



Volume 65, Number 2
New Series

June, 1984

Published Quarterly by
The Wisconsin Archeological Society

CONTENTS

An Analysis of the Mortuary Practices at the
Norton Mounds Site 99
Robert G. Kingsley

Thermoluminescence Dating and Chronology Building
in the Western Great Lakes Region 116
Mark J. Lynott and Leslie A. Perry

The Carter Creek Site: A Weaver Phase Ring Midden
in the Interior Uplands of West Central Illinois 131
Duane Esarey, Kelvin Sampson, and Charles Suchy

NEWS, COMMENTS AND REPORTS

Thermoluminescence Dates from the Boatworks Site (Da-11),
Dane County, Wisconsin 145
Robert F. Maher

A Chert Cache and Lithics from the Clark's Point
Upland Site—47-Wn-201 150
James A. Clark, Jr.

Notes on Silver Mound 159
Charles E. Brown

Comments on Brown's Research at Silver Mound 169
Jeffery A. Behm

Announcements 174

Editor's Note 176

BOOK REVIEW

Graham, Holman, and Parmalee: *Taphonomy and Paleoecology of the Christensen Bog Mastodon Bone Bed, Hancock County, Indiana* 181
John E. Dallman

THE CARTER CREEK SITE: A WEAVER PHASE RING MIDDEN IN THE INTERIOR UPLANDS OF WEST CENTRAL ILLINOIS

Duane Esarey, Kelvin Sampson, and Charles Suchy
Western Illinois University and Dickson Mounds Museum

Preliminary observations and analyses resulting from investigations on a newly discovered Weaver phase ring midden are presented. Due to very infrequent episodes of cultivation the site has apparently retained much of its structural integrity and escaped heavy collecting. Aerial photographs provide a strikingly clear circular village plan complete with house depressions and a central plaza. This allows definitive observations on the community's structure and components, and on the site's formation. Two surface collections and a collector interview provide a large material sample from which data on the ceramic, lithic, and bone tool assemblages, as well as chert usage patterns, are drawn. Observations on the site's location and the area's landforms, vegetation, and special features are also made.

INTRODUCTION

At a Two Rivers Archaeological Society meeting in Macomb, Illinois in late March of 1983, member Mike Black of Macomb displayed some artifacts from a site he had recently found. Although the presence of a platform pipe fragment, a Cobden chert scraper, and many Weaver sherds was noteworthy, it was not until Mr. Black described the location of this site and its appearance that it was clear the site was unusual. Most of the artifacts were reportedly coming from "a low, dark rise" and the site was described as being close to Industry, Illinois. This indicated that a substantial midden was located far into the uplands of west central Illinois, on or near an area which was formerly prairie.

Upon visiting the site with Mr. Black, it became apparent that not only was there a recognizable midden accumulation, but that the approximately 40 cm high midden was arranged in a circular pattern around an open plaza. According to the site's tenant farmer, it had been brought out of long term pasture in the spring of 1982 and chisel plowed that fall. Before this the site had been plowed once in 1970 and once in 1974 or 1975. Prior to 1970, the site had not been plowed during the memory of a man (approximately 40 years old) who had lived adjacent to it all his life. Thus, it appears that only four plowing episodes have taken place since at least 1950. The recent chisel plowing had clearly cut into hitherto undisturbed deposits, as larger than usual sherds and mussel shell fragments lay scattered across the midden. On this first visit, Mr. Black, his companion Al Mustain, and the senior author collected over 1300 pottery sherds (including over 70 rim sherds) and a five gallon bucket full of chert, bone, and shell debris.

Two months later the site was disked and planted in soybeans. After a good rain, Gerald Theobald (another Two Rivers Archaeological Society member) flew two photographic flights over the site (Fig. 1). Clearly revealed were many small rings of midden surrounding a number of individual house depressions; the



FIGURE 1: Aerial photograph of the Carter Creek ring midden.

structures in turn are around a central plaza in a circular arrangement. Evidently, the area of each structure stayed relatively clear of debris while midden was building up around its circumference.

A dark depressed area about 80 meters northeast of the midden ring (to the upper left in Fig. 1) is a "prairie pothole," a small upland lake or marsh probably formed as an ice block depression on the upland till plain. Although only a few feet deep, these depressions apparently held water much of the year and were aboriginally important, as many of them yield artifact concentrations even when located well onto the prairie (cf. Carmichael 1977; Luman 1970). Carter Creek flows approximately 200 meters to the south of the midden ring, which is situated near the bluff edge.

One month after the aerial photos were taken, Western Illinois University's archaeological field school spent two days at the Carter Creek site carrying out a controlled surface collection. This field school was partially financed by a grant from the Western Illinois University Foundation. Since the bean rows were almost exactly one meter wide, the site was collected in approximately 900 two by five meter collection units. On the north half of the site, the crew of eleven collected all cultural debris, but after this took eleven hours and yielded 63 cardboard boxes full, it was decided to not collect rough rock for the south half. The data from this surface collection are now only partially processed. All the pottery, chert, and stone tools have been examined, but no distributional, formal, or subsistence oriented analyses have been done. The ceramic analysis has been undertaken by Sampson.

