

Contributing
Eric G. & Tyler G. Brown, Norman
Carolyn Dowers, Edmond
Amy Martin, Stillwater

Active
John & William Carter, OKC
Richard O. & Martha J. Proctor, Paris, TX
David C. Reed, Burneyville
Gayle Snider, OKC
Jana, Karl, & Heidi Zettl, Allen, TX

Note from Pete Thurmond: Volume 47 of the OAS Bulletin and OAS Memoir 5 went out of print during the first quarter of 2002. Publications available from the Society can be viewed on the Society website: www.okarcheology.org
I am very much a creek walker when it comes to finding artifacts. Back home in Natchez, Mississippi, I would walk the bayous (as the Natchez Indians called rivers) and creeks. My wife and I were camped out at Keystone Lake just a few weeks ago. While I was there, I scouted the river bars just below the dam but found no artifacts. My wife later suggested that we go and scout some areas elsewhere. She had three areas in mind. The first being just below the dam, but we found nothing at all. The second area was a place that her mother and an amateur archaeologist told us to look, which was farther down stream where a branch flows into the Arkansas River. The water was too high according to my wife. The third place, which her son told her, was a rock bar they used to play on. That was it! We found a Golondrina on this gravel bar. We went back out there to plot it on the map and take a few photos that I thought would help locate the area. Keep in mind that all three locations are in the Arkansas River. The river was rising both days. I came up with the theory that artifacts are much easier to find when rock piles are just below the water level. The river, on all three visits, was clear down to at most two feet.

The Golondrina has some patina at the articulated area, and there is some patina on the auricles. Both the hafting area and the base are heavily ground. I am not sure what material was used to make the Golondrina point. I can say that it is of a different color than most of the chert that I have seen, thus far, in the Arkansas River. The normal colors of chert that are associated in the rock bars are yellowish. The smaller cherts are red and some are white. Along with the larger yellowish chert, there are some white nodulated cherts. Both average the size of a baseball. The Golondrina point is fairly thin. On one face, there is a flute and some patina along the right side as far upwards as to where the hafting ends, notably where the ground area ceases. The point measurements are 4.4 cm long by 2.5 cm wide and 1.15 cm thick. The widest point is at the base and the midsection, which both measure 2.5 cm. The flute measures 1.6 cm from the deepest spot on the bottom to the hinge fracture. The tip is chipped, dulled (from tumbling), or just worn down. The entire point has a polished sheen.

Most of the other stones in the rock bars are sandstone. Other than the Golodrina point, I have found one pitted sandstone (pit is just on one side), which I speculate was caused by human(s). The reason I am of such assurance is that I have a very large amount of pitted stones, which I left back in my hometown of Natchez, MS. But, every trip that I make to my hometown and back, I bring them here to Mounds, OK.

Abstracts from the Literature

Osburn, Lyn and Ron Funkhouser

Abstract: From 1992 through 1993, the U.S. Geological Survey, in cooperation with the Oklahoma Geological Survey, made an inventory of the natural springs of Ellis County in far western Oklahoma. This work was part of a four year statewide project begun in 1983, suspended in 1986, and reactivated in 1990. Eighty-one springs were documented. Locations, flow rates, and water quality data are reported. A color map of the surface geology of Ellis County with spring locations plotted is provided. Spring flow rates ranged from 450 to .07 gal/min, with a mean of 28.01 and a median of 9.68. No spring sampled violated the water quality standards for drinking water set by the Environmental Protection Agency.

**Abstract:** A new collection of tree-ring chronologies developed from trees and remnant material in the western and central Great Plains makes an important contribution to the spatial coverage of the US tree-ring chronology network. Samples from 24 sites were collected, and ten chronologies have been produced. When correlated with a set of 47 single-station Palmer Drought Severity Index (PDSI) records, the chronologies display relationships with regional spring and summer drought. The reconstruction of spring PDSI for eastern Colorado generated in this study suggests that the inclusion of Great Plains trees can improve the quality of Great Plains drought reconstructions. The eastern Colorado drought reconstruction explains 62% of the variance in the instrumental record and extends back to AD 1552. Major (decadal-scale) droughts include events in the 1580s, 1630s, 1660s, 1730s, and 1930s. The late 16th century drought, noted as an especially severe drought in the southwestern US, appears in this reconstruction as only slightly more severe than the other major droughts of the past four and a half centuries in this region.


**Abstract:** This paper discusses evidence for the exchange networks that intersected through a late prehistoric site on the western margin of the Ozarks in Lawrence County, Missouri. The Dahlman site, 23LA259, was occupied during the fifteenth and sixteenth centuries along the Spring River. The site consists of a collection of households in the floodplain and on a terrace overlooking the river. Materials recovered during two seasons of excavations have brought to light non-local materials from elsewhere in the Ozarks, as well as exotic goods from distant areas in the Plains. The Dahlman site presents evidence of the importance exchange played in late prehistoric social relations. The centrality of exchange as a productive and social pursuit is attested by the volume of non-local goods found at the site, the volume of materials produced for exchange there, a ceremonial object likely related to exchange activities, and an example of public architecture located nearby the site.


**Abstract:** The site of the last village of the Kadouhadacho Caddo in the Caddo homeland region, known as Sha'chahdinnih or Timber Hill (41MR211), has been located in Marion County, Texas. This article gives an account of the history of the Kadouhadacho Confederacy before, during, and after their occupation of Timber Hill, a discussion of the process that led to discovery of the site, and a description of archaeological excavations that confirmed its identity.


**Abstract:** Gloss patina is a natural post-depositional surface alteration frequently present on flint artifacts. Features of this patina include reduced surface topography, smoothness, and a pronounced luster. Gloss patina is distinct from stain patina, desilication (white) patina, and the dark glossy patina known as desert varnish. Glossy river patina has similar features but is produced by abrasion accelerated dissolution whereas gloss patina is primarily a result of soil solution related chemical processes. Artifact adsorption of amorphous silica from its depositional environment can produce gloss patina but advanced examples of gloss patina have surface topography reduction, smoothness, luster and thickness strongly indicating dissolution and concomitant re-precipitation of artifact surface silica.
Society Spotlight

Today John is himself an accomplished self-taught potter. Using local clays and the techniques of prehistoric potters, he has recreated many pottery types found on Oklahoma sites. Just one of many interests, John is also a woodworker and jewelry maker. He’s also been a beekeeper. Little wonder that occasionally those cows had to wait for an hour or so!

Loy Flick is just as active as John with diverse interests of her own. Pursuing the genealogy of both her side and John’s side of the family is keeping her busy now, but she’s also a stained glass artist. As many of us know, she’s also an accomplished cook!

John and Loy participated in many Society digs throughout the 70s and 80s. Loy recalls the Fort Sill dump dig in 1973 as being her most memorable. She recalls doing a lot of screening over the years, but for Loy the most important part of her Society experience was the people she became friends with during those years.

John served as President of the Society in the 1970s. He also attended the Goodwin-Baker Field School sponsored by the OU Department of Anthropology and taught by Don Wyckoff. John has been responsible for discovering, preserving and assisting in excavations of scores of archaeological sites in western Oklahoma. He’s the guy many people in the area call whenever an archaeological find is made.

John and Loy’s grandchildren keep them busy these days. They have traveled extensively since their retirement and are still very engaged in their hobbies. Additionally, they keep up with friends, old and new, over several continents. According to Loy, their kids say about John, “Dad may get old, but he’ll never get bored.” No doubt they include their mother in that evaluation as well. John and Loy have been true assets to the Society over many years.

Many professional and avocational archeologists throughout the US today have made a stopover at John and Loy Flick’s farm outside Hammon, Oklahoma. Since the 1960's, John and Loy have been Roger Mills County mainstays for archeologists working in the western part of the state.

John and Loy joined the Society in 1966 after John participated in a Don Wyckoff-led salvage excavation west of Hammon. John said Loy was out of town and, even though he had cows waiting to be milked, he couldn’t tear himself away from the dig. Don told him about the Society and he was hooked.

Those who knew John at the time probably could have predicted his intense interest in the subject of archeology. He began picking up arrowheads on his father’s farm at a young age and still vividly recalls the first pottery sherd he found while walking with his sister and brothers on a creek near their farm. “It was cordmarked pottery,” John says and there is still a sense of wonder in his voice some 60 years later. “At first I thought it was a piece of bark and then I felt that cordmark and knew it was a piece of pottery.”

Loy and John Flick at their home in Hammon
The Oklahoma Anthropological Society’s 2002 spring dig was held at the Jake Bluff site, 34HP60, in Harper County, Oklahoma. This year’s excavation was under the direction of Dr. Leland Bement of the Oklahoma Archeological Survey. The excavation was designed to investigate a Paleoindian age bison kill site that, based on materials excavated in 2001, was expected to be Folsom in age. Excavation blocks were laid out to explore sections of a buried arroyo and the flat east of the arroyo. It was expected that the flat adjacent to the arroyo contained activity areas associated with the kill and initial dismemberment of the bison carcasses. A similar activity area had been found in 2001 on the west side of the arroyo. In addition, excavations were designed to probe the arroyo itself, to illuminate activities surrounding the trapping and killing of the animals.

After nine days of sweating, backbreaking excavation, 20 square meters of the eastern flat were excavated to bedrock (an average depth of 1.5 meters), but the arroyo floor was not yet hit. Excavations had unearthed numerous bison bone fragments, hammerstones, hammerstone debris, and one uniface tool, indicating the presence of bison butchery activities on the flat. Unfortunately, most of this material had been redistributed on the flat by sheetwash erosion prior to burial. Many of the flakes and the uniface were made of locally available red Day Creek chert, although some was of Ogallala quartzite.

Immediately on the heels of the Society dig was the OU Archaeology Field School. Archaeology students from the University of Oklahoma took over where the Society members left off. For four weeks, students removed and screened sediments from another 10 square meters of the eastern flat. In addition, units begun by the Society into the arroyo continued to be excavated. At the end of the four weeks, the excavations had netted additional hammerstones, debris, and bone fragments on the eastern flat and had uncovered piles of bone on the arroyo floor. Excavations had failed to uncover the anticipated Folsom points.

Excavations were extended through the last weekend to finish out a couple of the units to the arroyo floor and to prepare the units for backfilling. Early Sunday morning, the last day for Jake Bluff, in the bottom of the arroyo, in the unit begun by Society member Mick Sullivan, lay a Clovis point among the bones of extinct bison.

It always amazes me how one small find can totally change the tone of an excavation. Of course, a Clovis point is not one small find. And the fact the point is in an arroyo-style bison kill--a hunting technique not generally attributed to Clovis the mammoth hunter--propelled the site into the national spotlight.

The bone pile containing the Clovis point was thought to be shallow and easily excavated. However, it was not until four days later that the floor of the arroyo was reached. The bone pile also yielded a second Clovis point. The bone pile consisted of the disarticulated elements of three bison, their remains piled after meat was stripped from the bones.

The Clovis points are made of Alibates agatized dolomite (tentative identification) and display typical attributes of Clovis points. Both are fluted on each surface by a single channel flake/surface. One has been reworked extensively and what once was probably a 7 cm long projectile point had been worked down to 5.2 cm. The second was a small point from the beginning, fitting into the Type 2 Clovis type as defined by the excavators of Blackwater Draw, New Mexico. The Type 2 are short points, usually under 2 inches (5 cm) in length. Their diminutive size, however, did not alter their function. Even these short points were used to kill mammoth. At Blackwater Draw, several of the short points appear in the mammoth kills and, interestingly, one of the largest Clovis points from that site was actually removed from a bison kill area. I guess size really doesn't matter.

The 2002 excavation at Jake Bluff provided evidence that Clovis hunters employed the arroyo style bison kill to harvest between 10 and 15 animals. This is a big step since up to now these hunters have only been known to conduct surround style hunts where the hunters encircled their prey at
watering holes. The arroyo style kill, where the animals are herded into a steep sided arroyo and the hunters positioned out of harms way on the rim, was not thought to have been used until the following Folsom period where numerous such style kills are known—including the Cooper site. The Jake Bluff site raises interesting questions concerning the development of bison hunting techniques in the New World. Does Jake Bluff post-date the extinction of the mammoth, propelling Clovis hunters to develop better techniques to hunt bison? Or, is Jake Bluff contemporaneous with the mammoth and simply represents the employment of arroyos to trap bison in an area where arroyos are numerous? Attempts to address these questions will be made through additional radiocarbon dating of the site. In the mean time, Oklahoma now has its second Clovis site (the first being the Domebo site) and the largest Clovis bison kill yet identified on the Southern Plains.

This work was funded in part by a grant from the National Geographic Society and private donations. Additional support was provided by the University of Oklahoma and the Oklahoma Department of Wildlife Conservation.

Society members excavating at Jake Bluff (photo courtesy Bill Menzie).

See these photographs in color on the Oklahoma Archeological Survey website: www.ou.edu/cas/archsur/
2002 OAS Fall Meeting
Biltmore Hotel Oklahoma City

Thanks to the concurrent Plains Conference, and the
diligent efforts of Bob Brooks and Richard Drass,
we have an excellent slate of at least six speakers for
the Fall 2002 OAS meeting. The tentative meeting
schedule for this Saturday morning meeting is given
below. The only thing set in stone is the time,
speaker and topic of the first and second talks (yes—
the meeting starts **promptly at 8:30**) with a talk
about Oklahoma's Clovis bison kill site.

