WILLIAM S. DANCEY
OHIO ARCHAEOLOGICAL COUNCIL
NEWSLETTER

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EDITOR'S COMMENTS

As stated below, the OHPO has a new department and several position vacancies. The position for archaeologist was formerly held by Susan K. Scherff.

With the publishing of the University of Cincinnati's master theses in archaeology, all universities in Ohio (except Case Western Reserve University which will be published in the November issue) have been covered. This was one of my principal aims when I proposed to help create and edit an OAC *Newsletter*. I encourage all faculty members to please submit titles of forthcoming masters theses and dissertations to the editor.

A new feature in this issue is an expanded discussion on Adena ritual and mortuary behavior by Bruce Aument, a recent Ph.D. recipient. It is hoped that others will submit three to five page summaries of the research completed for their thesis or dissertation. Do not include extensive supporting data, which our readers can find in the complete thesis or dissertation.

If you know someone who might be interested in the *Newsletter*, urge them to subscribe. Four issues per year cost $10.00. It is also available with any level of OAC membership.

Finally, ideas for workshops for the biannual meeting are encouraged, and individuals willing to participate in the morning program should contact John Nass, the Program Chair.

John P. Nass, Jr.

PRESIDENT'S CORNER

The OAC continues to be well represented in meetings of the *ad hoc* committee charged by State Senator Roy Ray (R-Akron) to develop legislation dealing with the treatment of human remains from antiquity. Eight meetings have been held to date. A ninth meeting is scheduled for the end of July, and the end appears to be in sight. N'omi Greber and Brad Baker (Special Committee on Human Remains) and your President have been regular contributors to these meetings, and I would like to particularly thank N'omi and Brad for their continued hard and productive work in trying to resolve this sometimes difficult issue.

Twenty-six points of agreement have been reached. Many of these had been expressed in the OAC's position papers on this matter. Though we have yet to discuss and reach agreements on a few controversial subjects, in the next meeting or two I am confident that we can do just that -- discuss and reach agreements on the treatment and final disposition of interred human remains.

Highlights of the 26 points of agreement are that the legislation should pertain only to interred human remains. Those remains presently disinterred will not be covered in this bill. While the preferred treatment for interred human remains is *in situ* preservation, it is recognized that this ideal will not be achieved in many cases. When it cannot, disinterment is mandatory. An 11 member Board appointed by the Governor will have jurisdiction and final authority with respect to all treatment options for remains that County Coroners relinquish control over. The Board will be comprised of three Native American Indians, one non-Native American minority, two archaeologists, one historian, one biological or forensic anthropologist, one museologist, and one at-large member of the general public. The Board will employ staff to handle its day-to-day operations, which will be housed at the Ohio Bureau of Criminal Identification.

Except for agricultural activities, those who disturb interred human remains will be responsible for the costs of *in situ* preservation or removal of the human remains. Property tax exemptions will be available to anyone willing to preserve human remains *in situ*.

IN THIS ISSUE

Other than human remains activities, the Board of Directors is meeting to discuss implementation of changes to various OAC committees and the other organizational matters that were discussed by the membership at the May 18th meeting. I hope to include a report on these matters by the time we mail the election ballot and minutes prior to our next meeting in November.

Alan Tonetti

OHIO HISTORIC PRESERVATION OFFICE

State Legislation

Senator Roy L. Ray (R-Akron) has agreed to send revised language to the Legislative Service Commission for incorporation into SB 244. The revisions came about in negotiations between the OHPO, the Ohio Department of Transportation, the Ohio Department of Natural Resources, and the Ohio Department of Administrative Services. The OHPO is also coordinating these revisions with Sate Representative Michael Stinziano (D-Columbus), original sponsor of a companion bill (HB 720) in the House. Once legislative language is drafted by the LSC, the OHPO will work with the bills' sponsors to decide whether or not to continue moving the bills forward this year or wait until the General Assembly reconvenes in 1991. For further information contact Franco Ruffini, Deputy State Historic Preservation Officer.

Position Vacancies

The OHPO has four staff vacancies. All are with the Technical and Review Services Department. This newly-created department combines the functions of the former Review and Compliance and Technical Preservation Services Departments.

One position is for an archaeologist and two are for historians/architectural historians. The final position was created to assist in tracking project reviews and to provide other support services. It is a technical, not professional position. For further information contact Judith L. Kitchen, Department Head.

Archaeology Guidelines

The survey methodology section draft has been completed and sent to the survey methodology task force for review and comment. For further information, contact Judith L. Kitchen, Technical and Review Services Department Head.

National Register Eligibility Evaluation Review Team

In order to share office-wide expertise on evaluating the significance, integrity, and eligibility of problematic or difficult historic properties, and to improve the coordination of project reviews among departments, especially on historic properties involving multiple actions, the OHPO has instituted a review team. This team acts in an advisory capacity to the department responsible for bringing the matter to the team's attention. The review team includes archaeologists, historians and architectural historians.

