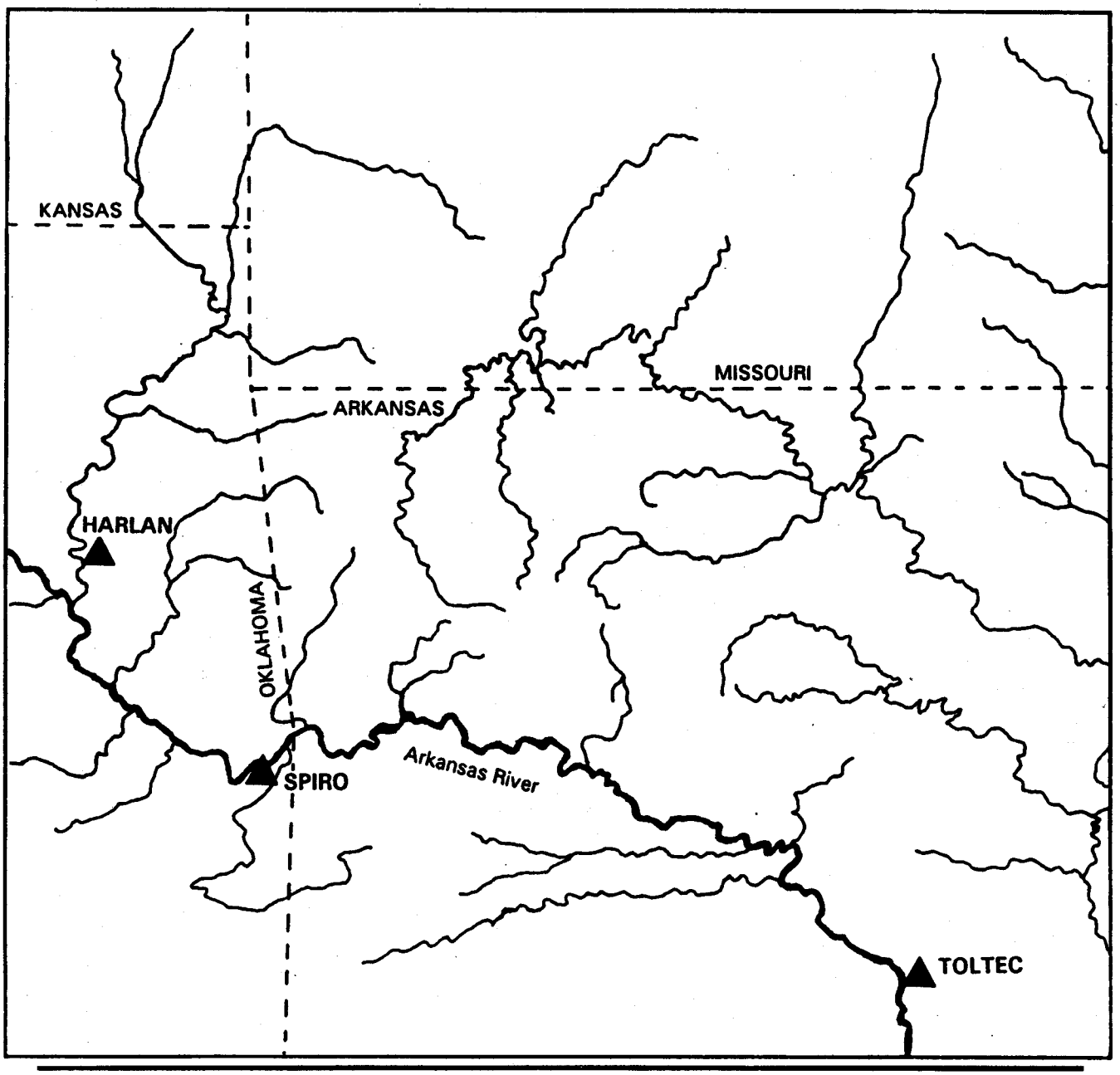
CADDOAN ARCHEOLOGY NEWSLETTER



Volume IV, Number 1 **April, 1993**

Table of Contents

COMMENTS FROM THE EDITOR

With this issue, the Caddoan Archeology Newsletter begins its fourth year of publication with a new editor. Several changes will be instituted with this volume. The newsletter will have a new look, thanks to help from Martha Lopez, the Oklahoma Archeological Survey's publications assistant. We have access, through the Survey, to the desktop publishing software, Ventura Publisher. By using this software, we will be able to introduce a new format.

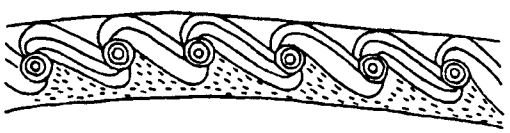
Throughout this year, some new features, such as book reviews, will be launched beginning with the next issue. I urge anyone who has a publication they would like reviewed to send a review copy. There will also be a regular list of upcoming events, including meetings, relevant exhibits, field schools, seminars, and avocational digs. If you know of something interesting happening in the area (or even outside it), please send this information to me. We would also like to print news about ongoing projects, changes of address/jobs for researchers, and any other news of interest to Caddologists, professional or avocational.

The Survey's computers are IBM compatibles; word processing software in use includes WordStar 4 and WordPerfect 5.1. We have both 5.25 and 3.5 inch drives. If you don't use these programs, we would prefer files be sent in ASCII format. Office Systems, on our main campus, can translate MacIntosh files, although we need to tell the operators what software program you use. Disks will not be returned, so keep a copy for yourself. Be sure to include a hard copy of your article. You may also send photos and line graphics you would like to have included with your article, although we may need to limit the number of photos because of the cost of printing them. Photos and line graphics will be returned if requested. We will try to maintain a publication schedule of late March/April (after the Caddo Conference), early July, early October, and January. We will thus need submissions by April 1, June 15, September 15, and December 1 for the corresponding issues. We may be able to include small items such as meeting dates, publications, etc., later than this deadline, but it would help if you send items earlier.

At this year's Caddo Conference, three papers were presented relevant to the ongoing debate about the relationship of Spiro (and the northern Caddoan region) to the rest of the Caddoan area as well as to external areas. These papers were presented by Dr. James Brown, Dr. Frank Schambach, and Dr. Frank Winchell (see abstracts section). These papers with comments by the three authors and other interested parties will be printed beginning in this issue with Frank Winchell's paper. Issue number 2 (and subsequent issues as needed) will continue this debate with the other papers and commentary. Please send your comments to me, and I will forward copies to the authors.

BACK ISSUES FOR VOLUME I

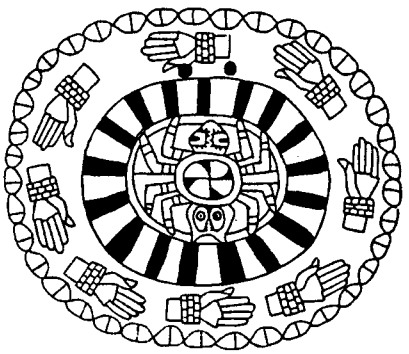
The Caddoan Archeology Newsletter, Volume I, issues 1 - 4, have now been reprinted. They are available for $10.00 to those who did not subscribe to this volume. If you were a subscriber to Volume I and did not receive all of your issues, please contact me (Lois Albert) and let me know which issues you are missing.



IT'S TIME TO RENEW SUBSCRIPTIONS TO THIS NEWSLETTER

This issue starts another volume of the Caddoan Archeology Newsletter. Those who have already renewed their subscriptions are listed below. If your name is not on this list, it's time to send in your renewal.