8:00  Registration begins

8:30 - 9:00  "Jake Bluff Research"
Lee Bement
Oklahoma Archeological Survey

9:00 - 9:30  "Ceramic Variability in Late
Prehistoric and Protohistoric
Western Oklahoma"
Fred Suffridge
University of Tulsa

9:30 - 10:00  Coffee Break

10:00 – 10:45  "Spiro Mounds Research"
Dan Rogers
Smithsonian Institute

10:45 - 11:30  "The Hoerster Cache:
Archaeological and Ethnohistoric
Considerations into the Use and
Functions of Large, Edward Chert
Bifaces in Texas"
Chris Lintz
TRC Environmental (Austin)

11:30  Board Meeting

11:30 -1:00 Lunch

1:00 - 1:30  Business Meeting

1:30 - 2:15  "Ceramics from the Buried City
Complex"
David Hughes
Wichita State University

2:15 - 3:00  Paleo/Folsom related talk
Jack Hofman
University of Kansas

3:00 - 3:30  Possible paper?

Adjournment

The Biltmore is located on Meridian Road just north
of Interstate 40; this is on the west side of Oklahoma
City (the airport exit off of I-40). The meeting is in
the Quarter Horse Room. Call Kathy at (405)789-2277
with any questions or for more information
about the meeting.
2002 OAS Fall Survey
Lake Murray State Park

Dave Morgan

The fall activity will be to survey Lake Murray State Park land on October 11 thru 14. This will be the third year to survey at Lake Murray and I think we will be able to finish the survey this year. The park was constructed by the Civilian Conservation Corps (CCC) during the Depression. Site identification and recording should be very productive as it was the last two years.

- Camping will be at Duke’s Forest Camp Ground
- Duke’s Camp Area has restrooms with showers and a dump station
- The camp sites have water and electric hookups
- Camping fees are waived for the surveying members
- OAS Membership required
- Registration form is attached and the fee is $5.00 per person
- We will leave camp each morning at 8:00 AM to survey

Lake Murray State Park is Oklahoma’s first state park. The park land was acquired in 1933. Today, Lake Murray State Park encompasses 12,496 wooded acres, Oklahoma’s largest state park. Lake Murray itself is 5,728 surface acres with 150 miles of shoreline.

Sign up Now!

OAS REGISTRATION FORM (copy, enclose $5.00 per person, and mail to Dave Morgan, 1049 SW 2nd Street, Moore, OK. 73160-2211)

Names...........................................................................................................................................
Address...........................................................................................................................................
Check Dates You Will Attend: ..October........11.........12..........13............14...................

Directions to Lake Murray State Park

Take I-35 approximately 2 miles south of Ardmore, Oklahoma to exit 29 or Hwy 70 and go east to 77S, turn south on 77S to Dukes Forrest Camp Ground. OAS signs will mark turning place at 77S and Dukes Forrest Camp Ground.

Editor’s Note: Someone recently pointed out to me that the Web, while facilitating the exchange of information in archaeology, has also had the regrettable side-effect of aiding in the sometimes illegal (in the case of burial goods) and always disreputable trade in antiquities. The Society’s position on this subject is laid out in the Standing Rules, and while our membership doesn’t need to be reminded of it, in hopes that others may see it, I’m quoting it in full below:

Standing Rule 1. Code of Ethics. Membership in the Oklahoma Anthropological Society (hereinafter referred to as “the Society”) is open to any persons, firms, corporations, or other entities interested in supporting the aims and objectives of the Society. In joining the Society, members agree to abide by the conditions of any federal, state, or local antiquities and/or historic preservation laws. The practice of buying and selling artifacts for commercial purposes; the disregard for proper archaeological field techniques; the willful destruction or distortion of archaeological data; violation of federal, state, or local antiquities and/or historic preservation laws; and/or the unauthorized use of the Society name is censured and will provide grounds for the denial of membership applications and/or expulsion from the Society by a 2/3 vote of the Board of Directors.

Mary Ann Drass
Mary Linn has been selected to serve as the first curator of Native American languages for the Sam Noble Oklahoma Museum of Natural History at the University of Oklahoma. Linn will also serve as assistant professor in the university's anthropology department. Linn comes to the University of Oklahoma from the University of Pittsburgh, where she served as assistant professor of linguistics in the American Indian Languages program. She received her doctoral degree from the University of Kansas, working under well-known linguistic anthropologist Akira Yamamoto, who introduced her to the study of Native American languages in Oklahoma in the 1990s. Since that time, Linn has taught workshops and classes on language preservation and linguistics to native communities across the country. She also has worked with the Oklahoma Native Language Association, recently co-directing a series of intensive training courses on linguistics and curriculum development. She also works with the Indigenous Language Institute, helping conduct the first comprehensive study of successful language teaching strategies in Native communities. Linn's research has focused primarily on the Euchee (Yuchi) language, spoken in eastern Oklahoma. She has prepared the first complete record of Euchee grammar, and plans to create the first Euchee dictionary. As curator of Native American languages at the museum, she will continue working with native communities across the state to develop language programs, in addition to accumulating tapes and video resources for the museum's collection. She is excited about being the museum's first curator of languages. "Language is as beautiful as any of the material arts in the museum's ethnology collection and as old as some of the species in the other collections," Linn said. "In natural history museums, people look at the history of the world, including the history of humans. There is no better way of looking at this than through human languages." "Very few Native American languages are now actively spoken," Linn continued. "The lifespan of a language is the lifespan of its speakers, and many of the speakers are now over 65." Linn maintains, however, that many native languages in the United States still stand a chance of surviving, if there is a concerted effort involving native speakers and the community, along with teaching specialists and linguists. Linn hopes to work with the museum and the university to create an active linguistic anthropology program in which Oklahoma's Native American students and teachers can learn how to help preserve their language without having to go far from home. "The museum's language program can't be just an archive -- a preservation of what has been lost," Linn said. "The museum needs to be proactive in helping to maintain the languages and in providing native speakers an avenue to use their language." Museum director Michael Mares noted that "the museum and the university are very fortunate to have attracted Mary Linn to Norman. She is a first-rate scholar and is the ideal person to develop a whole new area of research and service at the museum. Her scholarly work will impact native communities and museum visitors far into the future." The Sam Noble Oklahoma Museum of Natural History is located on the OU Norman campus. For more information, call (405) 325-4712, or visit the museum's Web site at www.snomnh.ou.edu

Linda Coldwell, Publications and Promotions Specialist, SNOMNH
The Red Warrior Shelter Site, 41HF2
A Biographical Style Rock Art Locale in Hansford County, Texas

Christopher Lintz, TRC Environmental

Abstract

This note provides further documentation on a small, historic pictographic panel of seven pedestrian people, some with rifles, in the upper Texas panhandle. The discernable elements painted in red pigments are attributed to the Plains Biographical art style. Ethnohistoric analysis suggests that Kiowa, Comanche or Cheyenne/Arapaho people probably made the paintings. The age of the pictograph is uncertain, although it probably was made between 1812 and 1875 as bracketed by the patent dates for percussion rifles and the beginning of the reservation period. Although previous interpretations have suggested that the painting commemorates the 1874 Battle of Adobe Walls, the supporting evidence is simply not present to ascribe the work to that event. Instead, the picture may celebrate the capture of weapons, the gift of rifles, or the participation of several people on a raiding expedition.

Introduction

During the 1990 archaeological investigations in Palo Duro Reservoir basin, efforts were made to obtain detailed documentation of some red painted aboriginal rock art at site 41HF2. Although previously unnamed, the locale is herein designated Red Warrior Shelter due to the theme of the painting. The documentation was conducted as a volunteer effort, since the site was not included in the project scope of work (Quigg et al. 1993). The following note provides a brief overview of the history of the previous work in the region, describes the methods of documentation, describes elements in the panel and offers an interpretation about the purpose, meaning and cultural affiliations of the rock art.

The site consists of a small shelter measuring a maximum of 7 m long, 3 m deep and 2 m high located about two-thirds up the valley wall on the left (north) side of the Palo Duro valley at an elevation of 2,950’ msl (Figure 1). The site is designated A1654 in the catalog system of the Panhandle-Plains Historical Museum in Canyon and site 41HF2 in the site files at the Texas Archaeological Research Laboratory in Austin. The shelter formed by erosion of the Ogallala Formation beneath a layer of white opalite that is very common in the region (Lintz 1997). The floor of the shelter is composed mostly of bedrock with a thin scatter of roof spalls and sediments with a few small flakes of Opalite and Alibates (Peterson 1991: 72). But for the most part, there are no archaeological deposits inside the shelter. The roof is composed of jointed white opalite and only minor smoke staining is present on the ceiling. Remnants of several anthropomorphic figures are all painted in red pigment on the ceiling in the back part of the shelter that has a little more than a meter high clearance.

Previous Investigations

Local residents have known about the site for many years (Peterson 1988, 1991). It was visited and photographed and first formally recorded by Jack Hughes during the sample survey of the Palo Duro valley to select an appropriate reservoir site (Guidry et al. 1979). Further photographic recording and site sketching happened during the subsequent survey and testing phases of the project (Peterson 1988, 1991). In all instances, the published sketches of the rock art depict it with an unnatural and unreal slope to the figures. The distortion in the drawings is probably due to tracings made of the figures from photographs taken at an oblique angle to the ceiling caused by the relatively cramped confines of the recessed alcove. The most detailed published drawing also depicts rock cracks and spalls in similar shades as the painted areas, so that the painted figures are difficult to identify or interpret.

Field Methods

During the 1990 field project, J. Michael Quigg and the author visited the cave to make an accurate drawing of the art. In addition to photographic documentation, a transparent mylar plastic sheet was placed over the art panel and taped to the ceiling. All painted areas and fissures in the rock were traced and documented to full scale. Considerable time was spent in studying the panel to ensure accuracy of the painted areas. The recording was a true team effort,
Figure 1. General Location of Site 41HF2 within the Palo Duro Reservoir, Hansford County, Texas.
with considerable discussions held about accuracy of the rendition. Paper copies of the mylar sheet serve as the basis for the drawings reproduced in this note (Figure 2).

**Description and Interpretation of the Panel**

As noted by previous visitors, the paintings have become degraded from ceiling spalls (Guidry 1979: V-56; Peterson 1991: 72). The overall rock art panel measures about 14 by 7 inches (36 x 18 cm) and consists exclusively of several red pigment pictographs painted on a flat, opaque white opalite ceiling. No blue paint, as reported to be present by Peterson (1988: 97) was observed. The subject matter portrays a series of anthropomorphic individuals standing in primarily two lines. Due to the extensive damage to the panel, the number of human figures is uncertain, but seven or more individuals are depicted. Three individuals (nos. 1, 2, and 3) are present on an upper row. Another individual (no. 4) is placed a little lower and to the left of the upper line of people. And three other individuals (nos. 5, 6 and 7) form a lower line to the right of the first group. Indeed, individual 5 is placed immediately below individual 3. At least five other pigment marks are present that might not be body parts affiliated to any of the seven attributed individuals. These include mark A located to the left of individual 4, mark B located below individual 1, mark C, a clear depiction of a rifle located between individuals 1 and 2, mark D located right of individual 3 and above individual 5/6, and mark E located between individuals 6 and 7. Peterson (1991: 74) interprets these to be remnants of either rifles (marks C and E) or arms or legs of other individuals (marks B, and D; Figure 3). Hughes’ field notes suggest that rifles are depicted by marks A, C and E. Although these interpretations may be right, most of the remaining painted areas around these marks are too small or the areas are too spalled for this author to identify the elements with confidence.

In general, the individuals each measure about 6 cm wide and from 8.2 cm to 10.2 cm tall. In most instances (individuals 1, 2, 3, 5, 6, and 7), the bodies are painted a solid red color with legs standing slightly wider than the width of the body. The body of individual 4 may have been painted as hollow segments. The legs are depicted as solid triangular areas that contract towards the feet. None of the individuals, except perhaps individuals 6 and 7 have feet depicted with any clarity. Of the four individuals with head components, three (nos. 1, 2, and 4) seem to be hollow and circular, and one (no. 6) appears to be solid. Most figures seem to have up-raised arms (nos. 1, 2, 3?, 4, 7?, and mark B?). But figure 6 and perhaps individual 5 have arms looping back to their bodies. Several individuals (nos. 1, 2, 4, and mark A) may depict extended fingers on up-raised hands.

No details of clothing, hair styles, masks or symbols of tribal affiliation are depicted for the various individuals. However, individual number 2 is clearly holding a long rifle by the barrel to the left of his/her body (mark C). A trigger guard is clearly evident in the painting, but no frizzen component of a flintlock is evident. I interpret the short radiating marks at the end of the rifle’s barrel to represent hand/finger symbols, rather than a firing weapon, since the rifle cannot be discharged from the manner held. The lines designated as marks A and E have been interpreted by Peterson (1991: 74) and Hughes (n.d.) to be other rifles held by individuals 4 and 7 in the same manner, although the remaining details are not as clear to me to base such an interpretation with conviction. The only other unusual feature evident is a horizontal line beneath individual 2, which has an unknown significance.