SETTING

The Carter Creek site (11-Md-817) is located on the north bluff and near the headwaters of one of the many parallel tributaries on the east side of the LaMoine River drainage (Fig. 2), in McDonough County, Illinois. This is near the south end of the Bushnell Prairie, which is at this point about 25 km wide, but which is limited to narrow (approximately five km wide) fingers to the south of this point. The uplands of this portion of Illinois are referred to as the Galesburg Plain (Leighton et al. 1948) and are mostly covered by level Illinoian ground moraine blanketed by a mantle of Peoria loess.

The site area is located over 30 km from the Illinois River valley and 14 km east of the LaMoine River valley. Local relief is approximately 21 meters but to the east, north, and south, this area is characterized by much less relief. The site itself is located on forest soils (Hopkins et al. 1913) and a review of the General Land Office records (United States Government Land Surveys n.d.) for this location indicated that early in the 19th century this was a semi-isolated patch of forest approximately six km in diameter centering on the confluence of Carter and Grindstone creeks. In general this is about five km east of the "line" where much of the prairie/forest edge begins along the LaMoine's eastern tributaries.

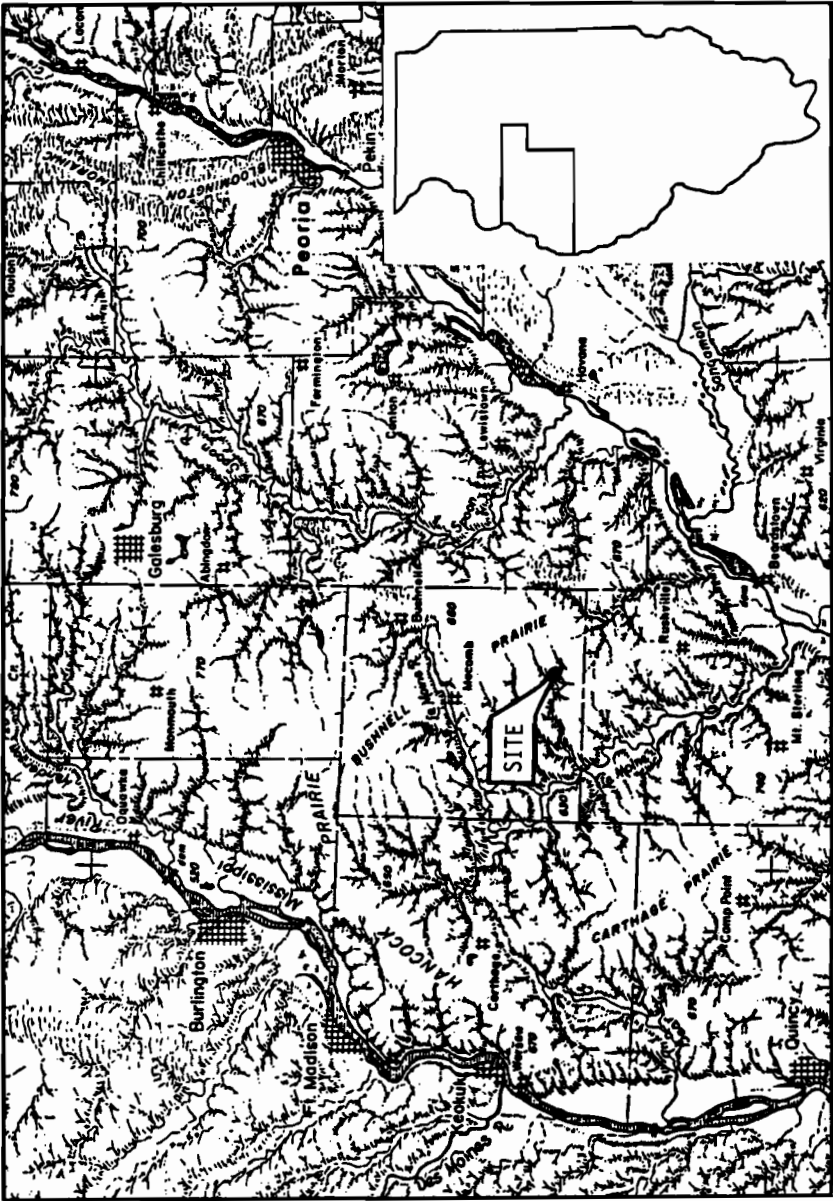


FIGURE 2: Location of the Carter Creek site.

THE SITE AND ITS ASSEMBLAGE

The midden ring measures 100 meters north-south by 88 meters east-west. There is evidence that the east-west measurement is perhaps reduced due to a lack of clear midden staining along the western edge, which was, nevertheless, a heavily occupied part of the circular community. On some aerial photographs, several house depressions are visible along this edge without the intervening midden accumulation that makes the rest of the site so obvious.

The plaza is approximately 20 meters in diameter and roughly circular. Clear plow distortion at the inner and outer edges of the midden ring make it clear that although the site is at this point incredibly well preserved, it probably cannot sustain continued cultivation without severe damage. The well defined ridges of midden surrounding the structures cannot help but be plowed down and further distorted with each episode of cultivation.

It appears that 20 to 25 structures are evident in the aerial photos of the site, and, allowing for the "invisible" western margin and the incursion of the head of a gully along the southeast edge, perhaps 30 to 35 total structures made up this site. The depressions appear to range from about four to ten meters across.