- Lois E. Albert - Norman, OK
- Paul & Rennie Benefield - Norman, OK
- Harold Brice - Bivins, TX
- Caddo Tribe - Binger, OK
- Chris Cojeen - Norman, OK
- Wilson W. Crook, Jr. - Dallas, TX
- E. Mott & Beth Davis - Austin, TX
- Don R. Dickson - Decatur, AR
- Armin Dressel - Camden, AR
- Robert C. Dunnell - Seattle, WA
- Melissa Green - Dallas, TX
- Ben Hay - Lone Star, TX
- L.H. Head, Jr. - Wake Village, TX
- Jack T. Hughes - Canyon, TX
- David Jurney - Waxahachie, TX
- Willard P. Leutze - Lafayette, LA
- Linda Lindsay - Dallas, TX
- Chris Lintz - Austin, TX
- Steven R. Mack - Tulsa, OK
- Dan McGregor - Irving, TX
- Tom Middlebrook - Nacogdoches, TX
- Jeffrey M. Mitchem - Parkin, AR
- Larry Neal - Norman, OK
- Bo Nelson - Pittsburg, TX
- George H. Odell - Tulsa, OK
- Tim Perttula - Austin, TX
- Dennis Peterson - Spiro, OK
- Prewitt & Associates - Austin, TX
- Burton L. Purrington - Springfield, MO
- Charles L. Rohrbaugh - Normal, IL
- Martha A. Rolingson - Scott, AR
- Frank Schambach - Magnolia, AR
- Don Shockey - Oklahoma City, OK
- Joe N. Shurtleff - Texarkana, AR
- Dee Ann Story - Wimberley, TX
- TARL - Austin, TX
- Pete Thurmond - Cheyenne, OK
- R.L. Turner, Jr. - Pittsburg, TX
- Wisconsin State Hist. Soc. - Madison, WI
- Don G. Wyckoff - Norman, OK



TX 𝍸 𝍸 𝍸 |||
OK 𝍸 𝍸 |
AR 𝍸 |
WA |
LA |
MO |
IL |
WI |

A LOOK AT THE RELATIONSHIP BETWEEN THE SPIRO AND TOLTEC CENTERS ON THE ARKANSAS RIVER: A VIEW FROM THE ANCIENT NILE VALLEY

by Frank Winchell

This paper will look into the relationship between the civic-ceremonial centers of Toltec and Spiro and the intervening area along the Arkansas Valley of Arkansas and eastern Oklahoma. Although it may first appear that there were two separate developments along the Arkansas Valley, this paper presents the possibility that the centers of Toltec and Spiro were intrinsically involved with one another, and that one may have risen to preeminence at the expense of the other. Indeed, the collapse of Toltec and the rise of Spiro may explain why the Arkansas Valley east of Spiro was not heavily occupied during the early part of the Mississippian period. The discussion of these two centers along the Arkansas Valley will also be put into the perspective of the ancient Nile Valley. Here, similar developments and events led to the demise of the Nubian A-Group culture and the virtual abandonment of their territory south to the First Cataract. Using the Nile Valley as an analytical model, it will be proposed that interactions along the Arkansas River played a very important role in the development at Spiro.

The centers of Toltec and Spiro share the distinction of being the two primary points of cultural development along the Arkansas Valley during the Late Woodland and Late Prehistoric periods, respectively. Toltec, through the Plum Bayou culture, emerged first along the middle portion of the Arkansas Valley, reaching a height of development sometime between A.D. 800 and 900 (Rolingson 1982:1-6; 1990:44-46). At this time, the Toltec center commanded a strategic point along the Arkansas River where it opened into the broad, Lower Mississippi Valley. Up the narrower passage between the Ozarks and Ouachita highlands, approximately 200 km from Toltec, Spiro began as a significant local center on the river as early as A.D. 700, but did not reach regional prominence until sometime after A.D. 900 (Bell 1984:228; Brown 1984a:11-20, 1984b:259-262; Brown *et al.* 1978). Of course, during the first half of the Mississippian period, Spiro stood supreme over the prime bottomland stretch of the Arkansas River at the doorstep of the Great Plains.

It has been known for some time that during Spiro's formative development, associated with the Evans phase (Orr 1946; 1952:246-247), the center may have been related to, or was at least influenced by, the Plum Bayou culture centering at Toltec (Brown 1984a:12-15; Rolingson 1982; 1990:46; Sabo *et al.* 1990:78; Schambach 1992:13-16). The relationship between the Evans phase and the Plum Bayou culture is not well understood. However, both developments were involved with the construction of platform and dome-shaped mounds, with burial of the dead in accretional units, and with a common set of ceramics which were similar in decoration, vessel shape, and paste composition (Brown 1984a; Hemmings and House 1985; Rolingson 1982).

The essential difference between the Plum Bayou culture and the Evans phase was the greater scale and magnitude of the mound and earthwork construction at the principal Plum Bayou center of Toltec. Between A.D. 700 and 900, eighteen mounds were constructed at Toltec; all were enclosed within a 40 ha area which was surrounded by a 1600 meter long earthen embankment (Rolingson 1982:1, 1990:38). The majority of the mounds at Toltec were either platform or flat-topped, and pyramidal-shaped.

As a group they were similar to other contemporary Coles Creek mound centers located farther downstream within the Lower Mississippi Valley. Nevertheless, the massive mound complex at Toltec was unique and significantly larger than most Lower Mississippi Valley mound centers at the time; the latter usually consisted of three prominent mounds surrounding a triangular-shaped plaza (Phillips 1970:555, Rolingson 1982:63; Williams 1956:58-60).

During the Late Woodland period, Toltec was clearly the primary center within the Arkansas Valley, extending its influence down river into the

Mississippi Valley and overland into the Great Bend area of the Red River (Rolingson 1982, 1990; Schambach 1982:182-183). Toltec also pushed its influence farther up river along the Arkansas Valley into the southern Ozark region where the construction of platform and dome-shaped mounds coincided with the beginning of the Evans phase (Brown 1984a:11-15). During this time, Spiro emerged as one of eight or so smaller mound centers within the southern Ozark region of eastern Oklahoma. Curiously, farther down river from Spiro along the Arkansas Valley, there were no other mound centers of this period until the Plum Bayou occupation at Point Remove, located approximately 100 km upstream from Toltec (Rolingson 1990:39). The paucity of sites dating to this period along this stretch of the valley may be due to the fact that very little archaeological work has been conducted there. Nevertheless, despite the data gaps, there can be little question that there were significant influences moving up river from the Plum Bayou center at Toltec through the Arkansas Valley and into the Spiro area (Brown 1984a:12; Sabo *et al.* 1990: 82). It is also likely that the settlement at Spiro during this time was tributary to the larger center, down river at Toltec.

It is only after the demise of Toltec that the center of Spiro began to assert its influence as a dominant center within the Arkansas Valley. At the beginning of the Harlan phase in the tenth century A.D., other southern Ozark centers such as the Harlan site were nearly or equally as important. Nonetheless, Spiro's strategic location on the Arkansas River would have allowed it to take supreme advantage of the political and cultural vacuum left by the disappearance of the Plum Bayou culture at Toltec. By the beginning of the Spiro phase in the mid-thirteenth century A.D., the center had grown considerably, containing at least 12 mounds within a 30 ha area. Of course, at this time Spiro had eclipsed all other rival centers within the Arkansas Basin.

