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## Chronometrics at the Norman Site

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# CHRONOMETRICS AT THE NORMAN SITE

*J. Daniel Rogers, Lois E. Albert, and Frank Winchell*

## Introduction

Unfortunately, some of the most significant sites in eastern Oklahoma have been those with the least published information. This is a well-known consequence of the pre-World War II social aid-sponsored excavations that produced large fieldwork projects, but very little in the way of laboratory work or publication. The Norman site, in Wagoner County of eastern Oklahoma, is a major mound center that falls into this category. This report presents a specific orientation to the further analysis of the site, documentation of the available radiocarbon dates, and a few interpretive comments on regional chronology. Although the authors have an interest in producing a full-scale study of the site, we determined that for now it is beneficial to present some of the key information as it becomes available, such as the radiocarbon dates.

The Norman site (34WG2) consists of a series of mounds (including burial, platform, and other mounds), as well as non-mound habitation areas. These features place the site within the Mississippian period and relate it to many other sites in the area, such as Harlan (34CK6; Bell 1972), Spiro (34LF46;

Brown 1996), and others (see Wyckoff 1980). The Norman site, however, offers the opportunity to significantly add to our understanding of regional social and economic dynamics by presenting a new dimension to the known range of variation in artifact assemblages, features, and site organization. The key to understanding the significance of this type of variation is in being able to specify the underlying causal relationships. If we examine the range of variation of middle-range societies (defined by Taylor [1975] as sedentary horticultural groups with at least minimal evidence for status differences), significant differences become apparent in everything from demography (e.g., Hudson et al. 1985) to domestic organization (Rogers and Smith 1995).

Recognition of variation in regional culture histories and the organization of middle-range societies has resulted in many interpretive dividends. For instance, rather than viewing the origins of Mississippian culture as a singular process emerging from a cultural heartland, as was once widely accepted, the evidence now verifies multiple regional trajectories based on local historical, social, and

environmental circumstances (Smith 1984). This is not to say that local culture history is replacing broad explanations, only that local circumstances are a necessary part of the comparative basis for expanding interpretive potential in explanations of chiefdom development (Blitz 1999; Scarry 1996; Steponaitis 1991). The sheer wealth of new data and improvements in chronological interpretation makes the recognition of similarities and differences across and between regions far more viable. However, with this recognition there is also the potential to overemphasize local differences to the exclusion of broader relationships.

The types of regional variation now being recognized in chiefdoms offer important potentials for explaining social change. Essentially, by concerning our-

selves with variation, we are acknowledging a need to explore several dimensions of the process of developmental change that account for the transition from hunter-gatherer to chiefdom, especially the development and consolidation of authority. One of these processual dimensions involves adding a historical imperative -- the particulars of a specific situation. In general anthropological terms, this is associated with the notion of agency and the role of individuals as decision makers (Johnson 1989). In a broader sense, this is part of discovering how relevant our observations are to the central questions we hope to address. The search for the historical dimensions of variation that contributed to the role of the Norman site in prehistory depends first on establishing a viable site chronology to contextualize the site within the region.

## **The Site History**

In 1934, J. Joe Finkelstein (later J. Joe Bauxer) began excavations at one of the few "mound builder" sites then known in eastern Oklahoma. Under the auspices of the University of Oklahoma and with Civil Works Administration funds, Finkelstein spent three field seasons at the site amassing information. The results of this work were briefly summarized in the short-lived newsletter, *The Oklahoma Prehistorian* (1940:2-15), and are reprinted in this issue. Subsequent salvage excavations in 1948 by Robert E. Bell (University of Oklahoma) and Joseph Caldwell (Smithsonian Institution) added

to this store of information. In 1949, Bauxer began a comprehensive report on the excavations, but was not able to complete it. Bell and Caldwell also prepared unpublished reports on their excavations. Over the years, the field notes, photographs, reports, and collections have been curated at the Oklahoma Museum of Natural History.

