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Midwest Archaeological Conference
October 17-19, 1985
The Ohio State University, Columbus
at the
Fawcett Center for Tomorrow

Program

FRIDAY AFTERNOON (October 17)

SESSION A (Room 1)

CURRENT RESEARCH IN THE OHIO VALLEY
(Chairperson, Martha Otto)

- 1:00 Introduction (Martha Otto, The Ohio Historical Society)
- 1:20 The 1984 Field Season at 12D29S, A Middle Woodland Village in Southeastern Indiana (Jack K. Blosser)
- 1:40 Patterns of Possible Astronomical Siting Lines Within the Seip-Liberty Group (Nomi Greber, Cleveland Museum of Natural History)
- 2:00 The Walls and Parallel Lines of Fort Ancient (James Marshall)
- 2:20 Aerial Photogrammetry of the Degradation of the Hopeton National Historic Monument, Ross County, Ohio (John E. Blank, Cleveland State University)
- 2:40 BREAK
- 3:00 Stylistic Variation in Copper Earspools of the Hopewell Period (Katherine C. Ruhl, Cleveland Museum of Natural History)
- 3:20 The Murphy Site: A Middle Woodland Settlement in Central Ohio (William S. Dancey, The Ohio State University)
- 3:40 Middle Woodland/Late Woodland Interface in Central Ohio: Subsistence Continuity Amid Cultural Change (Dee Anne Wymer, The Ohio State Univ.)
- 4:00 The Contributions of E. G. Squier to the Archaeology of Ohio (Terry A. Barnhardt, The Ohio Historical Society)
- 4:20 The Contributions of E. G. Squier to the Archaeology of Central America (John Strong, Long Island University)

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SESSION B (ROOM 10)

FIRST FARMERS OF THE MIDDLE OHIO VALLEY:
RECENT PERSPECTIVES ON FORT ANCIENT SOCIETIES A. D. 1000-1650
(C. Wesley Cowan, Chairperson)

- 1:00 Opening Remarks (C. Wesley Cowan, Cincinnati Museum of Natural History)
- 1:20 Comments on the Historical Development of Fort Ancient (James B. Griffin, University of Michigan and the Smithsonian Institution)
- 1:40 The Muir Site: An Upland Fort Ancient Village in Central Kentucky (Christopher A. Turnbow and William E. Sharp, The University of Kentucky)
- ~~2:00~~ Recent Research at the Clover Site, Cabell County, West Virginia (Nicholas Freidin, Marshall University)
- 2:20 Beyond the Periphery of Fort Ancient: Late Prehistoric Settlement in Southern West Virginia (Janet Brashler, U.S. Forest Service)
- 2:40 Fort Ancient East: Origins, Change, and External Correlations (Jeffrey Graybill, Blennerhassett Island Historical Commission)
- 3:00 BREAK
- 3:20 The Orchard Site: Ethnic Diversity in the Ohio Valley Protohistoric (Robert F. Maslowski, U.S. Army Corps of Engineers)
- ~~3:40~~ Early Glass Trade Beads in the Ohio Valley: An Evaluation (James Herbstritt, State Museum of Pennsylvania)
- 4:00 Fort Ancient Influence in Northern Ohio (David S. Brose, Cleveland Museum of Natural History)

VIDEOTAPES

- 4:30 Ethics in Archaeology (Paul Hooze, Licking County Archaeological and Landmarks Society)

FRIDAY EVENING (October 17)

- 7:00-8:30 Reception at the Ohio Historical Center:
New Ohio Prehistory Exhibit

SATURDAY MORNING (October 18)

SESSION A (Room 1)CURRENT RESEARCH IN THE OHIO VALLEY (Continued)
(Martha Otto, Chairperson)