As with the Evans phase, it appears that both Harlan and Spiro phase occupations extended only a little farther down river from the Spiro locality (Hoffman 1977; Sabo *et al.* 1990:111). However, in contrast to Late Woodland times, the Arkansas Valley east of Spiro, all the way down to Toltec, appeared to have been a virtual backwater during the first part of the Mississippian period. Thus, it would appear natural for the Spiro center to have extended its influence down the Arkansas River where the "drainage patterns [would have favored] cultural interactions to the east and west" (Brown *et al.* 1978:170). Nevertheless, the occupants at Spiro chose to make more meaningful contacts directly to the south with the Red River Caddoan cultures, and to the northeast with cultures in the Middle Mississippi Valley (Brown *et al.* 1978:170; Sabo *et al.* 1990:111-113; Schambach 1992). In assessing the location of all known Mississippian period occupations along the Arkansas River and its major tributaries within the southern Ozarks, it is apparent that the vast majority of them were situated up river from Spiro (Sabo *et al.* 1990:83, Fig. 30). Of the 40 recorded Mississippian period sites in the region, 32 are situated up river from the center whereas only eight are within the Arkansas basin down river. Indeed, many of these occupations down river from Spiro fall within the latter part of the Mississippian period after the center was abandoned. As mentioned above, this imbalance may be due to a lack of archaeological investigations carried out along the Arkansas Valley east of the Oklahoma state line. On the other hand, it is possible that this portion of the Arkansas Valley was significantly depopulated when Spiro assumed its prominent position on the river after the demise of Toltec. Perhaps the ephemeral Mississippian occupations noted at Toltec and 90 km upstream at the neighboring Alexander site are another indication of this population decline within the central Arkansas Valley after the disappearance of the Plum Bayou culture (Stewart-Abernathy 1982:53; House 1985:101).

Shifting back four thousand years across the globe to the ancient Near East, it is interesting to compare the possible depopulation of the Middle Arkansas Valley at the time of Spiro's florescence with what happened in the Nubian Nile Valley when the first Egyptian dynasty appeared at Hierakonpolis at the end of the fourth millennium B.C. Between the fifth and fourth millennium B.C., the Nile Valley south of present-day Cairo and north of the Second Cataract was occupied by Egyptian and Nubian Predynastic cultures. At the beginning of the fifth millennium B.C., the cultural boundary between the two Nilotic societies was not well defined. However, by 3500 B.C. the unnavigable stretch of river through the First Cataract had become the established political boundary. Like the Evans phase and the Plum Bayou culture along the Arkansas Valley, the Nilotic Egyptian and Nubian Predynastic societies shared a remarkably similar cultural repertoire. Although this was most notably seen with the ceramics, it was recognized in other traits, such

as burial practices, settlement patterns, and subsistence strategies (Nordstrom 1972:28; Reisner 1910:314; Winchell 1992:403-412). After comparing the earliest settlements north and south of the First Cataract, it is still unclear whether the Predynastic Egyptians spawned a cultural florescence among the Nubians or vice versa. In either case, it is evident that the Predynastic Egyptians and Nubians actively traded with one another north and south of the First Cataract. This reciprocal relationship between the two cultures stopped abruptly after 3100 B.C. when the Egyptian polities north of the First Cataract united under the single rulership of the first Dynastic king (Emery 1961). At the onset of the First Dynasty, Nubian A-Group occupations essentially disappeared south of the First Cataract, signifying a drastic cultural collapse had taken place. Based on archaeological evidence and early Old Kingdom texts, it is quite evident that the collapse of the Predynastic Nubian A-Group culture was the result of a direct political response inflicted by the Egyptians of the First Dynasty. They essentially stopped all trading activities with the Nubians, and may have even resorted to some raiding south of the First Cataract (Nordstrom 1972:29-32). As it is important to note, however, these Egyptians did not colonize the former territory of the Nubian A-Group, and the Nile Valley south of the First Cataract was pretty much left vacant until the beginning of the Middle Kingdom period.

In using this scenario from the Nile Valley, it is interesting to speculate that the area along the Arkansas Valley between Toltec and Spiro may have suffered from the similar effects of a political realignment. Thus, the collapse of Toltec and the disappearance of the Plum Bayou culture may have been caused by the rise of Spiro. However, unlike circumstances which seem so clear between Predynastic Nubia and the sudden rise of the first Kingship in Egypt, the connections between the fall of Toltec and rise of Spiro are not as self-evident. For example, it appears that the Plum Bayou occupation at Toltec ended shortly after A.D. 900. Spiro, on the other hand, does not appear to have taken off in a big way until more than three hundred years later during the Spiro phase. Indeed, the activities associated with the Great Mortuary appear to have taken place around A.D. 1388 (Brown 1984a:16).

What we are left with at Spiro is the shadowy Evans phase and the slightly better known Harlan phase, bridging the critical gap between the disappearance of Toltec and the sudden rise of the Spiro site. But what about the Evans and Harlan phases? As discussed above, it is becoming more evident that the connections between the Evans phase and the Plum Bayou culture were quite significant, indicating that there was a meaningful interaction taking place along the Arkansas Valley from Toltec to Spiro (Brown 1984a). The seemingly anomalous presence of Late Woodland shell tempered ceramics at Toltec and the Alexander site may also give some indication that at least some goods were being sent down river from the Spiro area (Hemmings 1985:38-41; Stewart-Abernathy 1982:50-53).

It also appears that the Harlan phase developed *in situ* out of the Evans phase as indicated by the excavations at the Harlan site (Bell 1972; Brown 1984a:15). It is likely, however, that the same type of transition also took place at Spiro even though the evidence may not be as clear. In either case, Spiro was probably the major center by the beginning of the Harlan phase (Bell 1984:228; Rogers 1989:167), if not earlier. It is estimated that Spiro had at least eleven mounds constructed during this period while Harlan had only four (Rogers 1989:165). In contrast, all other Harlan phase mound centers in the region had either one or two mounds.

The importance of the Harlan phase in the Spiro area is that it represented a significant shift towards trading, which may have been "a major economic activity" at the time (Bell 1984: 228). The transition to the Harlan phase from the Evans phase also seems to have been quite dramatic, suggesting that change within the Arkansas Valley near Spiro was anything but gradual.

The point to be made is that the period from the demise of Toltec to the rise of Spiro as the paramount center in the Arkansas Valley was quite short, if not instantaneous. The question then arises as to whether it was purely a coincidence that Spiro rose to its preeminent position at the same time that Toltec came to a halt. Granted, there is a distance of more than 200 km between Toltec and Spiro. Nevertheless, referring back to the Nile Valley, Hierakonpolis, which was the place of origin of the Egyptian First Dynasty, was more than 500 km from the nearest Nubian A-Group settlements.

If some sort of political shift took place along the Arkansas Valley from Toltec to Spiro, how could it be detected in the archaeological record?

It seems apparent that a critical testing ground for this hypothesis lies in the relatively unknown area along the Arkansas Valley between Toltec and Spiro. By using the Nubian Nile Valley abandonment analogue as a model, one could predict that Late Woodland occupations would exist along the Arkansas Valley down river from the Spiro area, whereas early Mississippian occupations dating after A.D. 900 would not be found there. This kind of simple dichotomy would be based on the assumption that for the transference of ideas to have taken place between Spiro and Toltec there must have been Late Woodland occupations between the two centers. However, after A.D. 900, when the proposed shift in regional influence changed from Toltec to Spiro, the old lines of communication would have been cut off and occupations along the Arkansas Valley east of Spiro would have been significantly curtailed. Putting climatological factors aside, if there are very few signs of early Mississippian occupation in this part of the valley, this would indicate that some sort of severe political repercussion may have taken place. Of course, all this would have occurred at the beginning of the Harlan phase when Spiro became a powerful center.