In 1958, one radiocarbon date was obtained by Robert Bell (1958) from the Humble Oil Co. laboratory and one from the laboratory at the University of Michigan (Bell 1959). In 1990 and 1991,

twelve dates were obtained by Daniel Rogers from Beta Analytic, and in 1998 Frank Winchell obtained a fifteenth date, also from Beta Analytic. This sample (B-120603) was recently acquired in the field, specifically for radiocarbon dating. The strategy employed for selecting curated material to be dated was directed towards

sampling as many contexts as possible and to establishing the range of occupation for the site. Choices were restricted by the need to use existing materials and by curatorial decisions concerning specific categories of objects deemed too rare or culturally sensitive to permit destructive sampling.

## Discussion

Of the 15 dates (Table 1) so far acquired for the Norman site, one (B-38869) is rejected due to its anomalously early time range and the possibility of contamination. Fumigants applied during the sample's decades long storage in the Oklahoma Museum of Natural History may be linked to an unusual "film-like material" emitted during processing, as noted by Beta Analytic. The remaining 15 dates are discussed here by major site feature.

Six of the dates are from various contexts within Mound Ia, the largest platform mound (see Finkelstein, Figure A, this volume). Two of the dates (B-38864 and M-818) are from the same post found lying horizontally on the surface of the 2<sup>nd</sup> Substage. Although the M-818 date was obtained in 1958, it overlaps substantially with the more recently acquired B-38864 date. Two other dates are also paired, coming from the same context (B-38868 and B-44376). The results from these two samples gave almost identical results, calibrated at A.D. 1160 and 1161 respectively. All together, five of the dates overlap significantly and place the age of the mound at circa A.D. 1000 to 1300.

The habitation areas to the south (Area A) and to the north (Unit IV) of Mound I contained numerous features, including several rectilinear overlapping post patterns. Area A has one date (B-38871) calibrated at A.D. 1263. Although the probability distribution at the two sigma level for this date has multiple intercepts, the date range A.D. 1154-1305 accounts for 94% of the area under the distribution curve. Unit IV also has one date (B-38867), falling into an almost identical time range. The two sigma probability distribution shows that the time range of A.D. 1153-1321 accounts for 83% of the area under the distribution curve. These dates overlap significantly with those for Mound I. Unit IV actually partially underlies the flank of Mound Ib, indicating that the structures in this area were no longer functional by the time the mound was constructed. Given the near identical dates for Area A and Unit IV and the evidence for superposition, the construction of Mound I probably took place well after A.D. 1000 and probably sometime after A.D. 1100.