Several marks are not fully interpretable from the remaining condition of the panel. Mark B is interpreted by Peterson (1991: 74; Figure 3) to be a raised arm connected to an upper torso of an eighth individual. He also suggests that mark D represents the leg of a ninth person standing on the same plain as individuals 1-3, even though it could just as well be the up-raised arm from individual 5. Indeed, Jack Hughes (n.d) portrays individuals 3 and 5 as parts of a single giant individual (Figure 3B). Such interpretations require the presence of more paint than was evident when we visited the site in 1990. Even though early photographs may exist showing the figures in better states of preservation, none of the earlier pictures were examined in forming a judgement about these marks.

**Discussion and Interpretation**

The depictions of a rifle with individual no. 2 and perhaps other firearms with people 4 and 7 clearly indicate that the rock art is made after European
Figure 2. Pictograph Tracing from 41HF2 with Designations of Reference Marks.
Figure 3. Interpretative Renditions of the 41HF2 Pictograph.
contact. The rock art is clearly representational, rather than abstract or geometric. Indeed the painting generally conforms to the Plains Biographical style (Keyser 1987; Boyd 1991) that served to commemorate heroic exploits and events by individuals to enhance their status among the Plains societies. Among historic Plains Indian societies, a person’s status was determined by deeds and accomplishments recounted in story, song, dance, dress, and art on hides (clothing and tipi covers) and in rock art. The range of commemorative events often depicted in rock art include 1) the witnessing of strange and foreign modes of transportation (wagon trains, locomotives, cars) and structures (churches, picket-post walled/board and batten houses), 2) the successful theft of horses and cattle, or 3) the participation in heroic combat events. The latter includes participation in a raiding party, the sacking of a village or community, the attack or killing of an enemy, the counting of coup on an enemy, or the capture of weapons including bow/arrows, lances, spears, and rifles/guns (Boyd 1990, 1991). There is also some suggestion that the biographical art evolved from relatively simplistic and stylized ceremonial elements to more realistic and action-oriented events that accurately portray recognizable elements or events during the two to three centuries of the evolving art form (Keyser 1987; Boyd 1990).

The Plains Biographical rock art style is widespread in the Texas Plains and adjacent states (Kirkland 1942; Kirkland and Newcomb 1996; Boyd 1990; Lawton 1962; Schaafisma 1992; Renaud 1936, 1937; O’Neill 1981; Campbell 1969; Lorendorf 1989). The vast majority of the Plains Biographical art style tends to be scratched or incised petroglyphs in relatively soft stone outcrops. Painted elements that occur either alone or in conjunction with scratched motifs are relatively rare (Boyd 1990). Two aspects of the art at 41HF2 set this site apart. First, related to the theme of the panel, the ceiling at 41HF2 leaves a stark and dazzling record of some event important to the life of the artisan. Second, related to the theme of the panel, the depiction of only pedestrian, rather than mounted equestrian people is unusual. Indeed, the absence of horses, cattle, bison, deer, antelope, dogs, birds or sheep, and the solid human form without signs of clothing are a relatively rare occurrence among sites exhibiting Plains Biographical art.

If the art motifs from 41HF2 constitute a commemorative event, then who probably made the art? Jack Hughes postulates that Comanche or Kiowa Indians probably painted the figures, but he offers no basis for the ascribed affiliation (Guidry et al. 1979: V-56). A survey of ethnohistoric literature reveals that Spanish horses in New Mexico constituted a form of wealth that revolutionized bison procurement and drew many diverse people to the Southern Plains (Oliver 1962; Ewers 1980; Hanson and Chirinos 1989: 18). The historically documented residents, users, or visitors to the Southern Plains minimally include the various pueblos (Tiwa, Tewa, Towa speakers), Jicarilla, Mescalero and Lipan Apache, Ute, Comanche, Kiowa, Cheyenne, Arapaho, Pawnee, Osage, Kansa, Shoshoni, Gros Ventre, Blackfeet and Dakota Sioux (Winter 1988:138; Loendorf 1989:18). It is clear that many groups co-used the Southern Plains and that substantial territorial shifts of core areas occurred throughout the historic period. By considering the area from a Co-Influence Sphere frame of reference (cf. Sym 1977) it is possible to identify core areas, and secondary and tertiary zones of use and exploitation to determine which groups were in select regions more often. Using such an approach, Hanson and Chirinos (1989) suggest that the upper Texas panhandle was primarily a core and secondary exploitation region used by the Jicarilla Apache prior to 1725. The Apaches were replaced by the Comanches who used it as a core region between 1705 and 1840. The Kiowa ranged over the area between 1812 until the mid-1870s, and the Cheyenne/Arapaho used the area from the mid-1840s to the 1870s. Provided that the rifle element depicted in the rock is reasonably true to general form, then the absence of a frizzen element suggests that the weapon might have been a breech-load rifle using percussion caps or cartridges, rather than a flintlock. Based on the chronology of fire arm evolution, the rock art should probably post-date 1812 (Logan 1959: 2) and predates the establishment of reservations in the mid 1870s. Thus, even though it is possible for many groups to have painted the figures, the most likely Native American tribes who spent the most time in the region are probably the Comanche, Kiowa, and/or Cheyenne/Arapaho.

A related question pertains to what event is portrayed by the drawings? Peterson (1988: 97) cites a local informant who met, in the late 1930s, a Cheyenne man affiliated with Black Kettle’s tribe and was a warrior at the 1874 battle of Adobe Walls.
The Native American related that the pictographs at 41HF2 were painted by Indians who camped on the terraces of Palo Duro Creek on their way to and from the Adobe Walls battle. Indeed, excavations at nearby terrace site 41HF8 and rock shelter 41HF86 recovered metal arrow points and a crudely made finger ring during data recovery excavations of the reservoir mitigation phase (Quigg et al. 1993: 238, 325). But, it is uncertain that these items were lost specifically in 1874. Later, Peterson (1991: 72) elaborates on the story by saying that the painted figures carrying guns corroborates a local informant who described them as carrying guns in front of them as they approached Adobe Walls, and dragging them behind after their failure to defeat the buffalo hunters in the battle. These statements seem speculative or even unlikely on several counts. First, the paintings are restricted to an 18 x 36 cm area. The continuity in pigment colors, standard element size, and similarity in execution suggests that the entire panel was probably drawn as a single commemorative event, and not as separate contributions made on the way to and return from the battle. Second, the reconstructed drawing only shows two or three rifles and all are carried in the same manner—by their barrels. It is not possible to discern from the drawings whether the weapons are carried in front or dragged behind the figures. Third, if the position of holding the weapons by the end of their barrels constitutes dragging the rifle, then the concept of commemorating a defeated engagement is counterintuitive to the purpose of composing heroic combative art. Furthermore, the linkage of this particular art panel to the June 1874 Adobe Walls engagement is most likely speculative, since the art may equally apply to a number of other military and civilian engagements with Native people. One of the most prolonged campaigns involving a number of skirmishes between military, civilian and Native people was collectively known as the Red River War that was fought during the winter of 1874-75 by the U.S. Army against the Kiowa, Comanche and Cheyenne (Nye 1968).

The simplicity of the painted scene leaves few clues for the researcher to base interpretations. The most informative hint available about the purpose of the painting relates to the manner that the weapon(s) are held by their barrel(s). The gripping of a rifle by the end of the barrel does not necessarily signify an act of armed aggression. Instead, the painting may commemorate an incident when several warriors took rifles away from other people, or that the guns represent war trophies that were captured during a raid (Keyser 1987: 58). There is no evidence showing that the weapons were obtained during military or civilian Anglo-Indian conflicts. The weapons might have just as easily come from inter-tribal engagements. Although seven or perhaps nine individuals are depicted at 41HF2, Keyser (1987) cautions that in Plains Biographical style art, the elements may stand for a greater number of objects than depicted. If so, art at 41HF2 may commemorate an event involving the acquisition of a number of firearms by people who may have been on a raiding party. Alternatively the scene may commemorate the gift of a rifle to one or more young men, or the paintings may mark participation in some unspecified raiding party. The specific age and social context of the paintings are impossible to decipher.

Conclusions

Archaeologists are still in the early stages of unraveling the meaning of representational Plains Indian art. The initial studies indicate that when viewed from the social context of Plains Indian societies, art from the protohistoric and historic periods provides a rich insight into the dimension of Native American values.

The rock art at 41HF2 is clearly part of the Plains Biographical style. The site is interesting in that the painting seems to portray interactions involving the acquisition of rifles by pedestrian warriors. Although local lore has held that the art records events surrounding the specific 1874 Battle of Adobe Walls, I feel that supporting evidence is lacking for such a narrowly prescribed interpretation. The relatively mundane interpretations offered herein may not be as exciting to the general public as the desire to connect the paintings to some famous historical engagements—especially ones where the Native peoples were defeated. However, it is probably prudent to view the work from the more objective perspective of the norms of the Plains Indian culture. This study suggests that the paintings were probably made between 1812 and 1875, and they probably celebrated a specific event by people from the Comanche, Kiowa, and/or Cheyenne/Arapaho tribes.
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References

Boyd, Douglas


Campbell, Robert G.

Ewers, John C.
1980 The Horse in Blackfoot Indian Culture. Classics in Smithsonian Anthropology, Washington, D.C.

Guidry, Marion A., Derl Brooks, Larry Higgins, Jack Hughes, Flavius Killbrew, Gerald Schultz and Robert Wright.
1979 An Environmental Profile of the Palo Duro Creek Basin. Report submitted to the U.S. Army Corps of Engineers by West Texas State University, Killgore Research Center, Canyon.

Hanson, Jeffery and Sally Chirinos

Hughes, Jack T.
n.d. Field Note Sketch of Pictograph at A1654 (Site File 41HF2). On file at the Texas Archeological Research Laboratory, Austin.

Keyser, James D.

Kirkland, Forrest

Kirkland Forrest and William Newcomb, Jr.

Lawton, Sherman

Lintz, Christopher

Loendorf, Larry
1989 Nine Rock Art Sites in the Pinon Canyon Maneuver Site, Southeastern Colorado. Contribution 248, Department of Anthropology, University of North Dakota.

Logan, Herchel C.

Nye, Wilbur Sturtevant

Oliver, Symmes C.
O’Neill, Brian

Peterson, John A., editor


Quigg, J. Michael, Christopher Lintz, Fred M. Oglesby, Amy C. Earls, Charles Frederick, W. Nicholas Trierweiler, Douglas Owsley, and Karl Kibler

Renaud, E. B.


Schaafsma, Polly

Syms, E. Leigh

Winter, Joe

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The Zimms complex (AD 1265-1425) represents a poorly known Plains Village manifestation of western Oklahoma. This complex is not well understood due to the fact that few Zimms sites have been identified and, subsequently, excavated and studied. At this time, the meager evidence available suggests that scattered Zimms groups occupied small seasonal hamlets or isolated homesteads relying on hunting and gathering possibly supplemented by sporadic gardening to meet subsistence needs (Brooks et al. 1992:61; Flynn 1984). Large aggregated villages are not known for the complex. In general, the Zimms complex is thought to represent a conglomeration of traits from Antelope Creek phase (A.D. 1250-1500) groups to the west in the Texas panhandle and Washita River/Turkey Creek phase (A.D. 1250-1450) groups found in the prairie to the east (Drass and Turner 1989:26). Sites attributed to the complex, as presented by Brooks et al. (1992), include Zimms (Flynn 1984, 1986), New Smith (Brooks et al. 1992; Moore 1984a), Hedding (Drass 1989, 1995; Shaeffer 1965), Wickham #3 (Wallis 1984), Blackketter-Pyeatts (Moore 1984b), Chalfant (Briscoe 1993), and Lamb-Miller (Moore 1988).

The term complex, as presented by O’Brien (1984:20) refers to “an artifact assemblage with one or more diagnostic traits which while consistently associated, may or may not have been integrated into a system of phases due to the incomplete nature of the data”. Despite a limited data set, an attempt is made here to identify the key traits that differentiate Zimms sites from other Plains Village manifestations. To accomplish this goal, basic descriptions of features and associated assemblages for sites ascribed to the complex are presented. These discussions serve to highlight the range of variability or lack thereof that exists among currently recognized Zimms sites.

Overall, the Zimms complex has received limited research attention during the past ten years. However, recent archaeological investigations in adjacent areas to the west and northwest of the Zimms complex have discovered numerous Plains Village period sites (e.g., Bement and Brosowske 2001; Bevitt and Brosowske 2001; Boyd and Wilkens 2001; Brosowske and Bement 1998). In some cases (i.e., Boyd and Wilkens 2001) the cultural affiliation of these sites is unclear, although architectural features present appear to suggest close ties to either the Antelope Creek phase or the Zimms complex. The synthesis presented here, along with previous work by Lintz (1986) and Bevitt and Brosowske (2001), should aid in determining whether these newly discovered sites are related to either the Antelope Creek phase, the Plains Border Variant (i.e., a newly defined Plains Village period complex for northwest Oklahoma, the Texas panhandle and southwest Kansas), the Zimms complex, or some other currently undefined complex. Following this synthesis is a brief discussion that examines the nature of sites located in areas peripheral to better-known taxonomic entities. This discussion focuses on the Plains Village period for western Oklahoma and adjacent areas of the Texas panhandle.