Artifacts from the Carter Creek site present an interesting and quite homogenous assemblage. The pottery, amounting to approximately 5000 sherds, supplied 228 rim sherds which have been analyzed in terms of surface treatment, decoration, rim form, and lip finishing techniques. Approximately 1700 body sherds, representing the southern half of the controlled surface collection, were analyzed for variation in surface treatment.

All the pottery is grit tempered. About 40% of the 228 rim sherds have no lip stamping. Plain bar stamps are on about 30% of the rims and cordwrapped stick stamps on 10%. Smaller percentages of deeper notched and wavy rims, rims exhibiting fingernail impressions, punctating, or incising and miniature vessels make up the balance. In fact, excluding lip stamping and bosses, only 26 decorated rims and seven body sherds were found in the over 5000 sherds from the site. Utilizing percentages generated only by rim sherds, punctates decorated about 7.5% of the vessels, fingernail impressions 3%, and incised decorations less than one percent. One randomly brushed body sherd also was present. Examination of surface treatments on body sherds indicated that 54% were either cordmarked or smoothed-over-cordmarked and 46% were plain. (A breakdown of only one percentage point difference was generated using the surface treatment of the rim sherds.) Given the large size of this ceramic sample, the site can be said to be essentially pure Weaver with neither Havana nor post-Weaver materials present.

Projectile points from the Carter Creek midden ring are predominantly Steuben points, which make up 70% of the 64 points typable to the early Late Woodland occupation (Fig. 3). Present also are contracting stem points (11%), corner-notched points (Manker and possibly Snyders; 16%), and two Marshall Barbed points (3%) (Figs. 4 and 5). Although the non-Steuben point forms at Carter Creek generally occur in earlier (Havana-Hopewell) contexts, the ceramic evidence from the site makes it clear that these forms persist into at least the early Weaver period as well.

Only two lamellar flake blades were found and both are of non-local chert. It

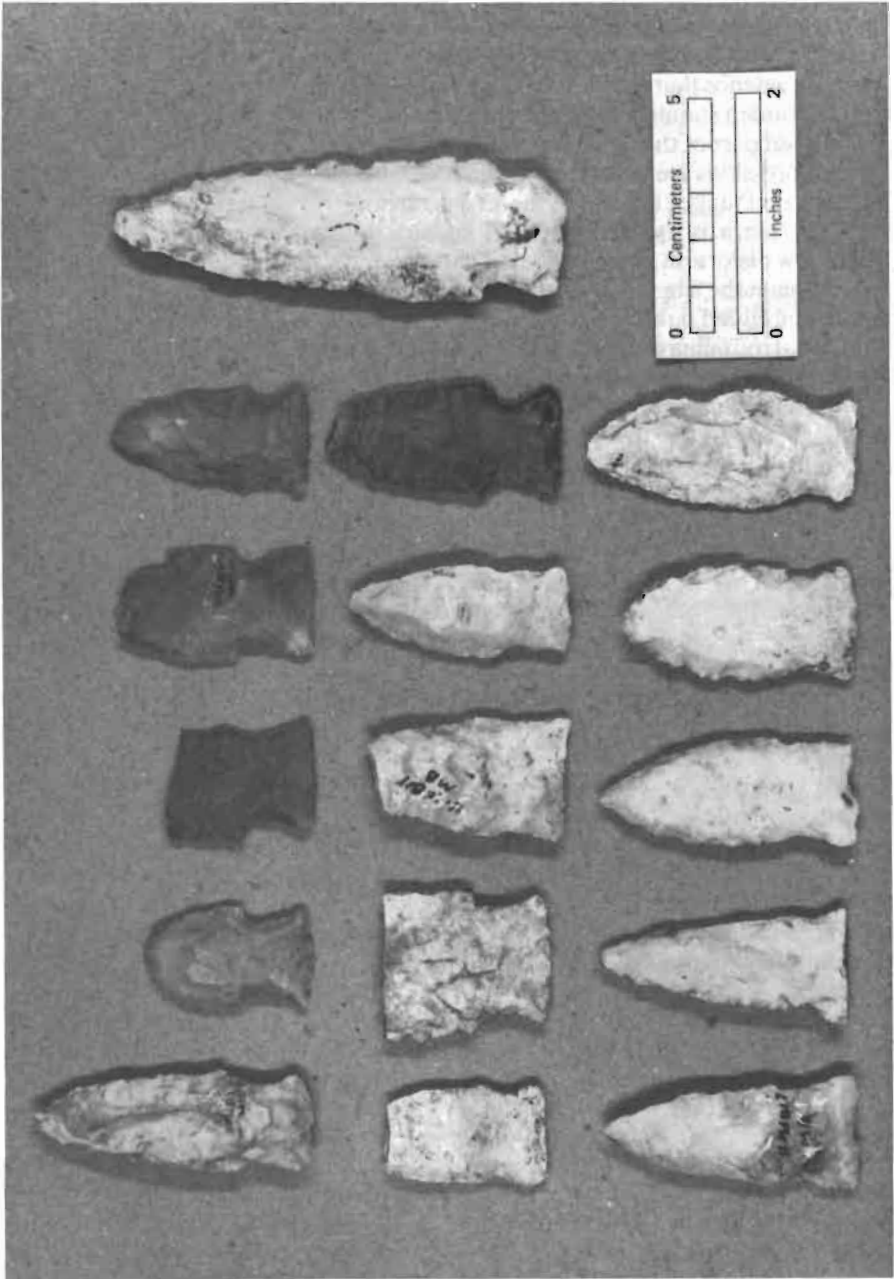


FIGURE 3: Selected Steuben points from the Carter Creek site.