Historic properties from program areas such as National Historic Preservation Act Section 106 reviews, National Register of Historic Places, Part 1 Tax Act Certifications, etc., are included in the review teams' charge. Departments select historic properties for review only if they have difficulty in determining National Register eligibility. These include, but are not limited to, difficult to evaluate property types (properties less than 50 years old) and property types for which little information is known (farmsteads, mining resources). For more information contact Barbara Powers, Planning, Inventory, and Registration Department Head.

Consultants List

The OHPO distributes a list of consultants as a service to those seeking assistance with preparation of surveys, National Register nominations, planning studies, Tax Act projects and public education projects. This list is provided as an aid to those seeking the services of a historic preservation consultant, and is published with the understanding that neither the OHPO nor the Ohio Historical Society in any manner recommends, endorses, or assumes responsibility for the work of any individual or firm on this list. To identify those consultants on this list that meet the Secretary of the Interior's professional qualification requirements published in 36 CFR 61, the OHPO distributes qualification documentation forms to those seeking to be placed on the list.

Different qualification forms must be completed for each professional area defined by the National Park Service (archaeologist, architect, architectural historian, historian and historic architect). The form for archaeologists is divided into documentation for listing as a prehistoric archaeologist, historic archaeologist, and underwater specialist. Separate forms are required for each individual seeking listing (firms are not evaluated). Completed forms are reviewed by the Education and Support Services Department Head, the Deputy SHPO, and Planning, Inventory,

and Registration Department Head, to determine if individuals meet the Secretary of the Interior's professional qualification requirements. Individuals are notified in writing of the OHPO's determination. In some cases an opinion concerning qualifications is requested from the NPS, Mid-Atlantic Regional Office. For further information contact Mary Beth Hirsch, Education and Support Services Department Head.

Historic Preservation Grants To Indian Tribes

For the first time, $473,000 of Historic Preservation Fund grants have been awarded to 15 Indian tribes in the U.S. This was the maximum amount that could be awarded in FY 1990. The purpose of these grants is to provide "tribes with funds to build or improve existing coordination between Indian tribes and State Historic Preservation Officers."

Ohio did not request funds since Ohio lacks any federally recognized tribes eligible to participate in the program. Indiana, Pennsylvania, Kentucky and West Virginia also did not submit requests for these funds. Four requests were submitted by Michigan but none were funded. The only tribe in a state east of the Mississippi River to be awarded a grant were the Passamaquoddy of Maine for excavation and analysis of a significant and threatened archaeological site and to train tribal members in archaeological techniques. Two-hundred and seventy grant applications from 180 tribes requesting in excess of $10.1 million were received by the U.S. Department of the Interior, NPS. For more information contact Franco Ruffini, Deputy State Historic Preservation Officer.

RESEARCH NOTES

Mortuary Variability In The Big Darby Drainage of Central Ohio Between 300 B.C. and A.D. 300

The study focuses on the internal composition of five Early Woodland mounds to elucidate and search for recurrent patterns in the organization and use of mortuary space. It differs from previous Adena studies on two accounts: 1) by not considering the mound as the base unit of analysis, and 2) by not comparing mortuary traits out of context. Instead the concern is with understanding how the mounds, which exhibit a range of mortuary variability which is not entirely parsimonious with the current concept of the Adena Mortuary Culture, were formed and if there are any regular patterns in this process.

Mortuary remains examined during this study came from five mounds situated in close proximity to the confluence of Big and Little Darby Creeks and include Galbreath Mound (33 Fr 58), McMurray Mound (33 Fr 61), Sidner Mounds I and II (33 Fr 69) and Hambleton Mound (33 Ma 4). These are not the only Early Woodland mounds reported for the region, but represent professionally excavated mounds attributable to the Adena cultural/temporal period.

The traditional Adena mortuary concept contains several aspects. One is the mortuary trait list which has come under theoretical attack for its usefulness in classifying burial sites to a mortuary culture. A second aspect is the developmental scheme which envisions increasing elaboration in mortuary ritual over time. The model argues for a gradual restriction in the number of individuals interred in mounds coincident with an increasing elaboration of burial facility construction and accompanying grave goods. This model of mortuary behavior is seen as reflecting a change in the socioeconomic aspect of the living society in which control of critical natural resources, including territory, gradually becomes invested in the hands of a few individuals.

The fact that five excavated mounds in a circumscribed area do not reflect this developmental scheme presents an opportunity to test the validity of the developmental model. A temporal sampling bias can be discounted since radiocarbon dates from two of the mounds suggest that multiple interments in large circular pits occurred in the region for several hundred years.