Review of Zimms Complex Sites

In the review that follows, architectural features and ceramic, lithic, and faunal assemblages are compiled and presented for six Zimms sites (Figure 1). In addition, radiocarbon dates, if available, have been recalibrated and are also presented. These sites include Zimms (Flynn 1984, 1986), New Smith (Brooks et al. 1992; Moore 1984a), Hedding (Drass 1989, 1995; Shaeffer 1965), Wickham #3 (Wallis 1984), Blackketter-Pyeatts (Moore 1984b), and Lamb-Miller (Moore 1988). Reviews are compiled from the sources listed above.

The Zimms Site (34RM72)

The type site (34RM72) for the Zimms complex, known by the same name, was first investigated by personnel from the Oklahoma Archeological Survey and the western chapter of the Oklahoma Anthropological Society (Flynn 1984:215). The site appears to represent a relatively large Late Prehistoric hamlet or village, possibly containing several structures, numerous storage pits, and burials.
Figure 1. Zimms complex sites and nearby Southern Plains cultures.

(Flynn 1984:287). Zimms is located on an upland ridge 0.5 km from the confluence of Quartermaster and Hay Creeks and 16 km south-southwest of Leedey, Oklahoma (Figure 1). As of this time, although several features may be present at the site, only one Plains Village structure has been identified and examined.

Excavations at 34RM72 revealed the remains of a single house, designated as Structure #1 (Figure 2). The floor plan of Structure #1 measures 6.1 X 6.4 m (39 m²) and is not oriented to cardinal directions. Forty-eight vertically placed exterior wall posts, spaced 46 to 69 cm apart, are arranged in a rectangular pattern. Excavations suggest that two interior posts may have supported a roof consisting of thatch or thick grass (Flynn 1984:223). Posts ranged in size from 10 to 15 cm in diameter and the wall height is estimated to have been about 100 cm tall. The roof configuration is not known.

The most notable features of the Zimms structure are a central floor channel and a raised platform or altar. The central depression measures 15 cm deep, 2.7 m wide, and runs the full length of the house. Along the west wall, a large rectangular platform (1.7 x 2.1 m) extends into the central depression. A small, shallow depression (4 to 5 cm deep) identified as a “pit” and a central fire hearth are the only other interior features present. The house lacks an extended entryway, and no obvious doorway, as indicated by a break in exterior posts, was discerned. However, a possible “entry step” may be represented on the eastern end of the central channel (see Figure 2).

Flynn (1984:281) notes that Structure #1 is similar to House #2 at the Hedding site (see Figure 6) and Unit Type I Antelope Creek houses (Figure 3). Drass and Turner (1989:26) believe that Structure #1 may represent a blending of Washita River and Antelope Creek phase architectural styles, differing from the latter in that it lacks vertical rock slab foundations, interior storage pits, and a ventilator shaft or extended entryway.
Figure 2. Structure #1 at the Zimms site (34RM72) (adapted from Flynn 1984).

Figure 3. Type I house from Antelope Creek phase sites (after Lintz 1986).
A total of 575 sherds representing 11 different vessels were recovered from the Zimms site (Flynn 1984:257). Despite the fairly large sample, it should be noted that 86% of the Zimms ceramic assemblage were recovered from surface contexts. While seven descriptive varieties of ceramics are identified, 97% of the assemblage is comprised of a relatively homogenous, smooth surface ware (Flynn 1984:275). Ceramic varieties represented include Quartermaster Plain variety A and B (N=559; 97.2%), Lindsay cordmarked (N=9; 1.6%), and various decorated wares (N=7; 1.2%). Vessel shapes are globular, round based forms with slightly to sharply outward flaring rims (Flynn 1984:275). Decorations are rare but include nodes, fillet strips, rim tabs, strap handles, and parallel-incised lines. Major tempering agents include shell, limestone, and grit. Even though cordmarked pottery comprises less than 2% of the Zimms ceramics (compared to up to 37% for Turkey Creek phase), Drass (1989:4) contends that the assemblage resembles those from Washita River/Turkey Creek phase sites.

A diversity of projectile point forms are known from the site and include Washita (N=16), Harrell (N=1), Scallorn (N=1), Fresno (N=4), Marcos (N=1) and an unknown corner notched dart point (N=1). Beveled knives (N=11), drills (N=6), cores (N=3), bifaces (N=83), scrapers (N=29), gravers (N=4), spokeshaves (N=3), and utilized flakes (N=113) round out the assemblage. Unfortunately, like the ceramic assemblage, many of the diagnostic tools from the site were recovered from surface contexts and may or may not be associated with the occupation of Structure #1. In fact, only 386 (33.4%) of the entire chipped stone assemblage were recovered from excavated contexts. Overall, only one Washita and one Harrell point and a few of the bifaces, drills, and scrapers were excavated from house fill.

Lithic raw materials represented at 34RM72 include Ogallala quartzite (26.5%), Alibates/Tecovas (21.5%), unidentified quartzite (20.6%), unidentified chert (14.4%), Florence-A (6.4%), Dakota quartzite (6.4%), obsidian (0.3%), and other miscellaneous types (4.0%) (Flynn 1984:279). Most (i.e., 75%) of the Alibates/Tecovas material from the site retain cortex indicative of procurement from gravel sources (Flynn 1984:Table 37). Overall, 78.8% of the lithic materials at the site were obtained from local sources (Flynn 1984:Table 38). Lithic materials of nonlocal origin represent 21.2% of the chipped stone assemblage and include Alibates or Tecovas obtained from bedrock sources, Florence-A or Kay County, obsidian, and possibly some of the materials identified as “unknown”. The three obsidian flakes from the Zimms site have been sourced to Malad, Idaho and the Valle Grande locality complex in New Mexico (Baugh and Nelson 1987:323).

Despite a small faunal sample (N=242), a diverse range of animal species is represented in the assemblage from the Zimms site. Identified species include deer, black-tailed prairie dog, bison, striped skunk, eastern cottontail, turtle, and mussel. While only 79 elements are attributed to large mammals, minimum number of individual (MNI) figures indicate that these species would have easily contributed the largest portion of meat to the diet of Zimms inhabitants. Although there is no direct evidence for horticulture in the form of preserved plant remains from the site (no flotation was examined), the presence of two digging tools (i.e., one bison scapula hoe and one bison tibia digging stick) in the assemblage suggests that horticulture may have been practiced. Alternatively, the digging tools could have simply been implements used for the excavation of houses and other semi-subterranean features. Overall, Flynn (1984:276) suggests that the Zimms assemblage indicates a generalized hunting and gathering strategy supplemented by horticulture. Other bone tools include two awls, an antler projectile point, and ten unknown tool fragments.

Five radiocarbon dates have been obtained from Structure #1 (Flynn 1984:Table 39). When recalibrated these dates range from AD 986 to AD 1640 (see Table 4). A single archaeomagnetic date was also obtained from the site. This sample yielded two possible dates (i.e., A.D. 950±19 and 1450±19) due to the pole position occurring near a crossover point on the magnetic curve. So in actuality, a total of six dates are available for Structure #1. Given the unlikely scenario that this structure was occupied for nearly 700 years, the accuracy of dates was assessed by Flynn (1984:287) in light of the architectural and artifactual remains that suggest a Plains Village period (A.D. 1200-1500) occupation. In other words, dates that fell outside this range were considered to be erroneous.

Dates obtained from Structure #1 may be broken down into three general groups: early (A.D. 950±19 to 1160±50; three dates), middle (A.D. 1332±50 to
1450±19; three dates), and late (A.D. 1640±50; one date). The most recent date is clearly too late considering the Plains Village period assemblage recovered from the house. The three oldest dates are very early when compared to other Plains Village period sites of western Oklahoma and the Texas panhandle (see Drass 1997:Table 5; Lintz 1986:Table 3). These dates are early even when compared to Plains Village sites in central Oklahoma where the period is thought to have begun at an earlier date (see Drass 1997:Table 5). In addition, if these three dates were correct, then it would seem likely that the assemblage would contain higher numbers of corner-notched projectile points as seen at sites, such as 34GV22, where similar dates have been obtained (Drass 1997:Table 9). Overall, the middle dates (i.e., A.D. 1332, 1340, 1398, A.D. 1406, and A.D. 1450) from Structure #1 fall comfortably within the range of the Plains Village period and appear to correspond best with the assemblage of Washita and Fresno projectile points. Thus, despite the problematical dates obtained from the site, it seems likely that these three dates best reflect the period of occupation of Structure #1.

New Smith Site (34RM400)

The New Smith site is located some 350 m east of the Zimms site in an upland setting overlooking Quartermaster Creek (Figure 1). The site is approximately 5000 square meters in size (i.e., 50 x 100 m) and contains two areas of stained soil thought to represent arbors, three burials, and ten shallow roasting pit features exposed during land leveling activities. It is proposed that the two possible arbors were built over burial features (Brooks et al. 1992:59). Similar burial features are documented for historic Wichita and Caddo tribes (Bell et al. 1967; Swanton 1942). The only available published description of the site is in Brooks et al. (1992). An additional paper on the site was presented at a regional conference (Moore 1984a) but could not be located.

The two square to rectangular dark outlines of humic soil interpreted as arbors range from 3.0 x 3.5 m (10.5 square meters) for Structure #1 to 4.5 x 4.5 m (20.3 square meters) for Structure #2 (Figure 4). Structure #2 is oriented to the cardinal directions, while Structure #1 is not. The overall depth of these stains was not determined. No post molds or charred timbers were associated with Structure #1, although several large pieces of charcoal and substantial amounts of burned grass were found (Brooks et al. 1992:63). Overall, very few cultural remains (N=4) were found in the interior of this structure (Brooks et al. 1992:Table 2). The only feature associated with this structure is a shallow, circular, basin-shaped depression (74 cm in diameter and 10 cm deep) that contained no cultural materials.

Figure 4. Structures #1 and #2 from the New Smith site (34RM400) (after Brooks et al. 1992).

A total of ten postholes, three trash pits, and two burials were associated with Structure #2 (Figure 4). The plan drawing for this feature indicates the presence of four corner posts, three additional posts along exterior walls, and three interior posts. Despite
the presence of two interior posts that were two to three times larger than any of the other posts, Brooks et al. (1992:64) contend that the structure lacked central support posts. Masses of burned grass atop the remains of Structure #2 are interpreted as evidence for a thatched roof.

Three burials are present at the New Smith site (see Brooks et al. 1992:65-69 for detailed descriptions). Represented are an adult male approximately 45 to 55 years in age from arbor or Structure #2, a child 4.5 to 5.5 years of age of indeterminate sex, also from Structure #2, and an adult female approximately 40 to 50 years from pit #9, an extramural feature near Structure #1 (Brooks et al. 1992:65-67). Both of the adults “show pronounced dental attrition accompanied by ante mortem tooth loss, alveolar bone pathology, and caries affecting a few teeth” (Brooks et al. 1992:67). No evidence for dental pathology, skeletal lesions, or trauma was observed in the child (Brooks et al. 1992:67). A necklace of 77 Olivella shell beads and several mussel shell fragments were interred with the child, while the adult female was accompanied by a beveled knife, a plain pottery sherd, and several mussel shell fragments. No associated grave goods were recovered with the adult male.

The faunal assemblage (N=1686) is indicative of exploitation of a wide variety of large, medium, and small animals. The majority (88%) of these remains were recovered in the ten roasting pit features (Brooks et al. 1992:Table 4). Species represented include box turtle, cottontail, cotton rat, jackrabbit, wood rat, bison, plains pocket gopher, deer, prairie dog, bird, fish, and snake. Despite the large number of recovered elements, each species is represented by an MNI of one, except box turtles, cottontails, and cotton rats, which have an MNI value of five, two, and one, respectively.

An analysis of human remains from the site also provides support for a broad scale hunting and gathering economy. The low rates of dental caries observed in human remains from the site are similar to that of non-horticultural populations and suggest that horticulture was not important (Brooks et al. 1992:68). Thus, a bison scapula hoe from pit #1 and a bison tibia digging stick from pit #2 may indicate their use as excavation tools, rather than horticultural implements.

A total of 167 sherds, 90 lithics, 1686 bones, 79 Olivella shell beads, a fragment of hematite, 12 pieces of volcanic ash, and a small nugget of copper ore were recovered from the New Smith site. One hundred and sixty-three (i.e., 98%) of the ceramic sherds from New Smith compare favorably with Quartermaster Plain varieties as defined for the Zimms site. This is a plain-surfaced ware tempered with fossiliferous shale. One painted sherd comparable to Taos Black on White (AD 1100-1400) and three cordmarked sherds were also recovered. The latter resemble Lindsay Cordmarked wares, a type commonly found on Washita River/Turkey Creek phase sites.