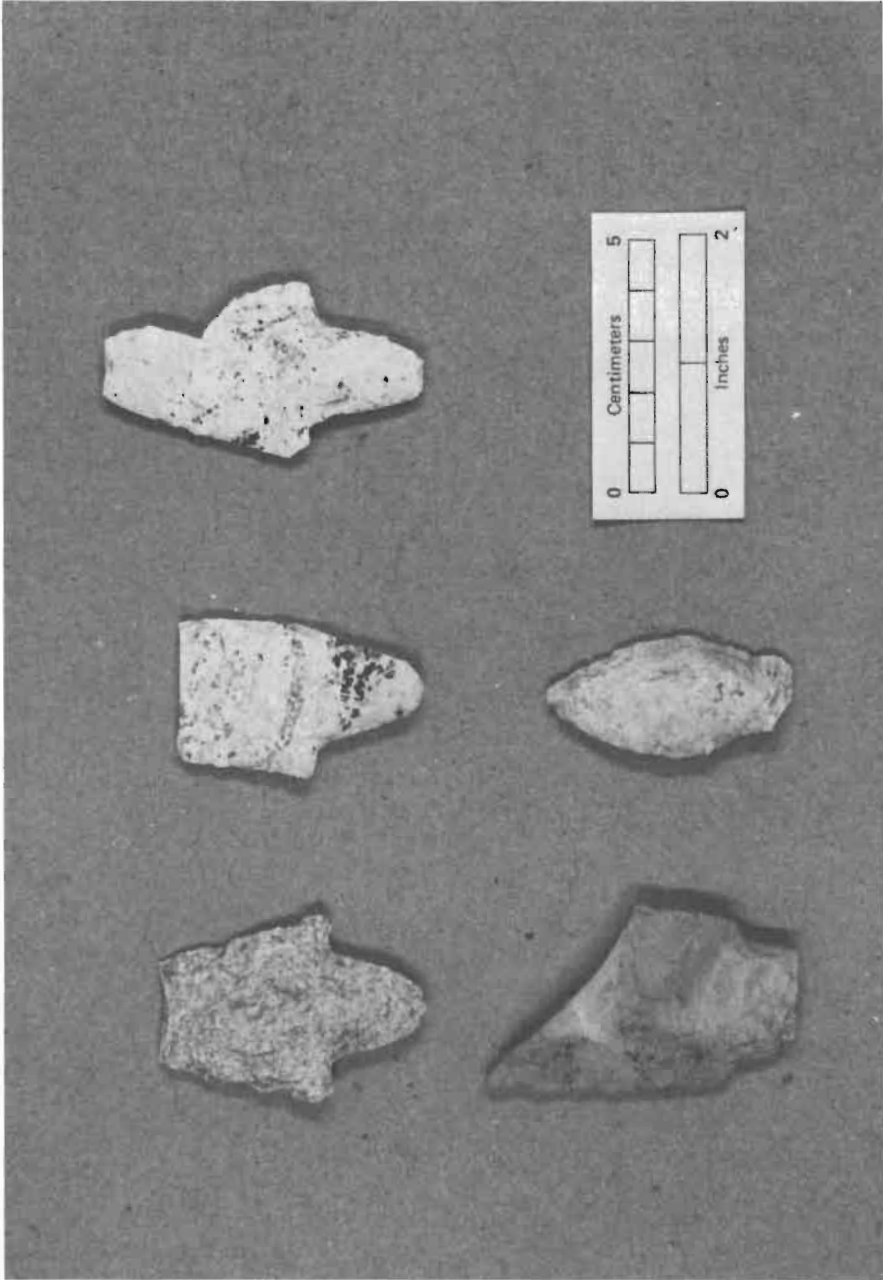


FIGURE 4: Selected contracting stem points from the Carter Creek site.