- 8:00 Introduction (Martha Otto)
- 8:20 Early Paleo-Indian Land Use Patterns in the Central Muskingum River Basin, Coshocton County, Ohio (Bradley T. Lepper, The Ohio State University)
- 8:40 Lithic Determination or Big Game Efficiency: An Examination of Early Paleoindian Lithic Exploitation and Settlement Patterns in the Midwestern United States (Kenneth B. Tankersley, Indiana University)
- 9:00 Settlement/Subsistence Patterns in the Walhonding River Valley, Ohio (Nigel Brush, University of California Los Angeles)
- 9:20 Investigation of an Early Woodland Settlement in Athens County, Ohio (Elliot Abrams, Ohio University)
- 9:40 An Analysis of Some Adena Cache Blades (Harry Murphy, Ohio Department of Transportation)
- 10:00 BREAK
- 10:20 The Greater Sandusky Valley Archaeological Survey (Jonathan Bowen, The Ohio State University)
- 10:40 Urban Archaeology (Al Lee, Cleveland Museum of Natural History)
- 11:00 Technological Changes in Midwestern Woodland Ceramics (Christopher Carr, Arizona State University)

SESSION B (Room 4)FIRST FARMERS OF THE MIDDLE OHIO VALLEY (Continued)
(Jeffrey Graybill, Chairperson)

- 8:00 Up Against the Stalene: Analysis of an Early Fort Ancient Community in the Great Miami Valley of Southwestern Ohio (W. Kevin Pape, University of Cincinnati)
- 8:20 Horseshoe Johnson: A Small Fort Ancient Site on the East Fork of the Mill Creek, Hamilton County, Ohio (Patrick M. Bennett, University of Cincinnati)

- 8:40 The Geoarchaeology of the Madisonville Site, Hamilton County, Ohio (Kenneth B. Tankersley, Indiana University, and Charles Oehler, Cincinnati Museum of Natural History)
- 9:00 Investigating Fort Ancient Social Organization at the Incinerator Site, Montgomery County, Ohio (James M. Heilman, Dayton Museum of Natural History)
- 9:40 The Use and Reuse of Fort Ancient "Ash" Pits: A Comparative Examination of Food Storage and Refuse Disposal Patterns in the Late Prehistoric Ohio Valley (Mark Seeman, Kent State University)
- 10:00 Farming and Foraging Among the Fort Ancient Indians (Gail E. Wagner, Washington University)
- 10:20 BREAK
- 10:40 Analysis of Cut Marks and Burned Bone from the Richards Site in the Muskingum Valley of Eastern Ohio (Flora Church, Paul Sciulli, and John Wright, The Ohio State University)
- 11:00 The Skeletal and Dental Biology of Late Prehistoric Populations from the Ohio Valley (Patricia A. Tench, Indiana University, and Anthony Perzigian, The University of Cincinnati)
- 11:20 The Use of Skeletal Remains in the Assessment of Developmental Stress in a Fort Ancient Population (Ann Alexis, The University of Cincinnati)
- 11:40 First Farmers of the Middle Ohio Valley: The Rise and Fall of Agricultural Societies in the Midcontinent (C. Wesley Cowan, Cincinnati Museum of Natural History)

SESSION C (Assembly Hall)THE HAVANA-HOPEWELL COMPONENTS AT THE ELIZABETH AND
NAPOLEON HOLLOW SITES: EXPANDING STRUEVER'S CONCEPT OF
MORTUARY CAMP
(Michael D. Wiant, Chairperson)

- 8:00 The Havana-Hopewell Components at Elizabeth and Napoleon Hollow Sites: Introductory Remarks (Michael D. Wiant, Illinois State Museum)
- 8:20 The Havana-Hopewell Components at the Napoleon Hollow Site (Charles R. McGimsey and Michael D. Wiant, Illinois State Museum)
- 8:40 Introduction to the Elizabeth Site (Steven Leigh, Northwestern University, Douglas Charles, Wesleyan College, and Jill Bullington, Northwestern)

9:00 Middle Woodland Faunal Exploitation at the Napoleon Hollow Site: Evaluations of Site Function from a Subsistence Perspective
(Bonnie W. Styles and James R. Purdue, Illinois State Museum)

9:20 BREAK

9:40 Archaeological Botany of the Napoleon Hollow Middle Woodland Occupations
(David L. Asch and Nancy B. Asch, Center for American Archaeology)

10:00 The Contribution of Ceramic Analysis Towards Interpreting the Middle Woodland Occupations at Napoleon Hollow and Elizabeth Sites
(David T. Morgan, Center for American Archaeology)

10:20 The Organizational Character of Lithic Artifacts from the Havana-Hopewell Components at Elizabeth and Napoleon Hollow Sites
(Michael Wiant and Charles R. McGimsey, Illinois State Museum)