To contradict this model, one would want to demonstrate that a continuous sequence of occupations did occur along the Arkansas Valley east of Spiro from the end of the Late Woodland period into the early Mississippian period. At this time, a continuous sequence from A.D. 900 to 1000 in the Toltec area of the Arkansas Valley cannot be confirmed.

A critical question arises about how far upriver within the Arkansas Valley the Plum Bayou culture existed. Likewise, how far downriver from Spiro did the Evans phase exist? As mentioned above, it appears that Harlan and Spiro phase occupations never did go much farther down river from the Spiro center. Based on this information, it is possible that a cultural boundary did exist just east of Spiro, especially where the Arkansas Valley begins to narrow when it passes between the Ozark and Ouachita highlands. Of course, the question arises as to who was situated down river from Spiro, and could they possibly have been people associated with the Plum Bayou culture?

Both the cultural and bioarchaeological data derived from the Middle and Late Woodland occupations at the Alexander site suggests that the resident population living there was much more similar to Fourche Maline groups farther up the Arkansas Basin than to other groups farther down river in the Lower Mississippi Valley (Hemmings and House 1985).

In short, the Arkansas Valley between the centers of Spiro and Toltec promises to be a fertile proving ground in developing models on the origins of the former site. In invoking the old Childean term of "stimulus diffusion" (not to mention the old Boasian model of historical particularism), the flow of ideas stemming up the Arkansas River from Toltec may have had a profound effect on the formative development at Spiro during the Evans phase. During the Harlan phase, Spiro's rapid ascent to its paramount position on the Arkansas River may have been a direct effect of a cultural collapse at Toltec. And from the distant view of the ancient Nile Valley, the early Mississippian period center at Spiro may have been an active participant in that collapse.

Acknowledgements

Thanks to Duane Peter for his financial support of this project. This paper was presented at the 35th Caddo Conference in Norman, Oklahoma on March, 1993.

REFERENCES CITED

Bell, R. E.

1972 The Harlan Site, Ck-6, A Prehistoric Mound Center In Cherokee County, Eastern Oklahoma. *Oklahoma Anthropological Society Memoir* 2. Oklahoma City.

Bell, R. E. (editor)

1984 *Prehistory of Oklahoma.* Academic Press, New York.

Brown, J. A.

1984a Prehistoric Southern Ozark Marginality: A Myth Exposed. *Missouri Archeological Society Special Publications* 6. Columbia, Missouri.

1984b Arkansas Valley Caddoan: The Spiro Phase. In *Prehistory of Oklahoma,* edited by R. E. Bell. Pp. 241-263. Academic Press, New York.

Brown, J. A., R. E. Bell, and D. G. Wyckoff

1978 Caddoan Settlement Patterns in the Arkansas River Drainage. In *Mississippian Settlement Patterns,* edited by B. D. Smith. Pp. 169-200. Academic Press, New York.

Emery, W. B.

1961 *Archaic Egypt: Cultures and Civilization in Egypt Five Thousand Years Ago.* Cox and Wyman Ltd., Reading.

Hemmings, E. T.

1985 Analysis of Materials. In The Alexander Site, edited by E. T. Hemmings and J. H. House. *Arkansas Archeological Survey Research Series* 24:27-48. Fayetteville.

Hemmings, E. T. and J. H. House (editors)

1985 The Alexander Site. *Arkansas Archeological Survey Research Series 24.* Fayetteville.

Hoffman, M. P.

1977 An Archeological Survey of the Ozark Reservoir in West-Central Arkansas. In Ozark Reservoir Papers: Archeology in West-Central Arkansas 1965-1970, by M. P. Hoffman, N. E. Myer, D. Printup, and C. L. Bond. *Arkansas Archeological Survey Research Series* 10:1-44. Fayetteville.

House, J. H.

1985 Summary and Conclusions. In The Alexander Site, edited by E. T. Hemmings and J. H. House. *Arkansas Archeological Survey Research Series* 24:99-110. Fayetteville.

Nordstrom, H.

1972 *Neolithic and A-Group Sites.* Scandinavian University Books, Copenhagen.

Orr, K. G.

1946 The Archaeological Situation at Spiro, Oklahoma: A Preliminary Report. *American Antiquity* 11(4):228-256.

1952 Survey of Caddoan Area Archaeology. In *Archaeology of Eastern United States,* edited by J. B. Griffin. Pp. 239-255. University of Chicago Press, Chicago.

Phillips, P.

1970 Archaeological survey in the Lower Yazoo Basin, Mississippi, 1949-1955. *Papers of the Peabody Museum of Archaeology and Ethnology* 60.

Reisner, G. A.

1910 *The Archaeological Survey of Nubia, Report for 1907-1908.* 2 Vols. National Printing Department, Cairo.

Rogers, J. D.

1989 Settlement Contexts For Shifting Authority In The Arkansas Basin. In Contributions To Spiro Archeology: Mound Excavations and Regional Perspectives, edited by J. D. Rogers, D. G. Wyckoff, and D. A. Peterson. *Oklahoma Archeological Survey, Studies in Oklahoma's Past* 16:159-176. Norman.

Rolingson, M. A. (editor)

1982 Emerging Patterns of Plum Bayou Culture. *Arkansas Archeological Survey Research Series* 18. Fayetteville.

1990 The Toltec Mounds Site: A Ceremonial Center in the Arkansas River Lowland. In *The Mississippian Emergence,* edited by B. D. Smith. Pp. 27-44. Smithsonian Institution Press, Washington, D.C.

Sabo, G. III, A. M. Early, J. C. Rose, B. A. Burnett, L. Vogele, and J. P. Harcourt

1990 Human Adaptation in the Ozark and Ouachita Mountains. *Arkansas Archeological Survey Research Series* 31. Fayetteville.

Schambach, F. F.

1982 An Outline of Fourche Maline Culture in Southwest Arkansas. In Arkansas Archeology in Review, edited by N. Trubowitz and M. D. Jeter. *Arkansas*

Archeological Survey Research Series 15:132-197. Fayetteville.

1992 Some New Interpretations of Spiroan Culture History. Unpublished manuscript.

Stewart-Abernathy, J. C.

1982 Ceramic studies at the Toltec Mounds site: basis for a tentative cultural sequence. In Emerging Patterns of Plum Bayou Culture, edited by M. A. Rolingson. *Arkansas Archeological Survey Research Series* 18:44-53. Fayetteville.

Williams, S.

1956 Settlement patterns in the Lower Mississippi Valley. In *Prehistoric Settlement Patterns in the New World,* edited by G. R. Willey. Wenner-Gren Publications in Anthropology 23:52-62.

Winchell, F.

1992 *The Butana Group Ceramics and Their Place in the Neolithic and Post-Neolithic Eras of Northeast Africa.* Ph.D. dissertation (Southern Methodist University). University Microfilms International, Ann Arbor, Michigan.

35TH CADDO CONFERENCE (1993) ABSTRACTS

BROWN, James (Northwestern University). ***THE POTENTIAL FOR CHRONOLOGICAL REFINEMENT IN CADDOAN ARCHAEOLOGY.***

Far greater effort needs to be exerted in developing the kind of precision in regional chronologies of material culture that will help address contemporary issues on ethnicity, as well as more sophisticated questions respecting traditional topics of study. The number of time sensitive attributes of Caddoan ceramics and other items already documented indicate rich possibilities. This paper draws attention to issues that chronological distinctions of greater precision have a major contribution to make.