In order to evaluate variation within the data set, a more complete disclosure of the range of variability in mortuary remains from mounds and documentation of variability in the use of mortuary space is necessary. One concern is with how homogeneous is the pattern of mortuary remains within the region. The preliminary interpretation implies a high degree of uniformity between the mounds which can be reduced to two traits: large circular burial pits and prone extended inhumations. A second concern is the nature of the burial facilities within and between mounds. Is there a recurrent feature layout indicating homogeneity in internal composition of burial facilities, as well as the spacing of features within the mound? A final concern is with mortuary patterns which may reflect mortuary ritual and/or social organization and may provide insight on the organization of mortuary space. I have retained these two traits as an attempt to maintain the Adena Mortuary Culture concept, developed over decades of research, in light of conflicting new information.

The formal variability within mounds is then examined to discern patterns in the use of mortuary space. This basically puts each mound back together with an understanding of how it was formed. At the mound level of analysis the concern is with basic external characteristics related to size and with locational attributes. The mounds range in height from 0.3-2.1 m and from 6.1-21.3 m in maximum diameter.

The locational attributes of the mounds do exhibit general recurrent patterns but differ in specific settings. Mounds tend to occur at regular intervals between 1.5-2.0 km along Big and Little Darby Creeks and are associated with elevated ground with steep descents to the floodplain. Some are situated 50-100 m back from the bluff or escarpment edge while others are situated on the upper slope immediately below the bluff edge. Given the relatively small sizes of the mounds and their settings, it seems unlikely that they were meant to serve as territorial markers visible from the floodplain. Add to this consideration surrounding forest vegetation and visibility would be further reduced.

McMurray Mound I represents one of the smallest mounds yet contained the greatest number of burial facilities (n=9) and one of the most numerous burial populations (21 individuals). In contrast, Hambleton Mound is one of the largest mounds and contains few burial facilities (n=3) and one of the smallest burial populations (8 individuals). Conversely, another large mound, Galbreath, contains at least four burial facilities and 44 individuals. Both of the Sidner Mounds have been deflated by plowing but appear to represent sites intermediate between the smallest and largest mounds. Sidner Mound I contains at least three burial facilities and 16 individuals, while Sidner Mound II contains at least four facilities and 52 individuals. The mounds appear to function as coverings of the burial facilities with their sizes corresponding to the horizontal spacing of the burial facilities and the sizes of the burial facilities determined by the spacing of the individuals within them.

Prehistoric re-use and recent disturbances in the form of plowing and amateur excavations have complicated the accurate determination of the number of individuals in each mound's burial population. There is a minimum number of 144 individuals represented amongst the five mounds with 24 at McMurray Mound I, 16 at Sidner Mound I, 52 at Sidner Mound II, 8 at Hambleton Mound, and 44 at Galbreath Mound. Subadults ranging from neonates to 12 years at death account for between 25 and 33% of the burial population at each mound except for Hambleton Mound in which no subadults were present. The disturbance processes also affected accurate tabulation of the corpse treatment type. At least 82 of the 144 individuals were extended inhumations with 21% being prone. Four individuals were true bundle burials, while 15 were cremations. The remaining 43 individuals are represented in the disarticulated bone piles around the perimeters of some burial facilities. The remains represent nearly complete individuals with the remains of specific individuals sometimes occurring in more than one pile or in a pile and scattered beneath an extended inhumation. However, sufficient remains of any one individual were not in their original position of interment to determine the positioning of the body. It is presumed that they were initially extended inhumations based on the pattern of burial facility re-use indicated for the partially intact extended inhumations. This contention seems applicable for the adolescents and adults but may not be accurate for the subadults, since the majority of these individuals occurred in disturbed contexts and the few *in situ* remains are represented by both bundle and extended inhumations.

At least one large circular burial facility occurred in each mound but varied in internal composition and position in the site plan layout. However, there were recurrent patterns which allowed grouping of mounds according to similarities in these two variables with Sidner Mound I and Hambleton Mound having similar mound floor plans and Sidner Mound II and Galbreath exhibiting a similar floor plan between them but differing from the other two mounds. The floor plan of McMurray Mound I differed from all of the other mounds but the internal composition of the large circular burial facility was similar to those in the other mounds. Other forms of burial facilities occur in each of the mounds which appear to be ancillary to the large circular burial facilities, except at McMurray Mound I. The importance of the internal composition of the various burial facilities lies in the fact that they exhibit evidence for multiple interment episodes, burial of more than one individual at a single time, of extended inhumations and the re-use of the burial facility and/or site for such interments. Consequently, the prehistoric mortuary pattern for the region appears to entail the periodic loss of a number of individuals and the continued use of selected burial locations.