10:40 Reanalysis and Expansion of Struever's Concept of Mortuary Camp
(Michael D. Wiant, Charles R. McGimsey, Steven Leigh, and Douglas Charles)

11:00 BREAK

GENERAL SESSION

11:20 Putney Landing (11HE3) Investigations 1986: A Middle Woodland Stage Community in Northwest Illinois
(Charles W. Markman, Northern Illinois University)

11:40 Havana's Hidden Mound (Duane Esarey, Dickson Mounds Museum)

SESSION D (Room 8)

STUDIES OF THE LAKE FOREST ARCHAIC: A SYMPOSIUM IN HONOR OF ROBERT E. RITZENTHALER (David F. Overstreet and Norman C. Sullivan, Chairpersons)

9:00 Achieving Demographic Equilibria in Disparate Environments
(Norman Sullivan, Marquette University)

9:20 Variability in Late Archaic Assemblages along the Southern Margin of the Prairie Peninsula (Kerry McGrath, Southwest Missouri State University)

9:40 Late Archaic Adaptations to the Interior-Riverine Environments of Southwestern Illinois (Thomas Emerson, Illinois Preservation Agency)

10:00 The Brown Site: Evidence for Brewerton Longevity in the Upper Ohio Valley
(Richard George, Carnegie Museum)

10:20 BREAK

10:40 Recent Investigations at the Osceola Site
(David Overstreet, Great Lakes Archaeological Research Center)

11:00 The Archaic Chronology of the Saginaw Valley, Michigan: A Reappraisal
(William Lovis, Michigan State University)

11:20 Archaic Settlement Patterns and Trade Networks in the Upper Great Lakes
(Thor Conway, Canadian Ministry of Citizenship and Culture)

SESSION E (Room 9)

GENERAL SESSION

8:00 Testing for Impact of Burying Sites Under a Highway
(Duncan C. Wilke, Southeast Missouri State University)

8:20 Survey Data and the Development of Cultural Sequences
(Kevin McGowan, University of Illinois-Urbana)

8:40 Archaeological Survey in the Red Cedar River Valley, Wisconsin
(Robert J. Barth, University of Wisconsin-Eau Claire)

9:00 Recent Excavations at the Robinson Reserve Site (11 CK 2): a Langford Tradition Village along the Desplains River in Chicago, Illinois
(Rochelle Lurie and John P. Hart, Northwestern University)

9:20 Four Endangered Sites Between The Fox River and Salt Creek in Illinois
(Mark L. Madsen, Chicago Archaeological Society)

9:40 Archaic Site Distributions and Lithic Assemblage Patterning in the Upper Kaskaskia Drainage, Illinois (James R. Yingst)

10:00 A Review and Analysis of the Will County, Illinois, Archaeological Database
(John F. Doershuk, Northwestern University)

10:20 The Joe Louis Site (Bill Nowicki, Cook County Forest Preserve District)

10:40 Prehistoric Locational Response to Climatic Episode during the Holocene: An Example from the Uplands of the Prairie Peninsula
(Stephen C. Lensink, The University of Iowa)

11:00 The Yankeetown Phase: An Emergent Mississippian Cultural Manifestation in the Lower Ohio River Valley
(Brian G. Redmond, Glen Black Laboratory of Archaeology)

11:20 Change in Site Boundaries and Spatial Organization at the Angel Mounds Site
(Thomas Wolforth, University of Wisconsin-Milwaukee)

11:40 That Old Time Archaeology: Sophisticated Antiquarianism or Accumulative Science? (Guy Gibbon, University of Minnesota)

SATURDAY AFTERNOON (October 18)

Keynote Symposium (Assembly Hall) 1:00 - 5:00

CULTURAL CHANGE IN THE EASTERN WOODLANDS
DURING THE LATE WOODLAND PERIOD (A.D. 400-1000)
(Richard Yerkes, Organizer)

Introduction

(Richard Yerkes, The Ohio State University)

Late Woodland Settlement and Subsistence Systems
(Patrick J. Munson, Indiana University)

The Beginning of Field Agriculture in the Eastern Woodlands
(Patty Jo Watson, Washington University)

The Social and Technological Roots of Late Woodland
(David P. Braun, Southern Illinois University)