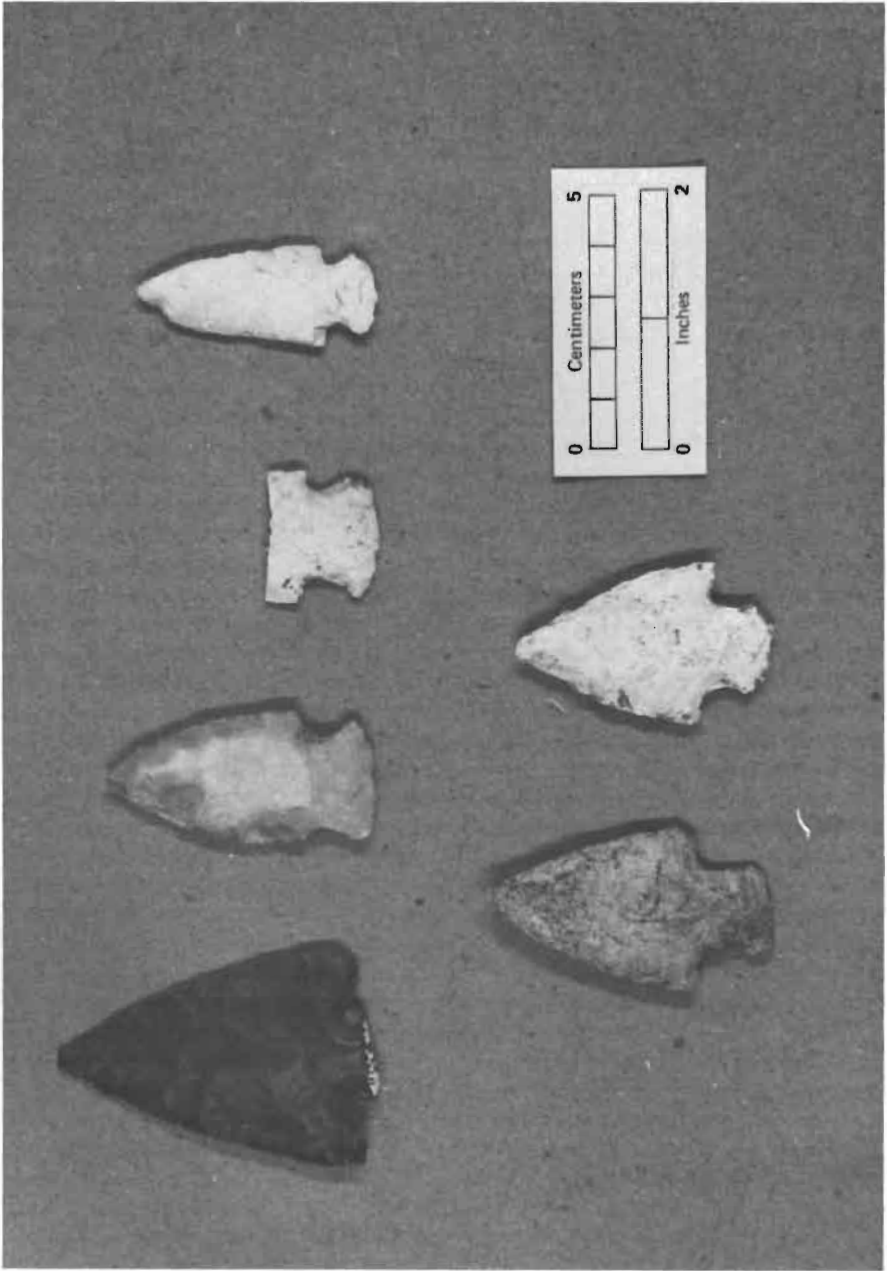


FIGURE 5: Selected corner-notched points from the Carter Creek site.

is of note that most of the points are made of Keokuk chert, which is available 15 km to the west (Esarey 1983). However, the corner-notched points are made of either Cobden/Dongola or fine Burlington cherts, or, in one case, a Moline-like chert. Six of the Steuben points were also made of Cobden/Dongola chert. This persistence of extra-local cherts, in spite of the remote location of the site, is an interesting indicator that the trade patterns of the preceding periods were still active to some degree.

Other artifacts from the midden, or likely to pertain to the early Late Woodland occupation, include a small bi-pointed perforator (very similar to the double-ended drill shown by Stephens [1974:66] from the mound on the Lowe site), a small celt, a very small pebble axe with a pecked groove, the undrilled end of a limestone platform pipe base, an unfinished gorget, the corner of a finished gorget, many sandstone abraders, one bone awl, two deer toe tinklers, one drilled bone "bracelet" fragment, a scraped turtle carapace fragment, and a socketed antler handle (Figs. 6 and 7).

Specific subsistence information for the Carter Creek site is still lacking. Both the general and controlled surface collections recovered a great deal of mammal, bird, and fish bone and a surprising amount of shell. The occurrence of shell and fish bone on a site so far into the uplands is, however, not unprecedented. Another Weaver site (11-Sc-461), located approximately nine km to the southeast in the drainage of the West Branch of Sugar Creek, produced two small but intensive midden concentrations with mussel shell as well as turtle, fish, bird, and mammal bone (Esarey 1982:142; Green 1982:72). This site appears to be one of only a very few Weaver sites in an area heavily occupied by the later manifestation known as the Bauer Branch complex (Green 1976, 1977, 1980). Green (1982:73) has commented that the apparent intensive collection of riverine and aquatic species at 11-Sc-461 would seem relatively inefficient, even if more favorable hydrologic conditions pertained. He suggests that changing subsistence patterns for the following Bauer Branch complex made possible a more permanent adaptation to the upland environment and its most abundant resources. Thus, it now appears that a surprisingly intensive use of aquatic faunal resources during the earliest stages of Late Woodland entrance into the interior uplands may have been a dependable pattern, whatever the explanation.