Although the large circular burial pit has been cited as the predominate burial facility type in the Big Darby Creek region, other forms like the circular/broad subrectangular burial depressions do exist. The circular burial pit varies from nearly circular to broad subrectangular in plan view and from 0.6-1.2 m

in depth. A distinction between a burial depression and a burial pit can be made based on the internal arrangement of inhumations, which in turn condition the depth of the burial facility. In the circular burial depressions inhumations are placed side by side in a row along a single horizontal plane, thus creating a fan-shaped or parallel row arrangement. Re-use of this burial facility type involves complete or partial disarticulation of previously interred individuals and the piling of displaced remains around the facility's perimeter. Subsequent interment is then placed in the cleared space maintaining the horizontal arrangement. In contrast, circular burial pits involve vertical stacking of individuals, though there is a concern with filling the facility along a horizontal plane before beginning to use the next level. In essence, the pits contain layers of horizontally arranged inhumations. The pattern is reminiscent of those in circular burial depressions. Re-use of the burial pit involves a similar disarticulation of portions of individuals as in the burial depression. However, displaced remains tend to be stacked around the facility perimeter at the subsequent horizontal level.

The elongated narrow rectangular pit occurs only in McMurray Mound I and accounts for eight of the nine burial facilities. This burial facility type resembles a grave dug to accommodate a single extended inhumation. Though single inhumations do occur, multiple inhumations are more frequent in this burial facility type. Multiple interments involving an adult and a young subadult are arranged along a horizontal plane resulting in a shallow pit. Multiple interments involving adults and adolescent aged subadults are tightly vertically stacked resulting in a deeper pit. The placement of these burial facilities overlaps resulting in the partial disarticulation and displacement of individual remains, which are stacked along the perimeter of the subsequent intruding pit. Consequently, true bundle burials and partial extended inhumations representative of prior corpse processing, as preliminarily reported, are not present.

The mound floor burial facility occurs at Hambleton and Galbreath Mounds. This burial facility type is reminiscent in internal arrangement to the circular/broad subrectangular depression and pit but exhibits minimal effort in the facility excavation. At both mounds the mound floor burial facility contains multiple extended inhumations placed side by side. The individuals rest on a thinly bark lined, level to slightly depressed surface. This burial facility type occurs in close proximity to a circular burial depression. The surface appears to be formed by the piling and spreading of the excavated subsoil from the circular depression. This suggests that the mound floor burial was a later addition at both sites. Interestingly, the mound floor burial is the only burial facility containing extended inhumations in which no associated artifacts were recorded.

The redeposited cremation pile represents the remains of cremated human individuals which occur outside of the previously discussed burial facility types. These deposits are characterized by somewhat conical piles consisting of a dispersed mixture of burnt human bone fragments, burnt clay nodules, charred wood fragments and, in some cases, burnt and unburnt broken artifacts. The deposits overlie the other burial facilities and the mound floor and represent distinct small pockets within the mound fill. Such deposits were noted but not described in detail at Sidner Mounds I and II and from Galbreath Mound. A single fragmentary projectile point was recovered from one of the redeposited cremation piles at both Sidner Mound I and Galbreath Mound. Although fragmentary, both points exhibit affinities in blade morphology to Snyders points, with the point from Sidner Mound I exhibiting remnants of a corner notched haft element and the one from Galbreath having affinities to a Robbins Stemmed haft element morphology. This tends to suggest that the overlying redeposited cremations may represent a change in corpse treatment coinciding with the advent of the Middle Woodland/Hopewell period, noted for the extensive use of cremation in the Scioto River Valley proper. A radiocarbon date of 2025±80 years B.P. for the redeposited cremation at Galbreath Mound partially substantiates this contention.

The bundle burials are present only at Sidner Mound I and Hambleton Mound. At Sidner Mound I two bundle burials are subadults placed between two sets of extended inhumations containing pairings of adults and adolescents. An adult bundle burial was located at the feet of the extended inhumations in Sidner Mound I, while an adult bundle burial was located adjacent to one side of the extended inhumations at Hambleton Mound.

Cremations occur in the burial facilities as well as in the redeposited cremation piles, none of which exhibit evidence of *in situ* burning. The cremated remains within the burial facilities are distinctly different from those in the redeposited cremation piles. They are more tightly piled, contain more fragments which are representative of the major body parts of a single individual, and are not mixed with burnt clay nodules and charred wood. All of the cremations exhibit characteristics of in-flesh incineration.

The occurrence of extended prone burials is frequent but differs from mound to mound, with the highest frequencies at Sidner Mound I and McMurray Mound I. All but one extended inhumation at Sidner Mound I are prone and represent pairings of late adolescent and adult males and females. At McMurray Mound I initial interments contain extended prone males, while prone burials in the subsequent facilities involve adult females, some of which are associated with extended supine males resting on the females' backs. In addition, the occurrence of prone burials could be pragmatically explained in some cases by the necessity for the tight placement of individuals in restricted mortuary space during burial facility re-use.