BURNS, Stephanie (University of Oklahoma). ***PALEODEMOGRAPHY OF THE MACKEY SITE (34LF29).***

This paper will present preliminary bioarchaeological information acquired from the burial population at the Mackey site (34LF29). The site is a black midden mound located near the Fourche Maline Creek in the Wister Valley of southeastern Oklahoma. Excavation of the site was undertaken in 1940 by the WPA under the supervision of Phil Newkumet. Recent curation and analysis of the skeletal remains has yielded demographic information on the 160 burials recovered. These data will be presented and compared to similar demographic information from the Sam, Wann, McCutchan-McLaughlin, and Bug Hill sites.

DICKSON, Don R. (Historic Preservation Associates). ***SOME PROBLEMS ENCOUNTERED IN IDENTIFYING LITHIC RAW MATERIALS FROM ARCHEOLOGICAL SITES.***

Recently, many archeologists have attempted to relate each chert tool or item of debitage recovered in excavation to the most specific geological stratum or member producing that type of chert. Unfortunately, few archeologists understand geology well enough to recognize parent carbonates in the field, and far too many use out-of-date publications and generalized geological maps to put together comparative collections of raw material. This paper attempts to point out some of the problems encountered today in identifying lithic categories recovered during excavation, and to suggest methods of minimizing the impact of these problems.

FIELDS, Ross C. (Prewitt and Associates, Inc.). ***RECENT EXCAVATIONS AT ARCHAIC, WOODLAND, AND CADDOAN SITES AT COOPER LAKE, DELTA AND HOPKINS COUNTIES, TEXAS.***

Since 1990, mitigative excavations have been completed at six prehistoric sites at Cooper Lake in Delta and Hopkins counties, Texas. Finley Fan (41HP159) is a stratified middle and late Archaic site; John's Creek (41DT62) dates mostly to the Woodland period; Tick (41DT6) and Spike (41DT16) are multicomponent Woodland and early Caddoan middens; Spider Knoll (41DT11) is an early Caddoan farmstead; and Peerless Bot-

toms (41HP175) is a late Caddoan farmstead. This paper summarizes the work done at these sites, presents the results of the excavations, and offers interpretations concerning chronology, subsistence, settlement systems, and sociocultural interaction.

GADUS, Eloise (Prewitt and Associates, Inc). ***A RECONSTRUCTED VESSEL ASSEMBLAGE FROM A LATE CADDO HABITATION SITE AT COOPER LAKE, HOPKINS COUNTY, TEXAS.***

Fifty-four vessels were identified in the sherd collection from the Peerless Bottoms site (41HP175). Substantial sections of 39 of these vessels allowed the reconstruction of their overall form as well as their decorative motifs. This vessel assemblage is characterized by a variety of shapes and sizes, suggesting that storage, processing, and serving activities were performed at the site. Most of the jars and deep bowls have decorative motifs that point to a connection with Red River McCurtain phase. In contrast, serving vessels such as carinated bowls display combinations of design elements indicating a local interpretation of the diagonal scroll motif.

GIRARD, Jeffrey S. (Northwestern State University, LA). ***INVESTIGATIONS ALONG WILLOW CHUTE BAYOU.***

Willow Chute Bayou, a relic channel of the Red River in Bossier Parish, was a major locus of Caddoan occupation during the Bossier focus (ca. AD 1200-1500; Webb and Gregory 1986). Until recently, however, substantial investigations in the area have been limited to Webb's (1983) work at the Werner Mound site (16BO8). This paper reports current efforts to recognize patterns in site distributions along Willow Chute and describes test excavations carried out at the Vanceville site (16BO7) and the McIntyre site (16BO219).

Goode-Null, Susan (University of Oklahoma). ***WPA ARCHAEOLOGICAL PROJECTS SPONSORED BY THE UNIVERSITY OF OKLAHOMA.***

This paper is aimed at understanding the WPA archaeological projects in Oklahoma. These projects were carried out in 11 counties with over 200 WPA site numbers recorded. In the past fifty years, very few of the sites and their material remains have been studied or analyzed. This is partially due to a lack of information regarding the excavation and laboratory methods employed by the WPA. Therefore, this paper will present a synthesis of information regarding these aspects of the projects. Also included will be a review of other problems that impact research relating to these projects and their potential solutions.

HOFFMAN, Michael P. (University of Arkansas). ***THE UNIVERSITY MUSEUM'S CADDOAN COLLECTIONS AND THE REQUIREMENTS OF THE NATIVE AMERICAN GRAVE PROTECTION AND REPATRIATION ACT.***

Efforts to summarize and inventory the extensive prehistoric Caddoan collections held in the University Museum as required by NAGRA are currently underway. However, the lack of specific regulations for the legislation clouds the effort, particularly with regard to many pottery vessels which have no documented archeological context, funerary or otherwise. On-going efforts include time and cost studies of meeting the requirements of NAGRA.

LEADER, Pam (University of Oklahoma). ***ANALYSIS OF CHIPPED STONE ARTIFACTS FROM THE MACKEY SITE (34LF29), ONE OF THE BLACK MIDDEN MOUNDS OF THE FOURCHE MALINE COMPLEX.***

One of the research projects currently being conducted at the University of Oklahoma is the analysis of materials from the Mackey site (34LF29), which was excavated by the WPA in eastern Oklahoma in 1940. Preliminary analysis of chipped stone artifacts indicate that the Mackey site midden, was, in many ways, very similar to other black midden mounds along the Fourche-Maline Creek. However, the Mackey midden was significantly deeper than the other mounds that have been studied thus far. The presence of Early Archaic projectile points in the deepest deposits is an important discovery. The analysis of the materials from the Mackey site may enable us to extend our knowledge of the Fourche-Maline complex to an earlier time period than previous studies have suggested.

LEE, Dayna B. (University of Oklahoma). ***THE GHOST DANCE AMONG THE CADDO.***

In 1890 the Caddo Indians of Oklahoma received the Ghost Dance doctrine of the visionary Wovoka from their neighbors, the Arapaho. Although Caddoan participants at first adopted songs taught to them by the Arapaho, they quickly began to compose their own songs and wholeheartedly adopted the Ghost Dance into their ceremonial complex. The Ghost Dance achieved a prominent place in Caddoan ideology, and the Caddo continued to practice the dance long after surrounding tribes has lost interest. The 1890 Ghost Dance movement has been characterized as a type of revitalization effort which erupts among societies in times of stress. Although once considered to be no more than a desperate and ineffective response to cultural loss, the Ghost Dance in fact represented a positive attempt to reconstruct a more satisfying and stable culture. This paper will explore the conditions which fostered Caddoan acceptance of the Ghost Dance doctrine, and discuss contemporary use of Ghost Dance songs in Caddoan ideology.

MIDDLEBROOK, Tom (East Texas Archeological Society). ***TEST EXCAVATIONS AT THE TYSON SITE, SHELBY COUNTY, TEXAS.***

Members of the East Texas and Dallas Archeological Societies sponsored test excavations at the Tyson site along the Atloyac Bayou in western Shelby County, Texas in the spring of 1992. While five widely separated areas of the site were identified, all controlled excavation took place in Area 1, located on a high terrace remnant above the Atloyac floodplain. Ceramic analysis and three radiocarbon dates suggest the primary occupation at Tyson was Middle Caddoan. An enigmatic clay feature (Feature 1) measuring 2.3 x 1.6 m was uncovered near the central part of the site. Feature 3 was a round refuse pit with evidence of burning and contained large amounts of daub, bone, ceramics, charcoal, shell, and ash. Implications for regional chronology will be discussed.