The chipped stone assemblage includes flake debris, utilized flakes, scrapers, and bifaces (N=90). No diagnostic projectile points were recovered. Lithic materials represented at the site include Ogallala quartzite (N=15), unidentified quartzite (N=10), sandstone (N=1), unidentified chert (N=24), Alibates (N=26), Tecovas (N=3), Day Creek (N=5), Florence-A (N=4), Edwards (N=1), and petrified wood (N=1). Another feature of the chipped stone assemblage is the preponderance of high quality local (i.e., Day Creek and Alibates silicified dolomite) and nonlocal (i.e., Florence-A and Edwards) cherts for the production of tools from the site (Brooks et al. 1992:69). Ground stone from the site includes a mano, a metate, and two hammerstones. As mentioned above, the only bone tools from the site noted by Brooks et al. (1992:71) are a scapula hoe and a tibia digging stick.

Two wood charcoal samples from the site were dated (Table 4). These samples came from the interior pit and a post from Structure #2. These samples yield calibrated dates of AD 1282±90 (Beta 15978) and AD 1315, 1354, and 1387±50 (Beta 10396).

The Hedding Site (34WD2)

Hedding was discovered in 1957 when road construction uncovered the remains of two structures and six external pits. The site was investigated under the direction of Shaeffer (1965) as part of a highway salvage project. Since that time, Drass (1989), Drass et al. (1987), and Flynn (1984) have noted architectural similarities between House #2 at Hedding and Structure #1 at Zimms and have suggested that combined these sites represent a distinct cultural complex (i.e., the Zimms complex). The Hedding site is located in Woodward County, 17 km north of Mooreland, Oklahoma (Figure 1).
The site is on a terrace overlooking ephemeral drainages of Long Creek, a tributary of the Cimarron River. Currently, no dates are available for the Hedding site. Two structures (Houses #1 and #2) were salvaged by Shaeffer (1965) at the Hedding site. House #1 (Figure 5) is a small, keystone shaped structure approximately 3.1 x 3.4 m (10.5 square meters) in size (Shaeffer 1965:133). Entry to the structure was gained from the southwest corner. This slightly subterranean house had been burned, hardening the short, clay footings that encircled the house. Shaeffer (1965:138) notes that “post impressions along the wall base were sporadic and only two to four inches in diameter.” He believes that posts rested on the ground surface and were packed in clay that formed the footings that outline the house. A total of seven post impressions are noted in the plan drawing of House #1 (Shaeffer 1965:Figure 68). The structure contained a smooth basin fire hearth located just rear of center. A total of four pits (2 interior and 2 exterior) were associated with this structure. The two interior pits were devoid of artifacts except for the one Fresno projectile point recovered from the site. Pit #5 is located outside the structure and is adjacent to the entry. This feature contained the remains of a cremated individual and one smashed cordmarked olla vessel (Shaeffer 1965:133, 138). A sixth pit, located just northeast of House #2, is plotted on a plan map of the site (Shaeffer 1965:Figure 66) but is not described in the text.

As noted earlier, House #2 at the Hedding site (Figure 6) is often compared to Structure #1 at Zimms (Figure 2). By viewing the plan of this house (see Figure 6) it is apparent that excavations either
failed to identify the northern bench of this house or that this portion of the house was removed/destroyed by road construction equipment. With the addition of a northern bench this distinctive house form is nearly identical to Unit Type I houses of the Antelope Creek phase (Lintz 1986:Figure 12). Given the frequent confusion surrounding the architectural style of House #2, Shaeffer’s (1965:138) original description of this structure is presented here:

“About eighty feet southeast of House 1 and at a lower level, presumably because of the former slope of the hill towards the creek on the east, was found (an) entirely different type of structure. This structure, like House 1 had also been burned thus insuring its preservation. Very little wattle was found. Instead the floor and pit which comprise the plan of this house were well sooted. The plan of the house was rectangular, measuring 12.5 feet by 17.5 feet, and was dug into the soil eight to twelve inches.

Features consisted of a well formed fire pit located medially but slightly to the rear of the true center. Entrance was via a long narrow eight foot passageway at ground level and to the east. The entryway connected with the room by a short inclined semi-circular clay step. At the west end of the room approximately in line with the step was a small banquette or projection from the wall about eight inches wide. It could not be determined whether this was used as a resting place for upright roof supports or whether it had some vestigial non-utilitarian purpose. To either side of this projection, in the corners of the room, the walls extended for seven or eight feet in a narrow trench about six to twelve inches wide. These trenches were filled with miscellaneous debris of flint and burned animal bone. Again, the purpose was problematical whether they were non-utilitarian and ceremonial in nature or whether they were trenches for wall posts which formed another room. Certainly they were too narrow to serve as alternate entries.

As in House 1, the wall posts were placed on the ground inside the pit on at least two sides of the room. Two post molds were found above the floor, one on the east and one the west side of the room. Posts three to four inches in diameter had been used. As indicated on the house plan, two other posts had been dug in to the floor. The central contemporaneity of the dissimilar structures is that the outside walls of Rooms 2, 3, and 4 paralleled the wall of Room 1, that there was no sign of fireplaces in the smaller rooms, and that no independent wall could be established for the north side of any of the ground level rooms. Unfortunately, important as it is, this is a point which cannot be determined from the existing
evidence, since no sherds or distinctive artifacts were in the small rooms. The final answer can only be sought through more excavation at this site or elsewhere.”

Although Shaeffer’s description of House #2 is unclear on some points, he believes that a rectangular, subterranean structure with three surface storage rooms along the south wall is represented. Shaeffer suggests that, like House #1, posts were mainly placed on the ground surface along the north and south walls. The two narrow trenches, which extend seven to eight feet outside the structure, are labeled on the Shaeffer’s plan drawing (1965:Figure 71) as “smoke flues.” The three small room additions are believed to have been accessible from both the interior and exterior of the house. These small rooms are similar in size and placement to features interpreted as storage facilities or “bins” present at some Antelope Creek phase structures (see Lintz 1986:100).

The faunal assemblage from Hedding is dominated by bison and deer, despite the fact that MNI’s for each are only two and one, respectively (Drass 1989:3). The presence of 14 bone digging tools suggests that horticulture represented an important activity for site occupants. Overall, Hedding people appear to have depended on bison and deer hunting and horticulture (Drass 1989:4).

Shaeffer’s (1965) original analysis stated that the ceramics from House #2 consisted primarily (90%) of plain wares with sand temper. Afterward, Flynn (1984:284) identified the pottery from this structure as “shell tempered with plain, smooth surfaces and a moderated texture.” Later, Drass (1989, 1995) reexamined the complete assemblage from the Hedding site. These results (Drass 1995:Table 1) differ from previous interpretations and indicate that the ceramics from the structures are predominately smoothed-over cordmarked with a fine sand temper. The author concurs with these recent findings.

Because the site remains undated it is probably a mistake to assume that the same group occupied all areas of the site contemporaneously or over a short time. This interpretation is tentatively supported by ceramics recovered from the site that indicate that cordmarked wares dominate the assemblage from all areas except for those associated with House #2, where Wolf Creek Plain comprises over 80% of the total sherds (see Table 2).

Comparatively few chipped stone artifacts were recovered during salvage excavations at the Hedding site (N=304). Overall, local raw materials dominate the assemblage and are represented by Day Creek (74%), quartzite (2.0%), and Tecovas (3.3%). Nonlocal materials are represented by Alibates (3.6%), Florence-A (9.2%), Wreford (0.7%), and Edwards (1.6%), respectively. Diagnostic tools recovered are representative of typical Plains Village assemblages of the region and include one Fresno projectile point, one beveled knife fragment, 11 bison scapula hoes, threeibia digging sticks, and one notched scapula flesher.

**Wickham #3 (34RM29)**

The Wickham #3 site was originally recorded during a survey of a proposed ARKLA gas pipeline route (Saunders et al. 1972). The site is on a high terrace overlooking the Washita River in Roger Mills County (Figure 1) approximately 20 km west-southwest of the Zimms site. Later investigations at the site by Wallis (1984) consisted of emergency salvage work following land-leveling activities. Nineteen features, three of which contain human remains, were recorded at the time (Wallis 1984). Two projectile points embedded in the sternum and humerus of one adult male cremated at the site indicates that this individual met a violent death.

Three main areas of the site are identified and include the main burial area, the southeastern extension, and the high terrace. Eleven features consisting of subterranean pits containing limited amounts of trash debris were located in a main burial area. The remaining eight features are all located in the southeastern extension. No discrete features were identified on the high terrace. An analysis of ceramics from the site appears to indicate that each area of the site may represent different occupation episodes (Wallis 1984:20). To date no materials from the site have been submitted for radiocarbon analysis.
The limited number of artifacts attributable to subsistence activities in the Wickham assemblage makes determination of economic pursuits difficult. Nonetheless, some tentative interpretations are possible. The absence of horticultural bone tools at first glance would appear to indicate that agriculture was not practiced at the site. However, the few small corn cob fragments recovered from the fill of features 9 and 19 and the presence of numerous storage pits may suggest otherwise.

The overall low number of formal tools, along with the high number of expedient flake tools appears to suggest short-term occupation by hunting and gathering groups. Brooks et al. (1992:74) suggest that the limited diversity and frequency of tools, combined with the evidence for human internment, may indicate that site activities were primarily associated with mortuary behavior, an interpretation also suggested for the New Smith site (Brooks et al. 1992).

The only feature at Wickham #3 that could be interpreted as a potential structure is Feature #15. This subterranean feature is the largest recorded at the site, with an estimated size of six meters from northwest to southeast, at least three meters in width near the northern end, and approximately 48 cm in depth. Test trenching and soil auguring indicate that the feature was oval in shape and contained abundant midden debris. Wallis (1984:13) states that the entire feature was not completely excavated, and what was examined was done so in an expedient manner and only partially screened.

Although Wallis (1984:13) notes that the function of this feature is uncertain, the presence of a single post may suggest the remains of a simple structure. No plan drawings are available for feature #15. The remaining features identified at the site represent small trash pits or basin hearths.

The ceramic analysis presented by Wallis (1984) indicates that the assemblage is comprised of nearly equal amounts of cordmarked (smoothed-over, N=32 and unsmoothed, N=8) and plain wares (N=47). The dominant materials (99%) used for temper at the site include limestone, sand grit, bone, or some combination of each. Surface decorations are absent. Wallis (1984:20), however, notes that if the ceramic assemblages from the three main areas of the site (i.e., southeastern extension, main burial area, and the high terrace) are viewed separately, a different pattern emerges (see Table 2). Viewed separately, the high terrace has 100% plain wares and the main burial area has 100% smoothed-over cordmarked. The southeast extension has a mixture of all three ceramic types present at the site. Five additional sherds came from mixed surface contexts. These differences may suggest separate occupations by potentially unrelated groups (Wallis 1984:20). In the absence of well-dated contexts at the site, this hypothesis remains untested. Additionally, five fragments of baked clay thought to be clay figurines were also present. Unfortunately, pictures or illustrations of these artifacts are not presented by Wallis (1984).

The largest tool category at the site is utilized flakes. These tools represent 85% of the chipped stone assemblage. Several apparent discrepancies were noted between related artifact classes. For example, while projectile points (N=19), including both Washita and Fresno varieties, are well represented at Wickham, tools related to butchering and hide working are relatively rare; only two bifacial knives, and two scrapers were recovered. Additionally, although 28 hammerstones and 29 cores were identified, only 225 pieces of debitage were recovered, suggesting that little actual tool production occurred at the site. However, the lack of systematic screening probably influenced the recovery rates of debitage. In addition, eight mano fragments and three fragments of metates were recovered, indicating that plant processing was conducted at the site.

Raw material designations were only made for cores, utilized flakes, and materials collected from the surface (Saunders et al. 1972). These results are presented Table 1. Although 70 artifacts produced from Alibates were recovered, most items are small and could have been procured from local gravel sources. In fact, the only artifacts large enough to have been derived from quarry sources are two large bifacial knives. In sum, assuming that the relatively diverse collection of lithic types represented in the assemblage were derived from local Ogallala gravel sources, they likely were, raw material use at the site consisted largely (96%) of locally available stone.

Organic remains (i.e., bone and shell) comprise 62% (N=1076) of the total cultural material (N= 1745) recovered. Mussel, bird, turtle, deer, bison, rabbit, and other small mammals are represented, but
Table 1: Raw Materials Represented at 34RM29.

<table>
<thead>
<tr>
<th></th>
<th>Alibates</th>
<th>Quartzite</th>
<th>Cherts</th>
<th>Florence-A</th>
<th>Other</th>
<th>Tecovas</th>
<th>Totals</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cores</td>
<td>11</td>
<td>15</td>
<td>1</td>
<td>0</td>
<td>2</td>
<td>0</td>
<td>29</td>
</tr>
<tr>
<td>Utilized Flakes</td>
<td>52</td>
<td>9</td>
<td>15</td>
<td>5</td>
<td>2</td>
<td>1</td>
<td>84</td>
</tr>
<tr>
<td>Surface</td>
<td>7</td>
<td>3</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>12</td>
</tr>
<tr>
<td>Total</td>
<td>70 (56%)</td>
<td>27 (21.6%)</td>
<td>17 (13.6%)</td>
<td>5 (4.0%)</td>
<td>5 (4.0%)</td>
<td>1 (0.8%)</td>
<td>125</td>
</tr>
</tbody>
</table>

percentages of identified specimens for each are not presented (Wallis 1984:19). Bone tools, human bone, and items of personal adornment represent 16% of the total organic remains. The latter category includes bone beads (N=9), marine shell pendant fragments (N=37), and one shell bead. Although 119 utilized or polished bone artifacts were recovered, only one tool, an arrow shaft wrench or straightener, was identified.