In terms of paleodemography, the mound burial populations conform to the mortality rate pattern for hunting and gathering groups in which high infant mortality is followed by relatively few deaths until early adulthood, where the rate increases and then steadily drops through old age. Within these burial populations the majority of individuals attaining adulthood die by the age of 35. Consistent occurrences of relatively frequent subadult interments and the relatively equal representation of both sexes are facts which tend to compromise the developmental scheme aspect of the Adena Mortuary concept. Clearly, there is no trend towards the interment of fewer individuals, primarily adults, nor important individuals, primarily males, being placed in central graves within the Big Darby Creek region. If such a trend truly exists, then an explanation for the lack of such development in the mortuary ritual of the region must be sought. Diagnostic artifacts representative of Early and Late Adena occur with some of the individuals and in some cases Early and Late Adena artifacts co-occur with a particular individual.

Evidence of continuity in mortuary ritual and apparent isolation of these populations was sought along the lines of paleopathologies. In general the burial populations contain large, robust individuals virtually free of any debilitating trauma related bone pathologies. Healed, misaligned fractures of a left radius from a Galbreath Mound burial and left femur midshaft form a Sidner Mound II burial were the only severe cases. Healed bone lesions resulting from deeply penetrating wounds occurred in three cases, one each at Sidner Mounds I and II, and Hambleton Mound. All three occurred between the knee joint and tibia midshaft, though it is not clear if they resulted from accident or violence. Stress related arthritis of the spine was fairly common among adults of both sexes and was most severe in the cervical and lower thoracic vertebrae. Stress related arthritis of the joint was not common but did occur in both sexes and increased in severity with age.

In considering acquired dental pathologies, onset occurs in early adulthood and becomes rather severe by middle adulthood. The few old aged individuals exhibit almost complete antemortem loss of their dentition. All adults exhibit moderate to severe dental wear, that appears to be a contributing factor to caries formation primarily around the cemento-enamel junction. Acquired dental pathologies indicate a hunting-gathering subsistence consisting of hard fibrous diets low in dietary carbohydrates. The view from the bone and dental pathology evidence indicates a rigorous lifestyle in which no individuals of either sex or age are exempt. Consequently, there is no evidence for individual status differentiation along the lines of differential access to food resources. Likewise, there is not good evidence for violence between the individuals of this region and neighboring groups downstream. Therefore, the conscious and aggressive maintenance of a social boundary cannot be substantiated as a reason for the regional differences in mortuary remains.

A contributing factor to the pattern of mortuary remains in the Big Darby Creek region appears to be the high incidence of bone lesions suggestive of infectious diseases. The patterns of bone pathologies are indicative of some form of treponemal infection and spinal tuberculosis. A third pattern involving macropores around the circumference of vertebra bodies may represent an undetermined disseminated respiratory infection or genetically controlled developmental anomaly. Although slight to severe cases are present, the majority of individuals exhibit slight to moderate bone involvement. Infectious diseases are not seen as the primary causes of death in these individuals, but rather as a stress placed on the individual's immune systems making them more susceptible to other more acute life threatening diseases.

Twenty-three cases of periosteal reaction/osteomyelitis suggestive of treponemal infection have been noted and are characterized by bilateral symmetry and multiple bone involvement. Three additional cases have multiple bone involvement but not bilateral symmetry. Four more cases involve single bone involvement where bilateral symmetry cannot be demonstrated. Afflicted individuals range in age from 1 year to late adulthood. However, subadults under the age of 5 may be under represented because of the fragile nature of their bones, which show rapid weathering of the exterior surfaces. Additional diseased bone is present among feature fill fragments

and among cremated remains from Galbreath Mound, which cannot be attributed to a specific individual. An estimate for the frequency of occurrence of this disease is about 13% for each of the skeletal populations, except for Sidner Mound II where the figure reaches 25%. The estimate for Galbreath Mound is probably low, since it does not take into account the fragmentary diseased bone.

Twelve possible cases of spinal tuberculosis were evidenced by the destruction of the superior anterior margin of the vertebral body and the anterior surface immediately adjacent to the margin, multiple foci separated by unaffected vertebrae, and involvement restricted to the sacrum, lumbar and lower thoracic. Adults of both sexes were equally represented among the cases and were primarily individuals older than 25-29 years.

Thirty-eight individuals exhibited a series of macropores suggestive of osteolytic lesions arranged in a line around the circumference of the vertebral body and restricted to the midline. Lesions did occur in the sacral foramen, while the inferior and superior anterior margins of the vertebral bodies were not involved. Involvement normally began around the fourth thoracic, although cases beginning as high as the sixth cervical were noted. All vertebrae inferior to the foci of involvement were affected, with severity of lesions increasing through the middle and lower thoracics and lessening in the lumbars where they tended to be restricted to the lateral sides. Even in the most severe cases, vertebral body collapse did not occur. Individuals of all ages were involved with adult females represented twice as often as adult males. Subadults accounted for approximately 25% of those affected and tended to have the largest number and size of macropores.