NEAL, Larry (Oklahoma Archeological Survey). ***FITTING LIKE A GLOVER: FOUR CADDOAN SITES IN SOUTHEAST OKLAHOMA.***

In 1991, four sites along the Glover River were tested to support National Register nominations. These sites represent part of the Caddoan occupation of the Ouachita Mountains in southeast Oklahoma. Features, artifacts, and limited charred botanical remains representing Caddo III and very late Caddo IV residencies are present. Radiocarbon dates obtained from features support the associations at three of the sites. Preceramic materials and features are present stratigraphically below the Caddoan occupations at two of the sites, apparently with a fair degree of integrity. One of the sites is badly disturbed by at least two episodes of vandalism, but the other three are nominated to the National Register of Historic Places.

ROLINGSON, Martha A. and HOWARD, J. Michael (Arkansas Archeological Survey and Arkansas Geological Commission). ***IGNEOUS ROCKS OF CENTRAL ARKANSAS: IDENTIFICATION, USE, AND DISTRIBUTION.***

Igneous rocks of central Arkansas, including lamprophyres, syenites, trachytes, and magnetite, are distinctive. One identifying characteristic is that they rarely contain free silica. These rocks were occasionally used at the Toltec Mounds site for artifacts such as plummets, boatstones, celts, hammerstones, and abraders. Artifacts of Arkansas igneous rocks have been identified in sites in several neighboring states in the Caddo area and in the Lower Mississippi Valley. The material apparently was used over a long period of time, beginning in the Late Archaic and continuing through the Late Woodland periods.

SABO, George III (Arkansas Archeological Survey). ***CADDO KINSHIP: SYSTEMS, CATEGORIES, AND THEMES.***

Only a few studies of Caddo kinship have been published, and no systematic evaluation of the available data has ever been attempted. This paper begins with an assessment of the available sources, and then summarizes preliminary interpretations concerning the organization of Caddo kinship and associated cultural categories and themes. Interconnections among Caddo kinship, settlement, social organization, and political organization are then explored.

SCHAMBACH, Frank (Arkansas Archeological Survey). ***SPIROAN ENTREPOTS AT AND BEYOND THE WESTERN BORDER OF THE TRANS-MISSISSIPPI SOUTH.***

There is good evidence that the Sanders site in the Red River Valley in Lamar County, Texas and the Nagle Site on the North Canadian River in Oklahoma County, Oklahoma were entrepots for

Spiroan (probably Tunican) traders operating out of the Arkansas River Valley in eastern Arkansas and western Oklahoma.

SEALE, Richard (Northwestern State University, LA). ***THE COATES BLUFF AGENCY, A PREDICTIVE MODEL.***

Extensive records allow us to model what physical remains might be expected at the last Caddo Agency in Louisiana. Moreover, the trade lists and letters clearly indicate frequencies which might help historic site archaeology define an Indian as opposed to early Anglo-American settlements.

TRISSLER, Alicia (Northwestern State University, LA). ***CAROLINE DORMON AND CADDOAN ARCHAEOLOGY.***

Caroline Dormon was virtually the only woman to contribute to Caddoan archaeology in the 1930s and 1940s. Her contributions have been footnoted occasionally by archaeologists and went toward focusing national and state attention on the need for site conservation and salvage. It was her effort that brought F. M. Setzler, Winslow Walker, James Ford, and to some extent, Clarence Webb to Louisiana archaeology. This paper concentrates on her role in the development of regional Caddoan archaeology as seen through her correspondence with the archaeologists mentioned above.

WALLIS, Kathleen M. ***RECORDS AND COLLECTIONS: MANAGEMENT FOR ARCHEOLOGICAL PROJECTS***

This paper will discuss why it is important for research archeologists to begin planning for the care of records and artifact collections before excavation. The curation of these materials is an active part of cultural resource management. Archaeologists must be involved with museum/repository staff and make conscious decisions that are compatible with the long term goals of both.

WILLIAMS, Jeffrey M. (Stephen F. Austin). ***GEOGRAPHICAL INFORMATION SYSTEMS AND THE PROTECTION OF THE ARCHAEOLOGICAL LANDSCAPE: FORT BOGGY STATE PARK, TEXAS: A PILOT PROJECT.***

Geographical Information Systems (GIS) is a powerful tool for developing a statewide database to aid in the identification, protection, and management of archaeological sites. By the integration of GIS, Remote Sensing, and Global Positioning Systems (GPS), researchers can increase the accessibility of archaeological data in the planning phases of land altering development and help moderate the allocations of land resources. The proposed Fort Boggy State Park of Leon County, Texas provides a testing ground for developing the methodology of implementing GIS technology at the state level for the preservation of cultural heritage.

WILSON, Diane (University of Texas- Austin). ***INCIDENCE OF DEGENERATIVE JOINT DISEASE AMONG THE SANDER'S SITE (41LR2) POPULATION.***

The primary objective of this study is to gain a better understanding of prehistoric Caddo culture by examining individual osteological remains from the Sander's site (41LR2). This study examines evidence of stress on bones as it relates to "occupational" stress in order to define a prehistoric division of labor. Distinct markers are left on skeletal material resulting from cartilage deterioration in response to abnormal severe stress and repeated action stress. Repeated stress is referred to as occupational stress since it typically denotes a habitual, culturally prescribed task or posture. Preliminary results indicate a lack of evidence for a strict division of labor by sex.

WINCHELL, Frank (Geo-Marine, Inc). ***A LOOK AT THE RELATIONSHIP BETWEEN THE SPIRO AND TOLTEC CENTERS ON THE ARKANSAS RIVER: A VIEW FROM THE NILE VALLEY.***

The origins of Spiro as a paramount center within the Arkansas River Valley is an intriguing problem when contrasted with the demise of the Plum Bayou culture at Toltec. The relationship between the Arkansas River Valley centers of Spiro and Toltec can be compared and contrasted with the emerging Egyptian and Nubian Predynastic cultures of the Upper Nile Valley, which in turn, sheds lights on some interesting scenarios.

WYCKOFF, Don, Billy ROSS, Jack & Ann BULLARD, and John and Ann COFFMAN (Oklahoma Archeological Survey and Oklahoma Anthropological Society). ***"FROM THE***

BANKS OF THE RIVER": ARCHEOLOGICAL AND PALEONTOLOGICAL DISCOVERIES ALONG THE LOWER CANADIAN.

Since 1988, increased rainfall and extensive flooding in central and eastern Oklahoma have overwhelmed the flood prevention capacities of most major reservoirs in the region. One consequence has been the release of unprecedented amounts of water. Within the Canadian River Basin, an invigorated stream regimen below eastern Oklahoma's Eufaula Dam is eroding banks and cutting the Canadian's extant channel deeper. Such processes are exposing sediments and gravel bars that are yielding notable quantities of prehistoric artifacts and vertebrate fossils. Although materials attributable to late prehistoric Arkansas Basin Caddoan cultures are represented, we survey and inventory the range of artifacts and fossils believed representative of late Pleistocene-early Holocene people and fauna. Also, we draw people's attention to the notable quantities of Alibates agatized dolomite clasts present in some gravel deposits.

UPCOMING EVENTS

MEETINGS

April

14-18 Society for American Archaeology. Adams Mark Hotel, St. Louis MO. Contact: SAA, 808 17th Street NW, Suite 200, Washington D.C. 20006.

18 Society for Archaeological Sciences. Adams Mark Hotel, St. Louis MO. Review of advances in archaeological sciences since the publication of Brothwell and Higgs' *Science and Archaeology* (2nd edition, 1969). Contact: R.E. Taylor, University of California - Riverside.

June

5-7 American Rock Art Research Association Annual Conference. Reno NV.

14-16 Lithic Analysis Conference. Tulsa OK. Theme: The Articulation of Archaeological Theory and Lithic Analysis. Contact: George H. Odell, Department of Anthropology, University of Tulsa, Tulsa OK 74104. Telephone: (918) 631-3082.