Only one sample (B-44377) was pro-

**Table 1. Radiocarbon Dates from the Norman Site.**

Sample No.	Material	Provenience	Measured <sup>14</sup> C Date B.P.	Calibrated Age(s) A.D. <sup>a</sup>	1 Sigma Calibrated Ranges A.D. with Probability Distributions <sup>b</sup>	2 Sigma Calibrated Ranges A.D. with Probability Distributions <sup>c</sup>
B-38863	Wood charcoal	Mound III, House 3 floor	930 ± 50	1043, 1091, 1119, 1140, 1155	1036-1157 (1.00)	1006-1221 (1.00)
O-595	Wood charcoal	Mound III, House 3 floor	1000 ± 100	1021	903-916 (.07) 961-1162 (.93)	783-788 (.01) 814-844 (.02) 857-1255 (.97)
B-38865	Wood charcoal	Mound III, Square 132, 26.7 cm above gravel, House 2 floor	700 ± 60	1290	1262-1319 (.63) 1354-1389 (.37)	1218-1401 (1.00)
B-38866	Wood charcoal	Mound III, Square 117, 81.3 cm above gravel	710 ± 50	1287	1253-1308 (.71) 1358-1386 (.29)	1216-1334 (.73) 1341-1397 (.27)
B-38872	Charred acorn	Mound III, Burial 60-3	900 ± 110	894	776-1000 (1.00)	663-1051 (.96) 1087-1123 (.03) 1136-1155 (.01)
B-44377	Wood charcoal ( <i>Juniperus</i> )	Mound II, Burial 50	1055 ± 55	995	897-923 (.17) 940-1027 (.82)	783-786 (.01) 819-842 (.02) 859-1070 (.88) 1078-1133 (.07) 1134-1158 (.03)
B-38867	Wood charcoal	Unit IV	770 ± 70	1271	1184-1298 (1.00)	1046-1091 (.07) 1118-1141 (.04) 1153-1321 (.83) 1350-1390 (.07)
B-38864	Wood charcoal	Mound Ia, 2 <sup>nd</sup> Substage, Square S13-L6	790 ± 50	1259	1207-1284 (1.00)	1045-1090 (.05) 1119-1139 (.03) 1154-1301 (.92) 1373-1374 (.01)
M-818	Wood charcoal	Mound Ia, 2 <sup>nd</sup> Substage, Square S13-L6	1050 ± 150	997	788-789 (.02) 829-840 (.02) 866-1159 (.95)	689-1250 (1.00)
B-38870	Partially charred wood ( <i>Juniperus?</i> )	Mound Ia, 3 <sup>rd</sup> Substage, Near post A	480 ± 60	1434	1337-1341 (.05) 1397-1483 (.95)	1305-1367 (.14) 1382-1525 (.77) 1563-1629 (.09)
B-38868	Wood charcoal	Mound Ia, 3 <sup>rd</sup> Substage, Near post B	900 ± 50	1160	1042-1101 (.46) 1112-1143 (.23) 1152-1195 (.31)	1023-1245 (1.00)
B-44376	Wood charcoal ( <i>Pinus</i> )	Mound Ia, 3 <sup>rd</sup> Substage, Near post B	890 ± 60	1161	1042-1096 (.42) 1116-1139 (.14) 1153-1213 (.44)	1022-1260 (1.00)
B-120603	Wood charcoal	Mound Ia, Near base	830 ± 40	1265	1225-1280 (1.00)	1159-1302 (.99) 1378-1379 (.01)
B-38869	Charred corn kernels	Mound Ib, House 2-1 floor	2720 ± 50	BC 968, 961, 925	BC 1009-894 (.84) 874-845 (.15)	BC 1118-827 (1.00)
B-38871	Wood charcoal	Area A, Square S4-L3	780 ± 50	1263	1212-1287 (1.00)	1053-1087 (.03) 1122-1139 (.02) 1154-1305 (.94) 1368-1382 (.01)

*Note.* Dates listed as BP (before present) are based on AD 1950 and include error ranges at the one sigma level (68.3% probability). All dates are reported with a half-life of 5568 years and are listed as non-conventional dates. (i.e. with no correction for isotope fractionation). The computer program CALIB 4.1, Beta 3, Method B (Stuiver and Reimer 1993; Stuiver et al. 1998) was used to calibrate the dates. Calibrated dates were corrected for isotope fractionation using a  $\delta^{13}\text{C}$  estimated value of  $-25\pm 2$  per mil as suggested for recent wood charcoal, except for the following: B-38869,  $\delta^{13}\text{C}$  measured at  $-20.0\pm 2$ ; B-38872,  $\delta^{13}\text{C}$  acorn shell estimated at  $-10.0\pm 2$ ; B-120603,  $\delta^{13}\text{C}$  measured at  $-28.4\pm 2$  (see Stuiver and Polach [1977] and Stuiver and Reimer [1993] for suggested mean  $\delta^{13}\text{C}$  values).

<sup>a</sup>Calibrated date intercept presented in calendar years.

<sup>b</sup>Calibrated dates presented in calendar years as a time range with an error margin calculated at the one sigma level (68.3% probability). Probability distributions for the respective radiocarbon curve intercepts are in parentheses.

<sup>c</sup>Calibrated dates presented with an error margin calculated at the two sigma level (95.4% probability). Probability distributions for the respective radiocarbon curve intercepts are in parentheses.

cessed from the principal burial mound, Mound II. Wood charcoal from Burial 50 produced a calibrated date of A.D. 995. The date range at the two sigma level extends from A.D. 783-1158, although 88% of the variation is included in the probability distribution for A.D. 859-1070. Other than wood charcoal, the burial associations consisted of shell tempered Woodward Appliqué sherds and other shell tempered sherds with incised lines. The date ranges cited here are early for the time periods usually associated with Woodward Appliqué ceramics. This type of pottery is routinely assigned to the Norman (A.D. 1250-1350) and Spiro (A.D. 1350-1450) phases (Brown 1996: 161, 163-164; see also Rohrbaugh 1982). Numerous other examples of Woodward Appliqué, Spiro Engraved, Maxey Noded Redware, Beaver Pinched, Woodward Plain, Paris Plain, LeFlore Plain, Poteau Plain, Williams Plain, and other types are found among the burial associations in Mound II. Given this assortment of

primarily Norman and Spiro phase ceramics, the early date for Burial 50 should not be considered reflective of the history of Mound II.