**Lamb-Miller (34RM25)**

The Lamb-Miller (34RM25) site is atop a ridge that overlooks Nine Mile Creek to the west and an unnamed tributary to the east. The site is in Roger Mills County and is approximately 9.5 km southwest of the Zimms site (Figure 1). 34RM25 was originally recorded during a reconnaissance survey of the proposed ARKLA pipeline (Saunders et al. 1972). The site assemblage was tentatively assigned to the Washita River phase (Hofman 1980) and later to the Zimms complex (Moore 1988). Moore’s paper reexamines the assemblage from Lamb-Miller, linking it to the Zimms complex, and provides a summary of traits associated with this complex.

Systematic subsurface investigations have not been carried out at the site and evidence for subterranean storage pits or structures have yet to be identified. Thus, the site is known only from surface collections and no radiocarbon dates have been submitted. Lamb-Miller is interpreted as a seasonal base camp, possibly used by bison hunters (Moore 1988:145).

Overall, interpretations of subsistence strategies and site function are difficult to formulate due to low number of artifacts recovered from the site. However, the prevalence of unmodified flake debris, thick bifaces, and scraping tools suggest that tool manufacture and hide working were the dominant activities at the site.

Bone and antler artifacts are poorly represented in this surface assemblage. One deer antler tine, 12 fragments of bone (8 of which are burned), and 11 mussel shell fragments have been recovered. Besides the antler tine, one turtle and one bison or cow tooth fragment are the only identified faunal remains from the site (Moore 1988:142).

There are a total of 4 rim and 135 body sherds from the site. These have all been identified as Quartermaster Plain (Moore 1988:142). “Vessel forms appear to have been shouldered jars with standing or possibly everted rims” (Moore 1988:142). The predominant temper of these wares is finely crushed fossiliferous shale.

The chipped stone assemblage is comprised of items related to the manufacture of stone tools and hunting and processing of wild game. Artifacts associated with hunting, butchery, and hide working include two projectile points (1 Washita and 1 Fresno), three beveled knives, and 19 scrapers. These tools represent 47% (N=24) of the tool assemblage (Moore 1988:Table 1). Items related to lithic reduction represent the vast majority of the chipped stone artifacts. flakes, blocky debris, and cores comprise 83% of the total lithic assemblage. Although ten different raw materials are represented at Lamb-Miller, eight of these are believed to have derived from local sources (83.2%, N=257). Florence-A (16.3%, N=50) and Edwards (0.6%, N=2) are the only two nonlocal materials present. This lithic assemblage is unique in that apparently no Alibates was recovered.

**Blackketter-Pyeatts (34RM180)**

The Blackketter-Pyeatt site is known only from surface collections and shovel tests (Moore 1984b:140-144). The site is located on a high ridge 250 m northwest of an unnamed tributary to Quartermaster Creek. Blackketter-Pyeatt is approximately 0.5 km from Quartermaster Creek and 16.5 km west-northwest of the Zimms site (Figure 1).

The surface assemblage contains debitage, a T-shaped drill, a beveled knife, eight flake tools,
mussel shell fragments, and eight Quartermaster Plain sherds. The temper of these sherds includes fossiliferous shale (N=6), fossiliferous shale and sand (N=1), and shell (N=1). Raw material data is available for only five chipped stone artifacts from the site. The presence of Alibates (N=2), Florence-A (N=1), and Edwards (N=2) is similar to that observed at other Zimms sites. Although the raw materials used for much of the lithic assemblage is unreported, it is assumed here that these items were produced from local materials. One other notable feature of the site is a square-shaped depression approximately 5.4 x 5.4 m in size (Moore 1984:140). This depression is oriented northeast-southeast and additional testing is required to determine whether it represents a cultural feature or something else.

Moore (1984b:141) suggests that the similarity of the 34RM180 assemblage, and no doubt its geographical proximity, to the Zimms site warrants its inclusion into the Zimms complex. Moore (1984b) further suggests that the possibility of intact, buried structures and features at Blackketter-Pyeatts provides an excellent opportunity to further investigate Zimms complex manifestations.

Synthesis

The review of site features and assemblages presented above allows a closer examination of similarities and differences amongst sites attributed to the Zimms complex. Similar topics have been addressed by Brooks et al. (1992), Drass (1989), and Moore (1988), but have largely consisted of comparisons between two sites. The following discussion concentrates on the degree of variability in architectural forms, ceramic assemblages, and raw material use as represented at the study sites.

Architecture

As of this time, evidence for five structures is represented at Zimms, Hedding, and New Smith. Additional structures may be present at Lamb-Miller and Blackketter-Pyeatts, but remain uninvestigated at this time. Previous research indicates that three types of structures are represented at sites attributed to the Zimms complex: square to rectangular shaped, semi-subterranean houses (Zimms and Hedding; N=2), a keystone shaped semi-subterranean house (Hedding; N=1); and possibly arbor-like surface structures (New Smith; N=2). Since arbors remain to be well documented, further discussion of these structural forms is precluded until additional examples are discovered. Therefore, the following discussion addresses similarities, as well as the range of variation, of the meager sample of three house forms represented at the Zimms and Hedding sites.

Brooks et al. (1992:61) suggest that house structures “serve to identify the Zimms complex as a distinct cultural expression.” They (1992:61) note that:

“… houses at the Zimms and Hedding sites are semi-subterranean with central, depressed floor channels and a raised platform on the west wall. The houses are square (6 x 6 m) to rectangular and contain a central hearth and two central support posts. Instead of stone slab masonry, walls are plastered with daub to a height of 100 cm. Except for the absence of the vertically placed stone slabs, this architectural pattern is most like houses found among Antelope Creek phase.”

It appears as though this description of Zimms architecture is simply a report of Structure #1 at the Zimms site as presented by Flynn (1984:220-223). Brooks et al. (1992:61) incorrectly note that the House #2 at Hedding has two central support posts (it has at least four) and plastered daub walls that were 100 cm high (the wall height for houses at Hedding is not mentioned by Shaeffer and it is probable that such determinations were not possible considering features were uncovered during road construction activities).

Flynn (1984:284) suggests that the structures at Hedding and Zimms “share striking architectural similarities”. Shared similarities noted by Flynn (1984:284) include: their location along a tributary of a major river, burning, rectangular shape, similar size, semi-subterranean construction, and wattle and daub walls. Both Drass (1989:3) and Flynn (1984:284) have suggested that the north side of the Hedding house was destroyed during road construction activities or was simply not recognized by Shaeffer. If this is true, then the two structures are indeed remarkably similar. Figure 7 depicts House #2 at Hedding as drawn by Flynn (1984:Figure 73). Although the Hedding house appears to have been of post and wattle and daub construction, evidence is limited to 5 postholes, 3 probable postholes, and very little wattle and daub (Shaeffer 1965:138).
Differences between the two structures include size and the presence of possible floor bins (referred to as “rooms” by Shaeffer) along the south wall of House #2. First, the Zimms structure is 6.1 x 6.4 m, yielding 39 square meters of floor space, while the Hedding House #2 is 3.8 x 5.3 m with 20 square meters of floor space. Even if one quarter of House #2 remains unrecognized, it would still be at least 25% smaller than the Zimms structure. Second, the three floor bins on the south side of the Hedding house are not observed at the Zimms house. The small size of these rooms (ranging from approximately 3.4 and 5.6 square meters) and the absence of interior fireplaces support the idea that they were used as storage rooms or bins rather than rooms as proposed by Shaeffer (1965). As noted earlier, comparable architectural features are common at Antelope Creek sites. Lastly, it is interesting to note that House #1 (Figure 5) at the Hedding site has yet to be discussed to any detail in past Zimms literature. This small structure appears to be ignored largely because it is not comparable to any existing known house form.

Overall, previous discussions suggest that architectural features of the Zimms complex are homogenous across space and time (e.g., Brooks et al. 1992). This determination is somewhat premature considering that only three house structures have been documented. This has likely served to give researchers a false impression of the true variability in Zimms architecture. Clearly, Structure #1 at Zimms and House #2 at Hedding are remarkably similar, but this house style may eventually be shown to represent a form used over a large portion of the Southern High Plains by a number of culturally unrelated groups. In addition, although arbor-like features were excluded from the synthesis and may ultimately prove to be a common feature of the complex, these structures may not be particularly
diagnostic of any one Plains group. Instead it is likely that many groups who occupied arid regions of the world commonly built arbors. In sum, the limited number of house structures currently available for the Zimms sites is insufficient for characterizing what is “typical” for the complex. A similar problem exists for the adjacent Turkey Creek phase (Drass 2002; personal communication). Furthermore, as is discussed below, the cultural relationships assumed to exist between Zimms and Hedding sites based on similarities in house forms are cast into doubt considering the variability that exists among the ceramic assemblages from each of these sites.

Ceramics

When the ceramic assemblages from sites attributed to the Zimms complex are compared it is clear that Quartermaster Plain wares overwhelmingly dominate at all sites except Wickham and Hedding (Table 2). At Zimms, New Smith, Lamb-Miller, and Blackketter-Pyeatts, Quartermaster Plain comprises greater than 97% of each ceramic assemblage. Such a pattern is consistent with the claim that this type of ceramic is characteristic of Zimms sites. However, considerably more variability exists at the Wickham #3 and Hedding sites. This variability, coupled with the absence of radiocarbon dates, may indicate that multiple occupations are represented.

At Wickham #3, Quartermaster Plain represents 100%, 61.2%, and 60% in the high terrace, southeast extension, and mixed surface area assemblages, respectively. However, in the main burial area Quartermaster Plain is absent and only cordmarked sherds are represented. At the Hedding site, Drass (1989:3) notes that “the pottery . . . does not resemble the wares found at the Zimms site” (i.e., Quartermaster Plain). Borger Cordmarked sherds represent 88% and 73.5% of the assemblages from House #1 and surface contexts and pits not associated with structures (Table 2). At House #2 over 80% of the assemblage is comprised of Wolf Creek Plain. Quartermaster Plain ceramics are absent from Hedding altogether. The major differences between Borger Cordmarked/Wolf Creek Plain and Quartermaster Plain wares are temper and thickness (Drass personal communication; 1997). In sum, these ceramic data appear to suggest that multiple occupations occurred at Wickham #3 and Hedding. Fortunately, in both cases, mixing of materials from each occupation episode appears to be extremely limited.

Clearly, given the problems noted above in regards to architecture, ceramics are perhaps the best diagnostic indicator for identifying Zimms complex sites. Quartermaster Plain ceramics dominate at four of the six purported Zimms sites (i.e., Zimms, New Smith, Lamb-Miller, and Blackketter-Pyeatts). At Wickham #3 these plain wares dominate at all areas except the main burial area, which has 100% cordmarked wares and may represent brief use of the site by another group. In contrast, at Hedding,

Table 2: Summary of Ceramics from Zimms Complex Sites.

<table>
<thead>
<tr>
<th>Site</th>
<th>Quartermaster Plain</th>
<th>Cordmarked</th>
<th>Smoothed-Cordmarks</th>
<th>Wolf Creek Plain</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>Zimms</td>
<td>97.2%</td>
<td>0.5%</td>
<td>1.0%</td>
<td>0.0%</td>
<td>1.3%</td>
</tr>
<tr>
<td>New Smith</td>
<td>97.6%</td>
<td>0.0%</td>
<td>1.8%</td>
<td>0.0%</td>
<td>0.6%</td>
</tr>
<tr>
<td>Lamb-Miller</td>
<td>100%</td>
<td>0.0%</td>
<td>0.0%</td>
<td>0.0%</td>
<td>0.0%</td>
</tr>
<tr>
<td>Blackketter-Pyeatts</td>
<td>100%</td>
<td>0.0%</td>
<td>0.0%</td>
<td>0.0%</td>
<td>0.0%</td>
</tr>
<tr>
<td>Wickham Hi. Terrace</td>
<td>100%</td>
<td>0.0%</td>
<td>0.0%</td>
<td>0.0%</td>
<td>0.0%</td>
</tr>
<tr>
<td>Wickham SE Ext.</td>
<td>61.2%</td>
<td>22.4%</td>
<td>16.3%</td>
<td>0.0%</td>
<td>0.0%</td>
</tr>
<tr>
<td>Wickham Mixed</td>
<td>60.0%</td>
<td>40.0%</td>
<td>0.0%</td>
<td>0.0%</td>
<td>0.0%</td>
</tr>
<tr>
<td>Wickham Main Burial</td>
<td>0.0%</td>
<td>100%</td>
<td>0.0%</td>
<td>0.0%</td>
<td>0.0%</td>
</tr>
<tr>
<td>Hedding House #1</td>
<td>0.0%</td>
<td>52.0%</td>
<td>36.0%</td>
<td>4.0%</td>
<td>8.0%</td>
</tr>
<tr>
<td>Hedding House #2</td>
<td>0.0%</td>
<td>11.8%</td>
<td>5.8%</td>
<td>82.4%</td>
<td>0.0%</td>
</tr>
<tr>
<td>Hedding Other*</td>
<td>0.0%</td>
<td>52.9% **</td>
<td>20.6%</td>
<td>20.6%</td>
<td>5.9%</td>
</tr>
</tbody>
</table>

* indicates sherds from surface and pit features not associated with structures
** does not include 2 Borger cordmarked vessels (1 complete and 1 nearly complete)
Borger Cordmarked wares represent over 73% of the assemblage from House #1 and surface/pits, and Wolf Creek Plain is the primary ceramic type associated with House #2. Borger Cordmarked and Wolf Creek Plain are typical of wares documented for the Antelope Creek phase and Plains Border Variant. It is suggested that the variation observed in the ceramic assemblages from Wickham and Hedding may reflect occupation by non-Zimms groups.