When considering the internal compositions of the mounds, there is good evidence for the re-use of burial facilities involving multiple interments, based on overlapping individuals and slight differences in alignments and orientations of groups of individuals. In most cases, the multiple interments involve either pairings of adult males and females or an adult of either sex with one or more subadults. Such multiple interment episodes appear to represent family groups. The potential importance of group symbolism in mortuary remains is further indicated circumstantially in artifacts recovered from the mounds. Gorgets were associated with the principal burial facilities in each mound and not always in association with an individual. Gorgets within a mound shared similar morphological attributes that differed between mounds. Projectile points in each mound varied in stylistic attributes but were fashioned primarily from one chert type, which varied between mounds. A different, unmodified, non-utilitarian animal bone was associated with a principal burial facility in three mounds: deer vertebra at McMurray Mound, swan/goose humerus at Galbreath, and medium sized mammal pelvic fragment at Hambleton Mound. Due to their unique occurrences, their function as a group symbol must remain speculative.

In summary, the nature of the mortuary remains from the middle Big Darby Creek drainage appear to reflect group cemeteries somewhat analogous to early Euroamerican settler's family cemeteries. Multiple interment episodes, burial facility re-use, and high incidence of bone pathologies suggestive of infectious diseases suggest a regional population under prolonged disease stress in which periodic deaths of more than one individual occurred rather frequently and anticipation of such events promoted the form of the burial facility. In such a scenario the importance of group symbols and inconsistent individual status symbols along age and sex lines would be expected. The potential for even local subgroups to be reflected in mortuary remains has been noted but not fully documented due to the limited data base. Presently, this regional burial population stands as somewhat of an anomaly in the understanding of Early and Middle Woodland mortuary remains, due primarily to the absence of comparable regional data in adjacent drainages. Attempting to understand mound formation processes coupled with the historical perspective appears to be a fruitful line of inquiry in understanding variability in the organization and use of mortuary space and for discerning recurrent patterns in the structure of mortuary behavior.

Bruce W. Aument,
Archaeological Services Consultants, Inc.

Spicebush Swallowtail Site (33 Vl 222); and National Register Assessment At Berlin Lake

From April, 1989 through late July, 1989, under contract with Bucher, Willis and Ratliff, ASC, Inc. conducted a mitigation of the Spicebush Swallowtail Site, located on the floodplain of an intermittent tributary of Elk Fork, Elk Township, Vinton County.

Mitigation centered on a 5 m (north-south) by 51 m (east-west) corridor across the site, which has an estimated area of 0.7 km^2. The corridor was gridded into 1 m^2 units of which alternating units were excavated. The exception to this was row 3N which constituted the permanent construction easement. All units were excavated along this row with 15 cm balks maintained north and south.

No radiocarbon dates were obtained, but three features were documented and twelve diagnostic artifacts were recovered. Brewerton Series points predominate in the assemblage, while Lamoka and Vosburg points are also represented. One Early Archaic Lake Erie Bifurcate is also present. The distribution of these points was correlated with the analysis and distribution of the 10,998 pieces of flint also recovered.

The Spicebush Swallowtail site is interpreted as a Late Archaic locus for lithic procurement and preliminary manufacturing of tools. High quality Zaleski flint is readily available as stream-eroded nodules and the paucity of features -- all small, shallow basins -- supports the interpretation of 33 Vi 222 as a specialized site.

Archaeology At Berlin Lake

Under contract with the Pittsburgh District, Corps of Engineers, ASC, Inc. undertook relocation and testing of 10 prehistoric sites to assess their eligibility for nomination to the National Register of Historic Places Inventory. These sites had been located during previous archaeological survey of the federal project lands at Berlin Lake in Portage and Mahoning counties, Ohio, by Wapora, Inc.

A total of nine sites (33 Po 6, 33 Po 276, 33 Po 279, 33 Po 282, 33 Po 285, 33 Mh 33, and 33 Mh 62-64) were successfully relocated. One site, 33 Po 284, could not be relocated. Sites were relocated and tested using a three-part strategy. Site location was determined by a series of 35 cm^2 shovel tests across mapped site locales. Once the presence of a site was confirmed, a series of radiating transects of 50 cm^2 test units was excavated to determine site size. Finally, the entire site was gridded into 4 m^2 blocks. A 4% sample of 1 m^2 units was randomly selected for excavation.

33 Po 6, 33 Po 279 and 33 Mh 63 yielded Late Archaic diagnostics, while 33 Po 282 yielded a Late Archaic/Early Woodland diagnostic projectile point. 33 Po 276 yielded a possible gunflint of local flint. Five sites, 33 Po 6, 33 Po 279, 33 Po 282, 33 Mh 63 and 33 Mh 64 have all been assessed as eligible for nomination to the National Register of Historic Places. Site stabilization and/or mitigation has been strongly recommended for these sites, as well as for two additional sites, 33 Po 276 and 33 Po 285.

Flora Church,
Archaeological Services Consultants, Inc.