August

17-23 7th International Conference on Hunting and Gathering Societies. Moscow, Russia. Contact: Linda Ellana, Department of Anthropology, University of Alaska, Fairbanks AK 99775.

September

18-21 Annual Meeting, Assocation for Environmental Archaeology. Theme: Taphonomy and Interpretation. Durham, United Kingdom. Contact: Sue Stallibrass, Department of Anthropology, University of Durham, Science Laboratories, South Road, Durham DH1 3LE, UK. Telephone: 091-374-3643/2; fax 091-374-3741; email JANET SueStallibrass@UK.ac.durham.

27-30 8th Meeting of Working Group I on Bone Modification. Hot Springs SD. Contact: L. Adrien Hannus, Archeology Laboratory, 2031 S. Grange Ave., Sioux Falls SD 57105.

27-Oct. 1 Accelerator Mass Spectrometry 6th International Conference. Canberra and Sydney, Australia. Contact: AMS-6, ACTS, GPO Box 2200, Canberra ACT 2601, Australia. Telephone: 61-6-249-8105; fax 61-6-257-3256.

October

1-3 Arkansas Archeological Society Annual Meeting. Russellville AR. Contact: Michael Pfeiffer, Ozark National Forest, PO Box 1008, Russellville AR 71801.

29-31 Texas Archeological Society Annual Meeting. Lubbock, TX. Contact: TAS, Center for Archaeological Research, The University of Texas at San Antonio, 6900 . Loop 1604 West, San Antonio TX 78249-0658. Telephone: (210) 691-4393 (Tuesday and Thursday mornings only).

November

3-6 Southeastern Archeological Conference. Radisson Plaza Hotel, Raleigh, North Carolina. Registration fee: $35 (before 10/1; $40 after 10/1). Keynote speaker: Dr. Charles L. Redman, Arizona State University, "Power in the Past" (on Hohokam platform mounds; Friday evening, November 5). Abstract deadline: August 1, 1993. Contact: Program Chair, Vincas Steponaitis, Research Laboratories of Anthropology, University of North Carolina, Chapel Hill, North Carolina 27599-3115. Telephone: (919) 962-1243.

4-7 American Society for Ethnohistory, Annual Conference. Indiana University Memorial Union, Bloomington, IN. Deadline for abstracts, July 15, 1993. Preregistration fee: $30 ($15 students). Contact: Program Chair, Raymond J. DeMallie, American Indian Studies Research Institute, Indiana University, 422 N. Indiana Ave., Bloomington IN 47405. Telephone: (812) 855-4086.

17-21 American Anthropological Association Annual Meeting. Washington DC. Contact: AAA, 1703 New Hampshire Ave NW, Washington DC 20009. Telephone: (202) 232-8800.

February, 1994

28-23 American Assocation for the Advancement of Science, Annual Meeting. San Francisco CA. Contact: AAAS, 1333 H Street NW, Washington DC 20005. Telephone: (202) 326-6400.

April

18-24 59th Annual Meeting, Society for American Archaeology. Anaheim CA. Contact: SAA, 1511 K Street NW, Washington DC 20006. Telephone: (202) 223-9774.

OTHER EVENTS

Until May 5

Special exhibit, "Conquistador!". University of Arkansas Museum, Fayetteville AR. Spanish exploration of the Caribbean and the present southern United States. Includes the de Soto expedition. For more information call (501) 575-3555.

April 7-May 16

Special exhibits, "Maps and Minds" and "Mapping of Arkansas". University of Arkansas Museum, Fayetteville AR. Traces the history of cartography from prehistoric time into the satellite age. Includes historic map reproductions as well as modern maps utilizing aerial photography and sonar. The Mapping of Arkansas exhibit includes The Electronic Atlas of Arkansas, the nation's first computerized comprehensive state atlas, as well as maps from 18th century explorations and early statehood.

June 11-13

Red Earth. Myriad Gardens, Oklahoma City OK. [This is one of the largest Native American festivals in the US, featuring dances and an arts and crafts exhibit hall.] Admission: $6 (daytime dances, arts festival and activities); $15 (3-day competition passes); children under 12 free for daytime events. Special evening dance event "Visions from the Past", $10 (adults), $5 (children under 12). For more information contact: Phillip C. Bread (public relations director). Telephone: (405) 427-5228.

COLLEGE CREDIT FIELD SCHOOLS

May 10-??

Southwestern (Louisiana) State University. Contact: Dr. Hiram (Pete) Gregory, Department of Social Science, Northwestern State University, Natchitoches LA 71497. Telephone: (318) 357-4364. Whether this field school will actually be given depends on a budget which has not yet been determined. Call the number above for updated information.

June 1 (continues for six weeks)

Stephen F. Austin University, Department of Sociology and Anthropology. A Late Archaic/transitional site near Nacogdoches TX. Contact: Dr. James Corbin, Department of Sociology and Anthropology, Stephen F. Austin University, Nacogdoches TX 75961. Telephone: (409) 568-4405.

June 14 - July 25

University of Oklahoma, Department of Anthropology. The Certain site, a Late Archaic communal bison kill and processing site near Elk City in western Oklahoma. Special topics include bone bed excavation, taphonomy, butchering techniques, and landform evolution. Credit: 6 + hours. Tuition: $288 (resident), $1007.50 (non-resident). Please note: Because this class is for college credit, volunteers will not be accepted.

June 21-July 30

Southwestern Missouri State University. A small site transitional from the Woodland to Mississippian period in Green County, about 20 miles west of Springfield. Credit: 6 hours (3 field, 3 lab). Contact: Dr. Burton Purrington, Department of Sociology-Anthropology, Southwestern Missouri State University, Springfield MO 65804. Telephone: (417) 836-4890.

June 28 - August 6

University of Arkansas, Department of Anthropology. A late prehistoric village site on Lake Oahe near Pollock, South Dakota, will be the site. Tuition: $542 (in-state), $1262 (out-of-state). Instructor: Dr. Marvin Kay. Application deadline June 15. Contact: Archeological Field School, Department of Anthropology, University of Arkansas, Fayetteville AR 72701. Telephone: 575-2508.

AVOCATIONAL TRAINING PROGRAMS, SEMINARS, AND DIGS

Missouri Archeological Society

May 8

Ceramics Technology seminar. Lyman Research Center in Saline County (near Marshall). Begins at 10 AM, with four instructors and an afternoon pottery making demonstration. Limit - 60 people. Fee $8.25. Bring your lunch. Contact: Melody Galen, Missouri Archaeological Society, PO Box 958, Columbia MO 65202. Telephone: (314) 882-3544.

Arkansas Archeological Society

June 11-27

A training dig will be held at several sites near Shady Lake and Winding Stair in the Ouachita National Forest. Sponsored by the Arkansas Archeological Society, Arkansas Archeological Survey, and the Ouachita National Forest. Membership in the Arkansas Archeological Society required; attendance at a Long Orientation is required for all first time participants in the Arkansas Training Program. Camping will be available at National Forest campground at Shady Lake. Registration fees ranging from $20-30 are required; a late fee of $10 is assessed for registrations after May 10. Additional information about this program (including seminars, activities, motels, etc.) is available from the Arkansas Archeological Society, PO Box 1222, Fayetteville AR 72702-1222, telephone (501) 575-3556 (Russell G. Scheibel or Hester A. Davis).