As Styles (1981:265) has pointed out, either intensification of the use of first-line resources or diversification in resources used can be responses to environmental stress. Perhaps Carter Creek and other upland Late Woodland sites will provide a valuable body of data on an attempt by a riverine oriented Weaver phase population (e.g., Munson et al. 1971) to continue employing traditional means of subsistence by expanding their settlements into areas not well suited to such intensive exploitation. Following their entrance into the uplands, they may have been forced (by the more delicate and easily depleted aquatic ecosystems of such an area) to diversify their pattern of subsistence to compensate for the sparseness of their traditional resources. Such an adaptation is generally in line with current theories of population expansion and intensified local exploitation for this time period, although most researchers have little data on these trends including a distinctive upland variant.

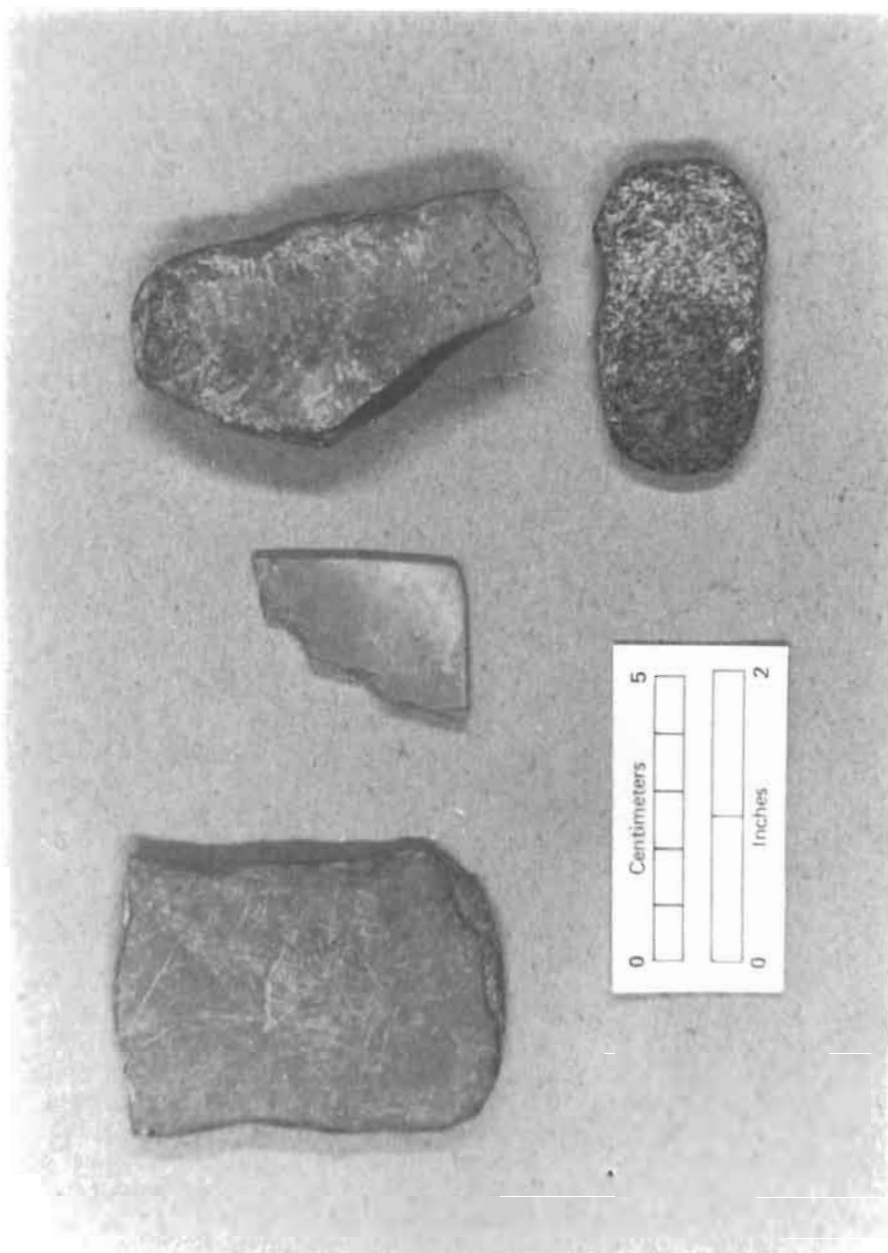


FIGURE 6: Unfinished gorget fragment; finished gorget fragment; celt; and small, grooved pebble axe.