The final dated unit at the site is Mound III, a circular dome-shaped platform mound with a significant cluster of intrusive burials, identified as the Searcy component. Five dates were obtained for different features within the mound. Two of the dates (O-595 and B-38863) are from House 3, a square four center-post structure with an extended entryway, found at the base of the mound. These dates overlap significantly, and at the two sigma level the time range of A.D. 1000-1220 accounts for the bulk of the distribution. A third date (B-38865) is from House 2, which was found at an intermediate elevation within the mound. This date has a calibrated age of A.D. 1290, and a two sigma distribution of A.D. 1218-1401. A fourth date (B-38866) is from deposits in the upper portion of the

mound. This sample produced a calibrated date of A.D. 1287. At the two sigma level, the bulk of the probability distribution is encompassed by the range of A.D. 1216-1334. A final sample (B-38872) from Mound III was obtained from a charred acorn associated with Burial 60 from the Searcy component. Given the simple shell-tempered ceramics and other lithic associations with these burials, the Searcy component is usually considered to be very late in the sequence, perhaps even protohistoric, although there are no Euro-

pean materials present. The calibrated age of A.D. 894 obtained for this sample is early and probably not representative of the age of this component, although at the two sigma level there is one intercept as late as A.D. 1134-1158. Taken together, the five dates for Mound III suggest a time range for construction and use of the mound and the buildings at its base of about A.D. 1000 to 1400. Dating of the Searcy component will require further analysis.

## Conclusions

It has always been possible to gain a rough idea of the chronological placement of the Norman site based on the scanty, but revealing, early information (Finklestein 1940). However, it has still been difficult to place the site within the regional culture historical sequence, principally because of the absence of a detailed analysis, but also because of the scarcity of radiocarbon dates known to be reliable. This study alleviates part of the problem by providing a new series of dates and by helping to establish the reliability of samples processed early in the history of radiocarbon analysis. With this new information, we can better assess the nature of the occupation and the sequence in which different parts of the site were constructed and utilized.

In general terms, the radiocarbon dates point to an occupation of the site dating from A.D. 900-1400, but with some evidence that the principal occupation is

towards the middle and latter end of this range, especially A.D. 1100-1400. An eventual detailed analysis of the site will probably expand the occupation at both ends of the time range. For now, the radiocarbon dates link the occupation of the Norman site to three phases in the revised cultural phase sequence developed by Brown (1996:153-167; see also Brown and Rogers 1999): the Evans phase (A.D. 1000-1100), the Harlan phase (beginning at either A.D. 1050 or 1100 and continuing to A.D. 1250), and the Norman phase (A.D. 1250-1350).

The chronological placement of the site brings up an intriguing issue in the organization of regional social dynamics (Rogers 1996). Although most mound centers in the Northern Caddoan Region are widely dispersed (Brown et al. 1978: 192-193), the Norman site is only 6 km from another significant mound center, the Harlan site. At Harlan, the occupation



begins as early as A.D. 700 and probably ends by the mid-1200s (Bell 1972, 1984). The principal portion of the occupation at Harlan is earlier than the main occupation at Norman; however, there is significant overlap, on the order of 200 years. The proximity of these two important sites and their respective histories provides a key

resource in the analysis of middle-range social organization. The implication is that the decisions accounting for the establishment and growth of the Norman site involve issues other than effective use of resource distributions. Future studies of the Norman site will surely need to consider the implications.