Texas Archeological Society

June 5-12

The annual dig will be held at the Lubbock Lake Landmark Site near Lubbock TX. The Principal Investigator will be Dr. Eileen Johnson. Dig sponsored by Texas Archeological Society, Texas Technical University, and Texas Parks and Wildlife Department. Special programs available for teachers (AAT) and youth (seven or older). Must be a member to attend ($25 individual, $30 family, $12.50 student). Adult registration fees, $75 for 1-3 days, $100 for 4-8 days. Registration deadline May 16. Meals available at $3 for breakfast, $7 for dinner (adults). Additional information and packets available from Texas Archeological Society, Center for Archaeological Research, The University of Texas at San Antonio, San Antonio TX 78249-0658. Telephone: (210) 691-4393; office manager, Laura

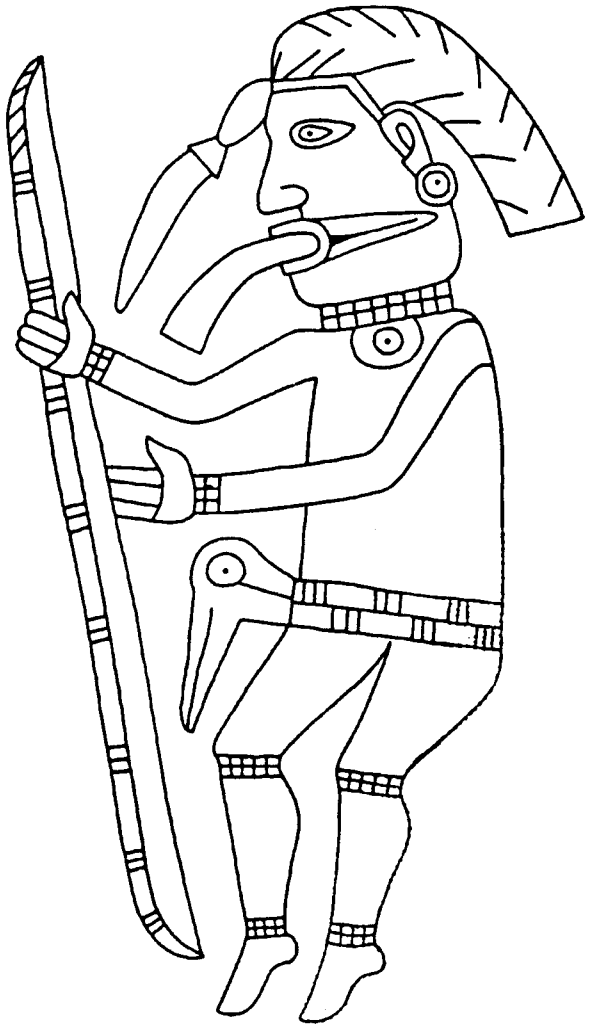
Beavers (office open on Tuesday and Thursday mornings only).

Oklahoma Anthropological Society

No dig will be held this year because of the university field school, insufficient Survey budget for supporting an archeologist on a dig, and the pending move of the Oklahoma Archeological Survey to a new building.

1993 First Americans Expedition (I) Jul 11-24; (II) Jul 28-Aug 11; (III) Aug 15-28

Volunteer field assistance is sought in excavating the Mammoth Meadow site near Dillon in southwestern Montana. Some habitation floors exposed date to 14,000 years ago. The site includes a record of human and animal hair which can be studied and identified. An interdisciplinary team will lead the expedition. Cost is $1000 (this helps fund the fieldwork; you must provide your own tents, sleeping equipment, and transportation to Dillon MT. Contact: 1993 First Americans Expedition, CSFA, Weniger 355, Oregon State University, Corvallis OR 97331. Telephone: (503) 737-4595.



ANNOUNCING A NEW PUBLICATION ON THE ARCHAEOLOGY OF NORTHEAST TEXAS: NOTES ON NORTHEAST TEXAS ARCHAEOLOGY

To appear on an occasional basis (probably twice a year), *starting in 1993.*

Yearly subscription rate = $10.00

Begin subscriptions now!!

Our first purpose is to publish original papers, notes and comments on all aspects of the archaeology of Northeast Texas, from Paleoindian times to the historic nineteenth century occupation of the region. We encourage all those interested in Northeast Texas to contribute manuscripts, to provide comments, and to subscribe.

The editors will work with the authors to put manuscripts in publication form, and we will be soliciting papers on important sites and topics in Northeast Texas. We **encourage** the submission of photographs and drafted illustrations with the manuscripts.

Send two hard copies of your manuscript -- it can be hand-written, typed, or computer word-processed, whichever is most convenient. Manuscripts on Microsoft Word 4.0, or ASCII, and on 5 1/4" medium density disks will be appreciated with the hard copy, but are not essential. Thanks!

Send subscription monies (check made our to NNTA) and manuscripts to:

Tim Perttula
10101 Woodhaven Drive
Austin, TX 78753-4346
(512) 873-8131

OR

Bo Nelson
Route 4, Box 259 B-1
Pittsburg, TX 75686
(903) 856-5291

ANNOUNCING THE RESUSCITATION OF A GRAND OLD JOURNAL -- LITHIC TECHNOLOGY

Yearly subscription rate = $17.00

Subscribe now!

Send manuscripts!

Get your favorite lithic analyst to send manuscripts!

Request or exchange information informally!

Announce upcoming conferences, knap-ins, lithic events!

Get your favorite library to subscribe!

Send subscription money and manuscripts to:

George H. Odell
Department of Anthropology
University of Tulsa
Tulsa , OK 74104-3189
(918) 631-3082
FAX (918) 631-2540

RECENT PUBLICATIONS

Rogers, J. Daniel, and Samuel M. Wilson (editors)
1993 *Ethnohistory and Archaeology: Approaches to Postcontact Change in the Americas.* Plenum Publishing Corporation, New York.

This book is part of the series Interdisciplinary Contributions to Archaeology. A review copy has been obtained from the publisher; a review should appear in the next issue of this newsletter.

Peterson, Dennis A., J. Daniel Rogers, Don G. Wyckoff, and Karen Dohm
1993 An Archeological Survey of the Spiro Vicinity, Le Flore County, Oklahoma. *Oklahoma Archeological Survey, Archeological Resource Survey Report 37.*

This monograph presents the results of a survey covering an area of about 1-mile radius around Spiro.

Young, Gloria A. and Michael P. Hoffman (editors)
1993 *The Hernando de Soto Expedition West of the Mississippi River*, 1541-1543. University of Arkansas Press. Fayetteville.

This book is a compilation of papers by scholars from several disciplines which were presented at two symposia sponsored by the University of Arkansas Museum. It addresses questions about the expedition's route, the explorers' experiences, the Native Americans' identities and lifeways, and the impact the meeting had on the two cultures.

Tieszen, Larry L., and Tim Fagre
1993 Carbon Isotopic Variability in Modern and Archaeological Maize. *Journal of Archaeological Science* 20(1):25-40.

This study found that there is no difference between maize varieties, no change during carbonization, and that archeological maize (when adjusted for anthropogenic alteration of atmospheric carbon dioxide) has the same isotopic composition as modern maize.

Margaret E. Newman, Robert M. Yohe II, Howard Ceri, and Mark Q. Sutton
1993 Immunological Protein Residue Analysis of Non-lithic Archaeological Materials. *Journal of Archeological Science* 20(1):93-100.

The materials explored for this study were coprolites and soils. They were from Lovelock Cave, Nevada, and from La Quinta, an open site in the Coachella Valley, California. These were both very dry environments, which would lead to the preservation of proteins in coprolites and soils. The likelihood of identification of such proteins in the far wetter environments of the Caddoan area is probably poor.

Nelson, Bo
1993 The GG Site (41UR136): A Surface Evaluation in the Little Cypress Creek Drainage, Upshur County, Texas. *The Cache: Collected Papers on Texas Archeology* 1.