Conflict and Organized Defense in the Eastern Woodlands
(Richard M. Gramly, Buffalo Museum of Science)

Late Woodland Social Organization and Mortuary Behavior
(John O'Shea, University of Michigan)

Discussant

(Bruce Smith, Smithsonian Institution)

SATURDAY EVENING (October 18)

7:00-9:00 Cash Bar Fawcett Center)

9:00-12:00 Suite Party (Fawcett Center)

SUNDAY MORNING (OCTOBER 19)

SESSION A (ROOMS 8 AND 9)

LATE WOODLAND CULTURES OF ILLINOIS AND OHIO
(Carl Kuttruff, Chairperson)

- 8:00 Introduction
- 8:20 Late Woodland Pioneer Settlement of the Western Illinois Upland Frontier
(William Green, University of Wisconsin-Madison)
- 8:40 The Jersey Bluffs Mounds Revisited
(Frances Clark, Cleveland Museum of Natural History)
- 9:00 Late Woodland Population Structure and the Middle to Late Woodland
Demographic Transition (Michael D. Conner, Center for American Archaeology)
- 9:20 BREAK
- 9:40 Storage Pit Variation During the Middle and Late Woodland Periods of West
Central Illinois (Paul J. Pacheco, The Ohio State University)
- 10:00 Late Woodland Settlement and Subsistence Systems in the Lower Kaskaskia
River Valley: A Reevaluation (Carl Kuttruff, Tennessee Division of Archaeology)
- 10:20 The Middle Woodland-Late Woodland Cultural Shift in the Midwest: The
Paleoethnobotanical Record (Dee Anne Wymer, The Ohio State University)
- 10:40 Late Woodland Settlement Patterns in the Lower Scioto Valley (Jonathan E.
Bowen, The Ohio State University)
- 11:00 BREAK
- 11:20 The Western Basin Middle Woodland: Fact or Fiction?
(David M. Stothers, University of Toledo)
- 11:40 Stable Carbon Isotope Analysis: Implications for the Prehistoric Populations of
Western Lake Erie (Susan K. Bechtel, University of Toledo)

SESSION B (Room 5)

HISTORIC ARCHAEOLOGY

- 9:00 The Search for the 18th Century Wea: 1986 IUPUI Fieldwork
(Neal L. Trubowitz, Indiana University-Indianapolis)
- 9:20 Subsistence and Socioeconomic Status at the Drake Site, a Late 19th Century
Farmstead in Northern Illinois (Terrance J. Martin, Illinois State Museum, and
Joseph S. Phillippe, Illinois State University)

1986

Midwest Conference

Abstracts

Abrams, Elliot A. (Ohio University) THE BOUDINOT #4 SITE: A SINGLE-COMPONENT ADENA HAMLET IN ATHENS COUNTY, OHIO

The Boudinot site #4 (33-At-521) is an Adena hamlet located on an open ridge shelf overlooking the floodplain of Sunday Creek, Athens County, Ohio. A small conical mound, classified as adena, is located about 600 m. east of the site and 100 m. higher in elevation than the site. After initial testing of the site, a locus of occupation was identified. As a result of intensive excavation, a large structure was recovered, as recognized by a central hearth and various post holes. All artifacts recovered suggest Adena occupation. The layout of this hamlet, and speculation concerning occupation of this site, are discussed.

Asch, David L. and Asch, Nancy B (Center for American Archaeology) ARCHAEOLOGICAL BOTANY OF THE NAPOLEON HOLLOW MIDDLE WOODLAND OCCUPATIONS

Carbonized Middle Woodland plant remains from the Napoleon Hollow sites identified as Middle Woodland base settlements. It is concluded that unrepresentative sampling, varying circumstances of charcoal preservation, or geographic variability of plant resources cannot adequately account for differences between sites. The Napoleon Hollow plant spectrum is consistent with an interpretation that this site was not a groups principal annual residence - that the site could have been a functionally specialized site type or, if serving a general maintenance function, occupied during a short season each year.

Asch, Nancy (see Asch, David)

Barth, Robert J. (University of Wisconsin-Eau Claire) ARCHAEOLOGICAL SURVEY IN THE RED CEDAR RIVER VALLEY, WISCONSIN

Between 1984 and 1986, the University of Wisconsin-Eau Claire conducted archaeological surveys in portions of the Red Cedar River Valley in Wisconsin. The results of these surveys are discussed and a preliminary culture history for the area is presented.