### References Cited

- Bell, Robert E.  
1958 Radiocarbon Dates from Oklahoma. *Oklahoma Anthropological Society Newsletter* 7(3):3-4.
- 1959 Radiocarbon Dates from Oklahoma Sites. *Oklahoma Anthropological Society Newsletter* 8(4):2.
- 1972 *The Harlan Site, Ck-6, a Prehistoric Mound Center in Cherokee County, Eastern Oklahoma*. Oklahoma Anthropological Society Memoir 2.
- 1984 Arkansas Valley Caddoan: The Harlan Phase. In *Prehistory of Oklahoma*, edited by Robert E. Bell, pp. 221-240. Academic Press, Orlando.
- Blitz, John H.  
1999 Mississippian Chiefdoms and the Fission-Fusion Process. *American Antiquity* 64:577-592.
- Brown, James A.  
1996 *The Spiro Ceremonial Center: The Archaeology of Arkansas Valley Caddoan Culture in Eastern Oklahoma*. 2 Vols. Memoirs of the Museum of Anthropology, University of Michigan, No. 29.
- Brown, James A. and J. Daniel Rogers  
1999 AMS Dates on Artifacts of the Southeastern Ceremonial Complex from Spiro. *Southeastern Archaeology* 18(2):11-18.
- Brown, James A., Robert E. Bell, and Don G. Wyckoff  
1978 Caddoan Settlement Patterns in the Arkansas River Drainage. In: *Mississippian Settlement Patterns*, edited by Bruce D. Smith, pp. 169-200. Academic Press, New York.
- Finklestein, J. Joe  
1940 The Norman Site Excavations Near Wagoner, Oklahoma. *Oklahoma Prehistorian* 3(3):2-15.
- Hudson, Charles, Marvin Smith, David Hally, Richard Polhemus, Chester DePratter  
1985 Coosa: A Chiefdom in the Sixteenth-Century Southeastern

- United States. *American Antiquity* 50:723-737.
- Johnson, Matthew H.  
1989 Conceptions of Agency in Archaeological Interpretation. *Journal of Anthropological Archaeology* 8:189-211.
- Rogers, J. Daniel  
1996 Markers of Social Integration: Development of Centralized Authority in the Spiro Region. In *Political Structure and Change in the Prehistoric Southeastern United States*, edited by John F. Scarry. Pp. 53-68. University Press of Florida, Gainesville.
- Rogers, J. Daniel and Bruce D. Smith (editors)  
1995 *Mississippian Communities and Households*. University of Alabama Press, Tuscaloosa.
- Rohrbaugh, Charles  
1982 Spiro and Fort Coffee Phases: Changing Cultural Complexes of the Caddoan Area. Unpublished Ph.D. dissertation, University of Wisconsin, Madison.
- Scarry, John F. (editor)  
1996 *Political Structure and Change in the Prehistoric Southeastern United States*. University Press of Florida, Gainesville.
- Smith, Bruce D.  
1984 Mississippian Expansion: Tracing the Historical Development of an Explanatory Model. *Southeastern Archaeology* 3:13-32.
- Steponaitis, Vincas P.  
1991 Contrasting Patterns of Mississippian Development. In *Chieftoms: Power, Economy, and Ideology*, edited by Timothy Earle, pp. 193-228. Cambridge University Press, New York.
- Stuiver, Minze and Paula J. Reimer  
1993 Extended <sup>14</sup>C Database and Revised CALIB Radiocarbon Calibration Program. *Radiocarbon* 35:215-230.
- Stuiver, Minze, Reimer, Paula J., Bard, E., Beck, J.W., Burr, G.S., Hughen, K.A., Kromer, B., McCormac, F.G., v.d. Plicht, J., and Spurk, M.  
1998 INTCAL98 Radiocarbon Age Calibration 24,000-0 cal BP. *Radiocarbon* 40:1041-1083.
- Stuiver, Minze and H.A. Polach  
1977 Discussion: Reporting of <sup>14</sup>C Data. *Radiocarbon* 19:355-363.
- Taylor, David  
1975 Some Locational Aspects of Middle-Range Hierarchical Societies. Unpublished Ph.D. dissertation, Department of Anthropology, City University of New York.
- Wyckoff, Don G.  
1980 Caddoan Adaptive Strategies in the Arkansas Basin, Eastern Oklahoma. Unpublished Ph.D. dissertation, Department of Anthropology, Washington State University, Pullman.