**Lithic Raw Material Use**

Patterns of raw material use suggest that there is very little variability amongst Zimms sites. Materials derived from either local gravel or bedrock (e.g., Day Creek) sources dominate (78.8%-96.0%) each of the assemblages and suggest limited involvement in intertribal trade networks and/or small territory sizes. The chipped stone assemblage from Blackketter-Pyeatts contains only 5 items (2 Alibates, 2 Edwards, and 1 Florence-A) and is not included in this summary. Table 3 presents percentages of source materials represented at Zimms sites. Local materials includeolithics obtained from the Ogallala Formation, Alibates cobbles derived from gravel sources, and Day Creek silicified dolomite. A second characteristic of Zimms site assemblages is the presence of Florence-A, also known as Kay County chert. This material comprises between 4% and 16% of each lithic assemblage. Edwards chert from central Texas also appears at most sites, but only in the form of two or less flakes. It is possible that these flakes identified as Edwards actually represent other “look alike” materials derived from local gravel deposits (see Bement and Brosowske 1999:33). The procurement of Alibates appears to have consisted almost entirely of cobbles obtained from local gravel sources. The primary exceptions to this pattern are the large bifacial knives that occur in limited numbers at Zimms sites. These items were probably obtained through exchange with neighboring groups.

The occurrence of obsidian at Zimms sites is rare and presently is known only from the type-site. Given that the provenience of obsidian from Zimms is unknown, it is possible that it is associated with another occupation. Another possibility is that occupants of the site scavenged the obsidian, although the identification of two separate obsidian sources and the presence of large numbers of Olivella shell beads interred as grave goods at the New Smith site make this scenario seem unlikely suggesting that Zimms groups were involved to some degree in interregional trade networks.

A major characteristic of Zimms technological organization noted by Drass (1989:3) and Flynn (1984:278) is the use of high quality nonlocal siliceous materials (e.g., Alibates and Florence-A) to produce formal, curated stone tools (e.g., beveled knives, scrapers, and projectile points). This pattern, however, is not particularly unique and is common strategy in many lithic poor regions, especially the Southern High Plains (see Andrefsky 1994). Overall, the use of local resources by Zimms groups suggests limited involvement in regional exchange and/or limited mobility magnitude (i.e., small territory sizes).

**Dates**

Given the lack of radiocarbon dates from proposed Zimms sites it is difficult to accurately determine the temporal span of the occupations. Currently, dates have only been obtained from Zimms and New Smith (Table 4). Of the dates that seem to be acceptable (N=5), occupations occurred from about A.D. 1282-1450. This time span is contemporaneous with neighboring Turkey Creek phase sites (see Drass 1997:18).

Table 3 Lithic Raw Material Use among Zimms Sites.

<table>
<thead>
<tr>
<th></th>
<th>Local Materials</th>
<th>Alibates Quarry</th>
<th>Florence-A</th>
<th>Edwards</th>
<th>Unknown</th>
</tr>
</thead>
<tbody>
<tr>
<td>Zimms</td>
<td>78.8%</td>
<td>8.3%</td>
<td>6.4%</td>
<td>0.0%</td>
<td>6.5%</td>
</tr>
<tr>
<td>New Smith</td>
<td>92.2%</td>
<td>2.2%</td>
<td>4.4%</td>
<td>1.1%</td>
<td>0.0%</td>
</tr>
<tr>
<td>Hedding</td>
<td>79.4%</td>
<td>3.6%</td>
<td>9.9%</td>
<td>1.6%</td>
<td>5.5%</td>
</tr>
<tr>
<td>Wickham #3</td>
<td>96.0%</td>
<td>0.0%</td>
<td>4.0%</td>
<td>0.0%</td>
<td>0.0%</td>
</tr>
<tr>
<td>Lamb-Miller</td>
<td>83.2%</td>
<td>0.0%</td>
<td>16.2%</td>
<td>0.6%</td>
<td>0.0%</td>
</tr>
</tbody>
</table>
Table 4 Radiocarbon and Archaeomagnetic dates from Zimms Sites

<table>
<thead>
<tr>
<th>Lab #</th>
<th>Provenience</th>
<th>Radiocarbon Age</th>
<th>Calibrated Age&lt;sup&gt;a&lt;/sup&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td>TX-3303</td>
<td>34RM72; Exterior post</td>
<td>900±50</td>
<td>A.D. 1160</td>
</tr>
<tr>
<td>Uga-2217</td>
<td>34RM72; Interior post</td>
<td>1065±60</td>
<td>A.D. 986</td>
</tr>
<tr>
<td>Beta-6760</td>
<td>34RM72; Interior post</td>
<td>580±50</td>
<td>A.D. 1332, 1340, 1398</td>
</tr>
<tr>
<td>Beta-6761</td>
<td>34RM72; Exterior post</td>
<td>550±50</td>
<td>A.D. 1406</td>
</tr>
<tr>
<td>Beta-6261</td>
<td>34RM72; Post from central channel</td>
<td>290±50</td>
<td>A.D. 1640</td>
</tr>
<tr>
<td>Archaeomag.&lt;sup&gt;b&lt;/sup&gt;</td>
<td>34RM72; Curb along central channel</td>
<td>-</td>
<td>A.D. 950±19 or A.D. 1450±19</td>
</tr>
<tr>
<td>Beta-15978</td>
<td>34RM400; Pit in structure 2</td>
<td>730±90</td>
<td>A.D. 1282</td>
</tr>
<tr>
<td>Beta-10396</td>
<td>34RM400; Post from structure 2</td>
<td>620±50</td>
<td>A.D. 1315, 1354, 1387</td>
</tr>
</tbody>
</table>

<sup>a</sup> University of Washington, Quaternary Isotope Lab, Radiocarbon Calibration Program Rev. 4.3
<sup>b</sup> Archaeomagnetic date (Sample #830) resulted in two possible dates due to the pole position occurring near a cross-over point on the magnetic curve

Discussion

The material economies and architecture of purported Zimms complex sites of western Oklahoma have been reviewed here. Cultural traits previously proposed to be associated with this poorly known complex include rectangular houses with central depressed floor channels (i.e., virtually identical to Antelope Creek type I structures but lacking stone foundations), Quartermaster Plain ceramics, and use of local lithic materials accompanied by the presence of Florence-A chert (Brooks et al. 1992, Drass et al. 1987; Flynn 1984; Moore 1988). It is clear that the latter two traits and the lack of Alibates obtained from bedrock sources do indeed characterize Zimms, New Smith, Wickham #3, Lamb-Miller, and Blackketter-Pyeatts; all of which cluster in a relatively small area of Roger Mills County.

Despite similarities in house forms identified at Zimms and Hedding (e.g., Flynn 1984), substantial differences in ceramic assemblages exist between the latter site and the core area of sites to the south. The Hedding site is noticeably separated from other known Zimms sites, located approximately 70 km northeast of the type-site. Based primarily on ceramic and architectural similarities to the type-site (Flynn 1984), Hedding has long been considered representative of the Zimms complex. Further analysis of the 34WD2 materials by Drass (1989:4), however, suggests that significant differences exist in the subsistence economies, and ceramic and bone assemblages between Zimms sites and Hedding. A similar conclusion is reached here. In addition, although seldom discussed, House #1 at Hedding does not resemble any other currently known Zimms structure. Lastly, the large number of horticultural tools recovered at Hedding is also noticeably different from the pattern observed at other Zimms sites. Based on the evidence at hand, it is recommended that the Hedding site not be included in the Zimms complex any longer. Recently, it has been noted that House #1 is similar to the structure excavated at the Bell site (14CM407) in Kansas (Bevitt and Brosowske 2001). Characteristics of House #1 and the ceramic assemblage, as well as its geographic location, led Bevitt and Brosowske (2001) to include Hedding in the Plains Border Variant.

Thus, it is concluded that only the Roger Mills County sites appear to be similar enough to warrant inclusion into a single complex designated as Zimms. This synthesis provides evidence for the predominance of Quartermaster Plain ceramics and the use of local raw materials at each of the Roger Mills sites. The presence of two arbor-like structures at New Smith and a possible third at Wickham #3, in addition to Structure #1 at Zimms, suggests that a great deal more architectural variability exists in Zimms complex sites than is commonly proposed. Overall, details regarding the nature of architectural features remain poorly understood at this time. Additional excavation at sites such as Blackketter-Pyeatts is required to fully comprehend the extent of architectural forms. Subsistence strategies remain poorly documented but appear to consist of hunting and gathering. The rare occurrence of horticultural tools and an analysis of human remains suggest that farming was not emphasized.
Conclusions

It is commonly proposed that Zimms groups were heavily influenced by or frequently interacted with Antelope Creek phase populations to the west and Washita River groups to the east (e.g., Brooks et al. 1992; Drass et al. 1987; Moore 1988). Disregarding the basic traits shared by most Plains Village groups (e.g., beveled knives, distal endscrapers, Washita and Fresno projectile points, drills, etc.), what else about Zimms sites links them to neighboring groups? With Hedding no longer included in the complex, ties to Antelope Creek groups are based primarily on the architectural style of a single structure at the Zimms site. If, however, close ties did exist among Zimms and Antelope Creek groups, then it would seem logical that Alibates silicified dolomite obtained from the main quarry areas would occur in larger quantities at Zimms sites. Such a pattern does not characterize Zimms sites. As such, this feature, in and of itself, suggests that little regular interaction occurred between Zimms and Antelope Creek groups.

Drass and Turner (1989) suggest that Zimms ceramics indicate a close relationship with Washita River, or more specifically, the Turkey Creek phase (A.D. 1250-1450) groups, as recently defined by Drass (1997). This is especially true when the few decorated wares from the Zimms site are compared to those from the McLemore site (see Pillaert 1963). Overall, however, decorated sherds are rare at Zimms sites and those present may represent trade vessels. Finally, when Quartermaster Plain was originally described, Flynn (1984:258-261) noted that similarities to Lindsey Plain (i.e., a typical Washita River phase ware) are relatively few suggesting that ceramics may allow sites occupied by each of these Plains Villagers to be differentiated.

Currently, Zimms complex sites are only documented in far western Oklahoma. However, a distinct possibility exists that the complex will eventually be expanded to include sites farther west. Architectural similarities have long been noted between Structure #1 at the Zimms site and a single house at the Jack Allen site in Hutchinson County, Texas (see Flynn 1984; Lintz 1986:356-359). In addition, recent work at the Hank site (Boyd and Wilkens 2001) further documents an Antelope Creek type I house form without stone slab foundations. Formal analyses and publication of cultural assemblages and radiocarbon dates for these two Texas sites are forthcoming, and thus, possible relationships between Zimms sites and sites farther west remain unclear at this time.

Zimms complex sites of Roger Mills County, and possibly the Texas sites mentioned above, appear to represent residentially dispersed nuclear or extended families who occupy a geographic location intermediate or peripheral to several better-known Plains Villagers, namely the Antelope Creek and Washita River/Turkey Creek phases and the Plains Border Variant (see Bevitt and Brosowske 2001; Drass 1997; Lintz 1986 for descriptions of these taxonomic entities). So who are Zimms people and where do they come from? At the most general level, two main models may be proposed for populations occupying areas peripheral to more aggregated groups: 1. sites represent indigenous local groups that choose to remain autonomous and 2. sites represent movement into the area by surrounding groups (i.e., in migration as a result of group fissioning). Although rarely addressed, is it possible that each of these two scenarios may be distinguished from one another on the basis of fundamental differences in material culture? One would think so. For example, sites occupied by indigenous populations would seem to be characterized by cultural traits unique in comparison to those surrounding them, while migrating populations should maintain at least some traits from their homeland. The Zimms and northeastern Texas panhandle sites appear to be characterized by a combination of both unique and shared traits.

Whatever the case may be, populations in the area seem intent on maintaining their own political and economic autonomy. This autonomy appears to be reflected in the occupation of dispersed homesteads occupied by nuclear or extended family units, broad-scale subsistence economies (i.e., hunting and gathering, probably supplemented by horticulture), restricted use of nonlocal lithic raw materials suggesting limited involvement in regional trade systems, distinctive ceramic assemblages, and probably a semi-sedentary lifestyle. Combined, each of these strategies epitomizes highly flexible adaptations and may represent a response to some currently undefined cultural or environmental stress.

Although conjectural at this time, one possibility is that the study area was occupied by indigenous populations that were culturally distinct from those around them but possess material economies or
architectural traditions that reflect influence from numerically, economically, and politically more powerful neighboring groups. In this setting, cultural assemblages may appear most similar to the closest, the largest, or the most influential neighboring population. More or less, this is the scenario most commonly proposed for sites in the Zimms complex area.