Bechtel, Susan K. (University of Toledo) STABLE CARBON ISOTOPE ANALYSIS: IMPLICATIONS FOR THE PREHISTORIC POPULATIONS OF WESTERN LAKE ERIE

^{13}C values obtained from the stable carbon isotope analysis of human skeletal materials have recently been employed to trace the introduction and subsequent rise of maize consumption at ten prehistoric sites in northwestern and north-central Ohio. The ^{13}C values from this study have corroborated archaeologically-established models of settlement and subsistence for the western Lake Erie region and also have facilitated quantitative intra-regional and inter-regional comparisons of maize consumption in ancient diets.

Blank, Edward John (Cleveland State University) AERIAL PHOTOGRAMMETRY OF THE DEGRADATION OF THE HOPETON NATIONAL HISTORIC LANDMARK, ROSS COUNTY, OHIO

Recent research, sponsored by a Grant from the National Park Services to the Ohio Historic Preservation Office, has allowed testing of the AUTOCAD (Computer Aided Design) Software for the IBM PC Family of Computers as a tool for data input and analysis of time-series photographs. The Hopeton National Historic Landmark in Ross County, Ohio, was selected for analysis as a result of a.) continuing degradation as a result of agricultural activity, and b.) the inclusion of Hopeton in an acquisition program by National Park Services.

A time-series of stereoscopic aerial photographs spanning the years from 1938 through 1985 were digitized using AUTOCAD (version 2.41) using a HP 7170 Digitizer and Optical Mouse with images projected from a Zeiss Projecting Stereoscope. These data files were utilized to develop a series of 5 comparative cross-sections of the earth work for the study period and contour maps with 1 in + 50 ft scale and 1 ft contour intervals.

Three different periods of degradation (with different rates of disturbance) have been documented and correspond to horse-powered cultivation, early mechanical cultivation, and contemporary agri-business. The continuation of the destruction pattern of contemporary agri-business will result in the total loss of all above ground portions of the Hopeton Earthwork by the Mid-1990's if the present patterns continue.

Blosser, Jack K. ()
THE 1984 FIELD SEASON AT 12D29S, A MIDDLE WOODLAND VILLAGE IN SOUTHEASTERN INDIANA

Summarized are the results of excavations at a single component Middle Woodland habitation site situated on a terrace of the Ohio River in Dearborn County, Indiana. Excavation was confined to two of four spatially discrete midden concentrations averaging ca. 7.5 meters in diameter and paralleling the river. A limestone concentration and two fire features that probably served as cooking pits were present in one midden area while the other yielded the semi-flexed burial of an adult male, aged ca. 30 years at the time of death.

Decorated pottery is present in trace amounts in an assemblage that shows affinities with Middle Woodland ceramics in the Great Miami Valley. Through the analysis, tetryapodal supports are the only representatives of the Southeastern Series. Two radiocarbon dates from the second midden concentration reveal a ca. A.D. 150 \pm 70 years (WIS-1744) near the base of the midden, and A.D. 290 \pm 70 years (WIS-1745) from the middle of the midden. A third radiocarbon date from one fire feature reveals a ca. A.D. 140 \pm 70 years (WIS-1745).

The site features a mica cutout industry including projectile point effigies, one of which resembles a Snyders-like type, and cutout fragments. Approximately 69% of the mica assemblage demonstrates worked edges. A very small quantity of copper was also found, in addition to numerous bladelets and one blade core of Flint Ridge flint, other bladelets of Harrison County, and Upper Mercer flint, chipped stone projectile points of the Snyders-like and Steuben type, and a few bone and ground stone tools.