The Parkline Site (46 Pu 99)

A number of radiocarbon dates are available for the Parkline Site (33 Pu 99) in Putnam County, West Virginia. It was excavated by Cultural Resource Analysts, Inc. personnel during the fall of 1989 as part of a mitigation effort by the Huntington District Corps of Engineers in conjunction with construction work planned for the lock and dam complex.

A total of 59 feature numbers were assigned to soil anomalies encountered during the course of excavation. Of these, five were determined to be rodent runs or tree roots. The remaining 54 features included 15 hearths, 6 earth ovens, 4 refuse pits and 18 shallow basins of undetermined function. The balance of the feature numbers were assigned to rock concentrations which were believed to represent the residue from "cleaning" thermal features. Of the features excavated, 35 were included in this study. The remaining features did not produce any flaked stone debitage. Eleven of the features produced radiocarbon dates (Table 1). Five dated features were assigned to the late Late Woodland (Intrusive Mound), four were assigned to the early Late Woodland period (Childers/Newtown) and two features

Table 1.
Parkline site corrected radiocarbon dates

Group #1 - Dated late Late Woodland features	
Feature 6	A.D. 1012±80
Feature 6	A.D. 1007±50
Feature 6 - Average	A.D. 1010±42.4
Feature 31	A.D. 889±50
Feature 3 - Phase II	A.D. 812, 847, 852±50
Feature 15	A.D. 883±60
Feature 42	A.D. 883±50
Group #2 - Dated early Late Woodland features	
Feature 55	A.D. 261, 288 or 327±70
Feature 7	A.D. 343±60
Feature 51	A.D. 441±50
Feature 54	A.D. 441±80
Group #3 - Dated Early Woodland (?) features	
Feature 36	379±90 B.C.
Feature 10	762, 678, 662, and 600±70 B.C.

were dated to Early Woodland period. The last two feature dates were thought to be spurious.

Due to the lack of temporally diagnostic artifacts associated with the majority of features their cultural affiliation remained open to speculation. Despite this, it is plausible to suggest that the process of tool manufacture would reflect similar patterns of flaking debris within the same cultural contexts. Currently, Albert M. Pecora III is analyzing debitage from the site to determine whether or not patterns of lithic reduction technologies could be recognized in the dated features at the Parkline Site. This effort appears to hold considerable promise. If such patterns can be identified and distinguished between dated components, these data will be used to infer the temporal affinity of non-dated features excavated at Parkline. The criteria used for analyzing these materials are based on distinguishable characteristics, attributes and patterns of breakage reflected by certain reduction techniques and reduction processes.

Chuck Niquette,
Cultural Resource Analysts, Inc.

Have You Visited Flint Ridge

Flint Ridge State Memorial comprises the heart of an area which was the most densely concentrated and intensively exploited source of chert for the prehistoric inhabitants of eastern North America. C.M. Smith, in his 1884 "Sketch of Flint Ridge, Licking County, Ohio," wrote that ". . . it is by all odds entitled to be called the "Flint Ridge" not only of Ohio but of the whole country."

Quarry pits and workshop sites occur promiscuously across the nearly 13 km length of Flint Ridge; however, they are most thickly concentrated within the current limits of Flint Ridge State Memorial. Estimates of the number of quarry pits here have varied widely, for as Smith observed, the quarry pits are ". . . so scattered, and nearly all in dense timber, it is difficult to form an accurate estimate of their extent." Individual quarry pits range from 12 to 80 ft in diameter and can be up to 20 ft in depth.

Although this site has been subjected to the depredations of treasure hunters, undisciplined surface collectors, undisciplined excavators, scholarly excavators, historic quarrying, and agricultural activity there has been relatively little development in the area and the integrity of this important resource remains largely intact.

Flint Ridge State Memorial encompasses a large area and a diverse array of archaeological remains. It was primarily a workshop and quarry area and evidence for these activities is abundant. Quarry pits and workshop debris occur everywhere. Non-diagnostic debitage constitutes the overwhelming majority of artifacts collected at Flint Ridge; however, some finished tools also have been documented. Cultural components identified at Flint Ridge span the entire range of prehistoric and early historic periods.

Currently, Richard W. Yerkes and his students from the Ohio State University are involved in a long-term research project centered on Flint Ridge. Excavations conducted in 1987 and 1988 yielded a wealth of cultural remains attributable to Early Archaic through Late Woodland occupations. In conjunction with this research James Foradas, an OSU graduate student, is undertaking detailed mineralogical analyses of Flint Ridge flint in order to facilitate sourcing of this widespread lithic material.

Flint Ridge State Memorial is located in Licking County about 3.75 miles north of Brownsville on S.R. 668. The Flint Ridge Museum is constructed over an excavated quarry pit providing a unique perspective on prehistoric flint quarrying. In addition to informative exhibits on geology and prehistory, the museum serves in more active ways as a regional center for public education. Throughout the summer lectures are presented on Saturdays here or at Moundbuilders Museum in Newark. Please call the museum for further details: (614) 787-2476.