Another option is that the study area represents a frontier or buffer zone that was not owned or controlled by any one group, but was available for use by a number of neighboring populations for brief hunting and gathering excursions or relatively short-term occupation as populations periodically expanded and contracted. In this scenario, it is possible that favored site locations, such as resource rich areas near springs, could potentially contain multiple occupations by a number of materially distinct groups. A similar result could occur if the area represented a shared buffer zone in which different groups periodically occupied the area during times of resource scarcity. This situation may explain the presence of diverse assemblages observed at sites such as Hedding and Wickham #3.

Lastly, it is important to realize that it is unlikely that the rate of cultural change was the same for all prehistoric populations within a region, and in fact, considerable variability appears to exist among some individual Southern Plains Village societies (see Bevitt and Brosowske 2001; Drass and Flynn 1990; Lintz 1986). Thus, we cannot assume that all Plains Villagers are practicing identical lifestyles. For example, even though some groups may be sedentary horticulturalists does not mean that others were more mobile and practiced less horticulture. Clearly, there is too much variability in settlement size, location, and density of currently known sites to assume that lifeways are homogenous.

So what exactly is the Zimms complex? Despite the title of this paper, it is not proposed that a simple identification of traits will answer this question. Although some hypotheses have been posited, additional research is clearly necessary before many basic questions may be addressed. Nonetheless, in many ways, Zimms groups appear similar to Plains Woodland occupations of the Southern High Plains. Similarities include use of local lithic resources, small isolated sites apparently occupied by individual families, and hunting and gathering with little evidence for corn horticulture. Major differences, however, include the apparent occupation of substantial dwellings at times, and probably, the use of subterranean storage. As noted variously by others (Brooks et al. 1992; Drass and Moore 1987; Drass et al. 1987), the Zimms complex may indeed be locally derived from earlier Woodland populations, representing a unique adaptation to western Oklahoma and possibly areas farther west.

Generally, related sites are grouped together into a complex under the assumption that future research will generate additional information that enables the taxonomic unit to be further refined. To date this has not occurred with the Zimms complex. Thus, this synthesis represents an initial step toward this goal and will aid in determining whether existing or newly discovered sites warrant inclusion in the complex. Currently, inadequate knowledge of the Zimms complex precludes elevation to the status of phase as presented by Willey and Phillips (1958). As a result, attempts have not been made here to refine current taxonomic classifications. Overall, these discussions serve to underscore several major points: 1. the nature of cultural variability that occurs in areas peripheral to better-known taxonomic units and 2. the lack of research that characterizes peripheral areas of the Southern Plains. As research continues to expand to include poorly known “in between” areas and explicit theoretical frameworks are developed to explain phenomena in these areas the Zimms complex should become better understood.

References Cited


Bevitt, C. T. and S. D. Brosowske

Boyd, D. K. and L. D. Wilkens

Briscoe, J.

Brooks, R. L., M. C. Moore, and D. Owsley

Brosowske, S. D. and L. B. Bement

Drass, R. R.


Drass, R. R. and P. Flynn

Drass, R. R., T. G. Baugh, and P. Flynn

Drass, R. R., and C. L. Turner

Flynn, P.


Hofman, J. L.

Lintz, C. R.

Moore, M. C.


Saunders, R. S., J. L. Hofman, and D. G. Wyckoff 1972 *Synopsis of Survey and Recommendations Concerning Archeological Resources along Proposed Anadarko Pipeline Project of Arkansas Louisiana Gas Company*. University of Oklahoma Research Institute, Norman.


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**Rock Art**

Seth Hawkins
A Mid-19th Century American-made Clay Tobacco Pipe

J. Byron Sudbury

Tobacco was one of the American Colonies’ first major exports. That export helped establish a thriving clay tobacco pipe manufacturing industry in Europe before 1600. Europe -- most significantly England and the Netherlands -- in turn, exported long stemmed white clay tobacco pipes to the Colonies for several hundred years.

With the start of the Revolutionary War, America’s tobacco pipe importation dropped off dramatically, and import demand never fully recovered. Initiated by this forced shortage resulting from the underlying desire for independence, an American clay tobacco pipe production industry began to develop. First came production by local potters for their immediate customers, or by individuals for their own personal needs who then bartered their excess production. Later, as distribution networks improved, large scale commercial production of clay pipes commenced. Machinery for mass production of clay pipes was developed in Ohio and patented in the 1850s. Clay pipes then proliferated until cigarette usage gradually began to increase and then supplanted pipes around the beginning of the 20th Century.

Clay pipes, in addition to being activity indicators to archaeologists, are of even more interest as potential time markers. If the time and place of a specific pipe style’s production are known, when specimens of that pipe style are recovered in an archeological context, the age of the archeological deposit containing the pipe can be deduced. Thus, by locating pipe manufacturing facilities or related sites, documenting their product, and determining their period of production, archaeologists obtain detailed source information that is extremely useful for dating features at other sites.

Conversely, if one recovers a pipe or pipe fragment from a dated archeological deposit at a site, one can use that information to help establish the time of production, distribution, and use of a certain pipe style. This data can be useful to help decipher other archeological deposits, to help determine the pipe style production sequence at the source, and to ascertain longevity of a certain pipe producer or pipe style.

As an example of these various threads of evidence, the illustrated redware pipe came from an elderly woman’s estate in central Virginia. Verbal reports indicate that this same identical pipe style has been recovered from Civil War related sites. In examining the literature, a redware pipe style with a somewhat similar profile was recorded from a tightly dated archeological context—the steamboat Bertrand (Hamilton and Hamilton 1972:27). The Bertrand was carrying supplies up the Missouri River when it sunk April 1, 1865 (Petsche 1974). Redware pipes were part of the cargo, and their shipping crate was labeled as having originated from Pamplin, Virginia. The pipes appear somewhat similar to the one illustrated here (the Bertrand specimens have a paneled (sided) right angle stem rather than the smooth conical slightly acute stem of the specimen shown below).

(Editors note: pipe is shown at approx. 1½ times original size
See color image at www.okarcheology.org/images/pipe.jpg)

Investigations of the Pamplin clay pipe industry have been ongoing for 30 years. Hamilton and Hamilton (1972:43) published the first archeological...
report about the Pamplin pipe industry and illustrated the pipe style shown above. Subsequent study documented five distinct variants of this same basic Pamplin pipe style (Sudbury 1979:309). Sudbury also presented a detailed report on the various periods of Pamplin pipe production (1977).

The mechanized pipe factory was operational in Pamplin by ca. 1879 and ceased operation by 1944. However, the pipe illustrated here is a product of the local Pamplin cottage industry where women produced pipes at their homes using hand-held molds; they then sold the pipes, or traded the pipes to the local General Store for merchandise. Thus, Pamplin’s local cottage (or “home”) redware pipe industry was apparently established several decades before the well-documented commercial factory was in full production. Cottage industry pipe molds often remained in use in the same family for generations. A mold for this particular Pamplin pipe style has been illustrated (Sudbury 1979:328).

The Bertrand site excavation report helps us to know that an active pipemaking industry was producing this general redware pipe style in the Pamplin area by 1865. Even more amazing is that this Pamplin product was well enough known in 1865 that Pamplin pipes were being shipped across the country. To help put this early date in perspective: Samuel Morse patented telegraphy in 1838 and sent his original telegraph message in 1844 (Telegraphy nd), the California gold rush was in 1849, the Pony Express route from Missouri to Sacramento operated in 1860-1861 (Encarta 2002), and the Transcontinental Railroad was completed May 10, 1869 (Golden Spike nd). Thus, to find an 1865 crate of fragile Pamplin pipes on a Missouri River steamboat at this early time is truly amazing. To date, the Bertrand specimens are the earliest archeologically documented pipe style produced by the Pamplin industry; interestingly, specimens of the actual Bertrand pipe style still have not been found in Pamplin.

Although more than five dozen distinct pipe styles were produced during the Pamplin industry’s eighty plus years of operation, the specimens illustrated in this article and in the Bertrand report are the two earliest Pamplin pipe styles known. The pipe style in this article was apparently produced for decades; during local road construction, Pamplin residents found identical redware pipes in a store basement deposit that dated to ca. 1900. Even though the early variety illustrated in this report was a long-lived pipe style, variations in specimen size, proportion, clay source, eccentricities of production technique, and mold wear can help us further refine our ability to source and date specimens of this particular pipe style.

References Cited

Encarta

Golden Spike

Hamilton, Henry W., and Jean Tyree

Petsche, Jerome E.

Sudbury, Byron


Telegraphy

Mark Your Calendar

The East Texas Archeological Conference will be held November 16 at Texarkana College in Texarkana, Texas. The meeting will last from 8 AM till 4 PM and is open to the public. Admission is $10. Topics will consist of information pertaining to East Texas Archeology. If you would like to present a paper, display a poster or other material, or obtain more information contact Mark Walters: walters@tyler.net.
OAS Awards Time is Here

This may well be the last society publication you read before the 2002 holidays, so listen up.

It is time to look out among your Society peers and mentors and decide if there is anyone that you would like to nominate for the Society’s Golden Trowel Award for 2002. Nominations must be postmarked (or emailed) not later than 12/31/02 or they will not be considered for this year’s award. So, right now while you are thinking about it, go ahead and submit a Golden Trowel nomination rather than risking forgetting about it until the deadline is past.

For your convenience a nomination form is in this edition of the Journal; you can tear it out or photocopy it; then fill it out and submit it to the address provided. Better yet, if you are computer savvy and wired, there is a nomination form on the society’s web site that you can download, fill-out and submit by email. With the difficult winter weather that we sometimes have, if the committee can share copies of the nominations electronically, it greatly facilitates distributing the nomination forms and supporting documents so everyone has ample time to study and review the nominations. Also, receipt of email nominations will be acknowledged upon receipt whereas “snail mail” nominations will not be acknowledged.

If you have lots to say, or supporting documentation in addition to what is called for on the form, by all means submit it. However, you must submit an official nomination form for your nominee to be considered. Besides summarizing your background information about the individual(s) in response to the five categories of contribution to the society and to archeology, it also clearly states who is being nominated, and who is making the nomination. That may sound rather mundane, but in last year’s submissions that information was not always totally clear as some people did not utilize the nomination form.

The seven Awards Committee members who will review the nominations and determine who (if anyone) will receive the 2002 Golden Trowel Award are:

Mary Ann Drass
Charlette Gifford
Gene Hellstern
George Odell
Byron Sudbury
Mick Sullivan
Pete Thurmond

This is your Society’s ultimate amateur award, and the committee members take their responsibility very seriously. We would ask you to put some time and thought into writing the nominations for those that you personally think are qualified to receive the award. Once you complete your nomination form, mail/email it with any additional supporting information to:

J. Byron Sudbury
P. O. Box 2282
Ponca City, OK 74602-2282
jschemistry@hotmail.com

Remember—the nomination deadline is December 31, 2002. Thanks and have a great fall and winter!

Byron
2002 OAS Golden Trowel Award Nomination Form

I wish to nominate ____________________________________________________ for the 2002 Oklahoma Anthropological Society’s Golden Trowel Award for the following reasons:

1. List relevant publication(s):
____________________________________________________________________________
____________________________________________________________________________
____________________________________________________________________________

2. List relevant field work:
____________________________________________________________________________
____________________________________________________________________________
____________________________________________________________________________

3. List other relevant accomplishments:
____________________________________________________________________________
____________________________________________________________________________
____________________________________________________________________________

4. List other relevant contributions:
____________________________________________________________________________
____________________________________________________________________________
____________________________________________________________________________

5. List any other pertinent comments supporting this nomination:
____________________________________________________________________________
____________________________________________________________________________
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I, the undersigned, respectfully submit this nomination for the 2002 Oklahoma Anthropological Society’s Golden Trowel Award.

Nominator’s Name __________________________ Date __________

This completed form must be submitted as part of the nomination process in order for your Golden Trowel nomination to be considered. The use of additional pages (letters, references, other supporting documentation, etc.) is encouraged in order to provide any other needed information to support this nomination. Nominations can be submitted by email (preferred; this nomination form is posted on the OAS web site (www.okarcheology.org) for your use), or by the U.S. Postal Service. Nominations must be postmarked or date stamped by December 31, 2002, to be considered for 2002 award.

Submit completed nomination form and any supporting documents to:

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Enrollment Form For Certification Program Seminars

___ S6 Archeological Photography. **Time:** Saturday, November 9, 2002, 8:30 a.m. (Tentative). **Place:** Oklahoma Archeological Survey Conference Room. **Instructor:** Jean Sinclair.

___ S12A Report Writing: Newsletter Article. **Time:** Saturday, December 7, 2002, 9:00 a.m. **Place:** Oklahoma Archeological Survey Conference Room. **Instructor:** Richard Drass.

Tentative -- seminars for spring 2003

S 9 – Organic Remains: Floral (Plants), S10 – Historical Archeological Methods, S18 – Archeological Sketching

Please include $2.00 per seminar as an enrollment fee (make checks payable to OU/Archeological Survey). In seminars with limited enrollment, preference will be given to members who are in the Certification Program. Some seminars may have an additional fee for reading or study materials; this is usually a nominal amount.

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