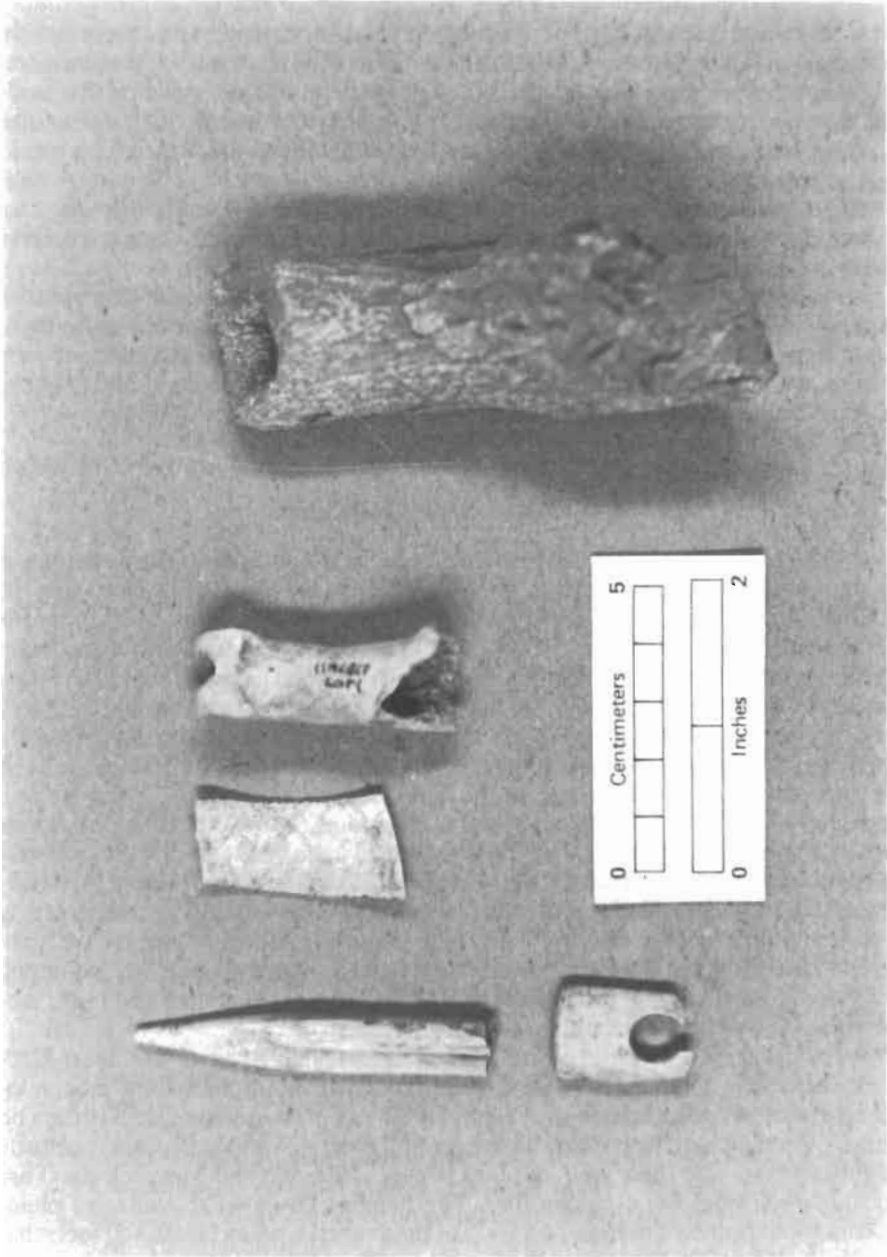


FIGURE 7: Bone tools: awl, scraped carapace fragment, deer toe tinkler, antler handle, drilled "bracelet" fragment.

Also to be considered is the possibility that the Carter Creek site may simply be a short-term, seasonally occupied encampment for populations permanently based along the larger rivers. Munson et al. (1971:429) discussed seasonal aspects of Weaver phase subsistence and noted that there was no evidence for mid-summer occupation at Scovill. Perhaps, functioning as a summer base camp, the Carter Creek site played a viable part in a seasonal settlement scheme. This would not necessarily violate any of the tenets of the observed pattern of increased localization of resource procurement, for the LaMoine Valley (14 km to the west) undoubtedly had substantial Weaver phase settlements in which counterpart seasonal occupations could have taken place.

It is expected that early Late Woodland floral exploitation in the uplands also will follow, at least in part, the trends substantiated in the major river valleys. Data from the nearby but later Bauer Branch sites indicate use of hickory nut, acorns, walnut, butternut, squash, sunflower, knotweed, goosefoot, and possibly maygrass. Corn becomes common in the later Bauer Branch sites (Green 1982:73-74).

EXTERNAL RELATIONSHIPS

The two other locales in which ring middens are documented are instructive in just how widespread the trends of the early Late Woodland period are. In southeastern Illinois, the Allison-LaMotte culture is characterized by numerous examples of circular villages, "many of them unmixed or only slightly mixed with earlier or later materials" (Winters 1967:52). A decided prairie orientation is discussed by Winters, but it is of note that these sites are not on the upland till plain prairies, but are located on the T-1 of the Wabash and Embarrass rivers. Size data on three of these villages are provided. Bumble Bee (Winters 1967:55) appears to be approximately the same size as the Carter Creek site, that is, 100 meters in diameter. The Stoner site is described by Stephens (1974:9) as being 150 yards across. Although Stephens (1974:25) does not give the diameter of the Lowe site, he does state that the enclosed plaza is 300 feet in diameter. Winters (1967:53) states that LaMotte villages generally range from five to ten acres although no ring middens of this size are discussed. That the Allison-LaMotte culture is closely related to the Weaver phase is especially clear from a ceramic assemblage described by Winters (1967:54) as "one of the aesthetically less imaginative and more monotonous pottery series of the Midwest."