Perhaps the most exciting summer program is the annual Flint Ridge Native American Craft Show. This festival provides an opportunity for learning about traditional Native American arts and crafts. Representatives of the Cherokee, Delaware, and Seneca nations demonstrate and exhibit traditional beadwork, leatherwork, and other arts and crafts. Many of the modern craft items are available for sale. This year the Native American Craft Show will be held on Saturday, August 11th and Sunday, August 12th, and the program will include Native American dancers and traditional Native American games for children.

Flint Ridge State Memorial is open daily from 9:30 a.m. to 8:00 p.m. (or sunset). The Flint Ridge Museum is open from Memorial Day to Labor Day, Wednesday through Saturday from 9:30 a.m. to 4:45 p.m., and Sunday from 12 noon to 4:45 p.m. From Labor Day through October the museum is open on Saturdays (9:30 a.m. to 5:00 p.m.) and Sundays (12 noon to 5:00 p.m.). Non-member admission prices

are $2.00 for adults and $1.00 for children. Special rates are available for school children.

For Further Reading, Look For:

Mills, William C.
1921 Flint Ridge. *Ohio State Archaeological and Historical Quarterly* 30:90-161.

Smith, C.M.
1885 A sketch of Flint Ridge, Licking County, Ohio. *Annual report of the Smithsonian Institution for the year 1884*, pp. 851-873. Washington, D.C.

Bradley T. Lepper, Curator
Flint Ridge State Memorial

TITLES OF THESES AND DISSERTATIONS

University of Cincinnati

Blosser, Jack K.
1989 *Mica Working at the Jennison Guard Site: A Middle Woodland Village in Southeastern Indiana*. Masters thesis.

Foderaro, Joseph D.
1971 *The Chronological Significance of Fort Ancient Aspect Handles*. Masters thesis.

Hawkins Bennett, Rebecca A.
1986 *The Twin Mounds Village and Hopewell in Southwestern Ohio: A Ceramic Identity Crisis*. Masters thesis.

Hoskins, Michael Arthur
1970 *Subsistence and Ceremonial Calendars: A Comparative Study of Aboriginal North America*. Masters thesis.

Kurz, Richard B., Jr.
1985 *Contributions of Women to Subsistence at the Tribal Level*. Masters thesis.

Kegley, George B., III
1969 *Prehistoric Settlement Patterns in the Great Miami Valley*. Masters thesis.

Krebs, Christine D.
1980 *An Example of a Subsurface: Random Sampling Strategy: The Kelleys Island Survey Project*. Masters thesis.

Slawson, Laurie V.
1977 *Faunal Analysis: A Study of the Methods and Their Application of the Late Archaic Bullskin Creek Site, 33Ct29, Clermont County, Ohio*. Masters thesis.

Ohio State University

Aument, Bruce W.
1990 *Mortuary Variability In The Big Darby Drainage of Central Ohio Between 300 B.C.* and A.D. 300. Ph.D. dissertation.

Piotrowski, Leonard
1985 *Fluorine and Nitrogen Skeletal Dating: An Example From Two Ohio Adena Burial Mounds*. Ph.D. dissertation.

1990 CALENDAR OF EVENTS

September 26-29:
North American Fur Trade, 6th conference. Mackinac State Historic Parks, Grand Hotel. Contact: Dr. Donald P. Heldman, P.O. Box 515, Mackinac City MI 48701.

October 5-6:
Midwestern Archaeological Conference. Evanston, IL. Contact: Jim Brown, Northwestern University.

November 1-4:
American Society for Ethnohistory. Westbury Hotel, Toronto, Ontario, Canada. Contact Dr. Trudy Nicks, Dept of Ethnology, Royal Ontario Museum, 100 Queen's Park, Toronto, Ontario, Canada M5S 2C6.

November 7-10:
Southeastern Archaeological Conference (48th). Riverview Plaza Hotel, Mobile, AL. Contact Edwin Jackson, (601) 266-4306.

November 8-11:
Eastern States Archaeological Federation - Columbus, OH. Program Chair: Verna Cowin, Carnegie Museum, Pittsburgh: (412) 665-2600. For local arrangements, contact Martha Potter Otto at (614) 297-2641.

November 8-11:
Chacmool Conference (23rd Annual). Calgary, Canada. Theme: "Ancient Images, Ancient Thought, The Archaeology of Ideology." Contact Dept. of Archaeology, Univ. of Calgry at (403) 220-5227.

November 16:
Ohio Archaeological Council. Ohio Historical Center, Columbus, OH.

November 28 - December 3:
AAA, 89th Meeting The New Orleans Hilton.

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Send any information you wish to have considered for inclusion in the *Newsletter* to the editors.