Results of the floral and faunal analyses suggest at least a fall through late spring occupation of the site locus, and possibly some form of activity and/or habitation on a year round basis. Plant remains identified as significant include; hickory nut, black walnut, hazelnut, ground nut, acorn, tubers and rhizomes, bulbs, hackberry, grape, wild onion, wild bean, knotweed, honey locust, wild chenopodium, and domesticated chenopodium and sunflower. Maize was also recovered, however it is probably a later intrusion. The exploitation of riverine fauna is represented by several species of naiads, fish (gar, drum, channel catfish, redhorse, sucker), migratory fowl (Canada goose, mallard (?), teal (?), and aquatic species of

turtles (snapping turtle, spiny softshell, and pond turtle). Mammal remains include whitetail deer, elk, beaver, cf. fox, raccoon, cottontail rabbit, chipmunk, gray squirrel, rice rat, vole, dog (?), bear (?) and one bone representing a mountain lion or wolf. Other vertebrate species represented by identified bones are box turtle, turkey, bobwhite, owl snake, and frog.

A second field season at 12029S was conducted by Sue E. Kozarek during the summer of 1985.

Bowen, J. E. (Ohio State University)

LATE WOODLAND SETTLEMENT PATTERNS IN THE LOWER SCIOTO VALLEY

The lower Scioto River flows across the till plains of south-central Ohio before entering the unglaciated plateau on its course toward the Ohio River on the Kentucky border. While Late Woodland settlements occur both on terraces and bluff edges in the till plain, they are restricted to terraces in the unglaciated plateau. This may reflect the non-arability of bluff-top areas in the unglaciated plateau.

Bowen, Jonathan E. (Ohio State University) THE GREATER SANDUSKY VALLEY
ARCHAEOLOGICAL SURVEY

Continued professional archaeological research has now been pursued for just a decade in the Sandusky Valley region of north-central Ohio. Approximately 800 archaeological sites have been inventoried in this three-county area; approximately a dozen sites have been partially excavated. A preliminary settlement/subsistence system outline for the entire prehistoric period has been formulated. Settlement data suggest that the Sandusky Valley region reached its maximum population of perhaps about 1000 people by ca. 1000 B.C., when the inhabitants were living in perhaps 30 local bands of 20-50 members each. By late prehistoric times the population had not increased, but the people had aggregated into one or two semi-permanent villages near Sandusky Bay.

Bullington, Jill (see Leigh, Stephen)

Carr, Christopher (Arizona State University) TECHNOLOGICAL CHANGES IN
MIDWESTERN WOODLAND CERAMICS

Three technological parameters of ceramic cooking vessels in Ohio and Illinois are compared for their changes from the Middle through Late Woodland: wall thickness, te per particle size distribution, and total volumetric density of temper. Trends in these parameters are predicted to differ for the two regions according to the thermal expansion coefficients and kinds of tempering materials that were used, despite potentially similar underlying processes driving the changes. Accumulating data from Ohio and Illinois follow the predicted trends.

Charles, Douglas (see Leigh, Stephen, and Wiant, Michael)

Church, Flora; Sculli, Paul; Wright John (Ohio State University)

ANALYSIS OF CUT MARKS AND BURNED BONE FROM THE RICHARDS SITE

The Richards site is a Philo phase 13th century Muskingham Valley Fort Ancient Village. Distinguishing the Richards site from all other Fort Ancient phases in southern Ohio is the apparent mode of burial or at least a mode of disposal of deceased individuals: placement of disarticulated segments in refuse pits. Previous analyses of these remains suggested that mutilation and

possibly cannibalism was practiced by the population at this site. The purpose of the present report is to determine the nature of the 'cut-marks' noted on the skeletal elements and to determine the nature of the burning of skeletal elements in order to evaluate previous hypotheses on the disposal of the dead at this site.

Clark, Frances (Oberlin University)

THE JERSEY BLUFFS MOUNDS REVISITED

The Jersey Bluffs mounds, in the lower Illinois River Valley, were excavated by Paul F. Titterington in the 1930's. On the basis of ceramic relationships, these mounds were the type site for Late Woodland in the lower valley and the area around Cahokia in the northern American Bottom. But recent studies in the Bottom have produced a dated ceramic sequence with new terminology which has displaced the old concepts of the Jersey Bluffs focus and Bluffs pottery. The Illinois State Museum houses most of the artifacts from the mounds including 15 restored pots, several hundred sherds and eight volumes of systematically recorded data from Titterington's excavations. The ceramics from the Nutwood mounds at Otter Creek, one group of the Jersey Bluffs mounds, have been reexamined and placed in the new sequence from the Bottom. With the results of the new analysis and data from the notebooks, the mounds have been placed in a probable sequence of construction and some burial practices, spanning 500 years in a single location, are observed.