In the drainage of the North Fork of the Licking River in northeast Kentucky three ring middens belonging to the Newtown manifestation have been located at closely spaced intervals. Collins (1980) has presented preliminary data on these sites, which make it clear that we are still dealing with a very similar cultural manifestation. The three ring middens (Pyles, Gillespie, and Mayslick sites) are located within 6.5 km of each other. The familiar Lowe points and very plain, cordmarked pottery are found on each of these sites. Collins (1980:3-5) feels that the A.D. 465 to 705 dates from the Newtown assemblage at Roger's Shelter (further to the south in Powell County, Kentucky) are compatible with Newtown assemblages in Indiana and Ohio and apply to the ring middens as well. The reported diameters of two of the three Kentucky ring middens are 90 and 150 meters. These distant examples of late Middle Woodland/early Late Woodland

ring middens have other interesting similarities in subsistence data and material exploitation with only a very few differences from the Carter Creek site.

In summary, the Carter Creek site presents an unusually clear view of a post-Hopewellian community and would seem likely to produce a very dependable data set bearing on such characteristics of this period as increasing localization of resource exploitation (Styles 1981) and increasing population and social integration (Braun 1977). If this settlement is one of many sites which are pioneering efforts into the upland headwaters regions on the part of the early Late Woodland peoples, as seems to be the case, then we are presented the opportunity to gather the baseline information for studying the ensuing Late Woodland adaptations to this specialized environment. Thus, combined with existing and developing data, the Carter Creek site can do much to illuminate a special facet of the Middle Woodland to Late Woodland transition in the Midwest.

Addendum: Through the good graces of the Carter Creek site's owner, Mrs. Violet Landis, the midden ring has now been planted back in a cover crop and is not to be further cultivated.

REFERENCES CITED

BRAUN, DAVID P.

1977 *Middle Woodland—(Early) Late Woodland Social Change in the Prehistoric Central Midwestern United States*. Ph.D. dissertation, University of Michigan. University Microfilms International, Ann Arbor.

CARMICHAEL, DAVID L.

1977 Preliminary Archeological Survey of Illinois Uplands and Some Behavioral Implications. *Midcontinental Journal of Archaeology* 2:219-251.

COLLINS, MICHAEL B.

1980 Lithic Technology and Cultural Ecology in the Late Middle Woodland (Newtown) of Northeast Kentucky (draft). Paper presented at the 25th annual Midwest Archeological Conference, Chicago, October 5.

ESAREY, DUANE

1982 *Final Report on Phase II Archaeological Investigations of Amax's Proposed Littleton Mine Field and Littleton Field Haul Road, Schuyler, McDonough and Fulton Counties, Illinois*. Reports of Investigations No. 4, Archaeological Research Laboratory, Western Illinois University, Macomb.

1983 Chert Availability and Aboriginal Utilization in West Central Illinois—A Geographic Overview. Manuscript on file at the Archaeological Research Laboratory, Institute for Environmental Management, Western Illinois University, Macomb.

GREEN, WILLIAM

1976 Preliminary Report on the Bauer Branch Complex, a Late Woodland Manifestation in West Central Illinois. *The Wisconsin Archeologist* 57:172-188.

1977 *Final Report of Littleton Field Archaeological Survey, Schuyler County, Illinois*. Reports on Archaeology No. 1, Upper Mississippi Valley Archaeological Research Foundation.

1980 Recent Investigations into the Bauer Branch Late Woodland Complex of Western Illinois. Paper presented at the 25th annual Midwest Archaeological Conference, Chicago, October 5.

1982 Update on the Woodland Period in the Littleton Project Area. In *Final Report on Phase II Archaeological Investigations of Amax's Proposed Littleton Mine Field and Littleton Field Haul Road, Schuyler, McDonough and Fulton Counties, Illinois*, by Duane Esarey, pp. 63-74. Reports of Investigations No. 4, Archaeological Research Laboratory, Western Illinois University, Macomb.

HOPKINS, CYRIL G., J. G. MOSIER, J. H. PETTIT, and D. S. FISHER

1913 *McDonough County Soils*. Soil Report No. 7, University of Illinois Agricultural Experiment Station, Urbana.

LEIGHTON, MORRIS M., GEORGE E. EKBLAW, and LELAND HORBERG

1948 *Physiographic Divisions of Illinois*. Report of Investigations No. 129, Illinois State Geological Survey, Urbana.

LUMAN, DONALD E.

1970 *Geomorphology of Upland Basins in West-Central Illinois*. M. A. thesis, Department of Geography, Western Illinois University, Macomb.

MUNSON, PATRICK J., PAUL W. PARMALEE, and RICHARD A. YARNELL

1971 Subsistence Ecology of Scovill, a Terminal Middle Woodland Village. *American Antiquity* 36:410-431.

STEPHENS, DENZIL

1974 *Excavations at the Stoner and Lowe Sites*. Papers in Anthropology No. 2, Illinois State Museum, Springfield.

STYLES, BONNIE WHATLEY

1981 *Faunal Exploitation and Resource Selection: Early Late Woodland Subsistence in the Lower Illinois Valley*. Scientific Papers No. 3, Northwestern University Archaeology Program, Evanston, Illinois.

UNITED STATES GOVERNMENT LAND SURVEYS

n.d. *Illinois Township Plats*. Illinois State Archives, Springfield. (Microfilm)

WINTERS, HOWARD D.

1967 *An Archaeological Survey of the Wabash Valley in Illinois*. Reports of Investigations No. 10, Illinois State Museum, Springfield.