Conner, Michael D. (Center for American Archeology) LATE WOODLAND POPULATION
STRUCTURE AND THE MIDDLE TO LATE WOODLAND DEMOGRAPHIC TRANSITION

Anthropological geneticists have demonstrated the importance of various demographic factors relating to population structure--i.e., size of subgroups, patterns of mate exchange, etc.--in affecting levels and patterns of genetic variation. This study examines nonmetric trait variation among 12 Late Woodland skeletal series from west-central Illinois. Results demonstrate the existence of a closely related series of sites associated with the Bluff phases in the lower Illinois Valley which are distinctive relative to sites in nearby areas of the Mississippi Valley exhibiting different ceramic styles. Population growth and expansion during Bluff times through a fissioning process is also suggested. Comparison with previous findings on Middle Woodland skeletal variation support Braun's (1977) and Braun and Plog's (1982) model of an expanding tribal network from Middle to Late Woodland times.

Dancey, William S. (Ohio State University) THE MURPHY SITE: A MIDDLE
WOODLAND SETTLEMENT IN CENTAL OHIO

The Murphy site (33-Li 212), a 1.5 ha Middle Woodland settlement in Licking County, Ohio has been almost completely excavated in a program of archaeological investigation started in 1983 and continued through 1986 by The Ohio State University and the Licking County Archaeological and Landmarks Society. Although analysis of the data produced in these four seasons of work is incomplete, a preliminary description can be made of the general character of the site. These data consist of traces of bladelet and biface chipped stone industries, ceramics, cultural features (including pits and post molds), and the structural relationships between classes. Taken together, these data give one of the most complete and comprehensive pictures of a Middle Woodland settlement yet obtained in the Middle Ohio Valley. In addition to a preliminary description of the Murphy assemblage, this paper outlines the research problems underlying the investigation and the objectives of the laboratory analysis.

Doershuk, John F. (Northwestern University) A REVIEW AND ANALYSIS OF THE WILL COUNTY, ILLINOIS ARCHAEOLOGICAL DATABASE

Cultural resources in Will County, Illinois have been a subject of near continuous interest and archaeological research since antiquarian speculations of the late 19th century. In recent years the completion of numerous cultural resource management projects has greatly expanded the body of available archaeological data for the county. However, interpretations of Will County and northeastern Illinois prehistory remain almost entirely dependent on data from a handful of sites excavated forty to sixty years ago. A review of previous research and an analysis of reported site data for the county permits a synthesis of current knowledge and identification of problems and biases in the Will County database. Suggestions for alleviating some of the recognized deficiencies are proposed and a number of examples of on-going research in Will County are discussed.

Emerson, Thomas E. (Illinois Historic Preservation Agency) LATE ARCHAIC ADAPTATIONS TO THE INTERIOR-RAVERINE ENVIRONMENTS OF SOUTHWESTERN ILLINOIS

The geographical distribution of the Lake Forest Archaic Tradition appears to be strongly linked with the distinctive mixed-forest biome and communication/transportation networks of the Great Lakes. To a limited degree, Illinois being located on the western shores of Lake Michigan might be expected to participate in/or interact with the Lake Forest Tradition. Previous research in the state has suggested that the mixed prairie-hardwood biome and the western drainage patterns have created a distinctive "interior riverine" adaptation that differs significantly from the more northerly Lake Forest culture. Recent excavations in southwestern Illinois have dramatically increased our understanding of this Late Archaic interior riverine adaptation. This new data will be summarized to form a backdrop against which to evaluate the distinctiveness of the Lake Forest Tradition.

Esarey, Duane (Dickson Mounds Museum) HAVANA'S HIDDEN MOUND

The major Middle Woodland sites in the Central Illinois River Valley were first documented in 1877 and this area has received considerable archaeological attention throughout the past 60 years. Yet, until now archaeologists have completely failed to notice one of the largest mounds in the Illinois River Valley. In August 1986, an amateur excavated a small trench verifying that an almost perfectly preserved "hill" on downtown Havana, Illinois is a man-made structure. Covering .86 hectare (2.12 acres) at the base, the approximately 4.5 meter (14.6 ft.) high mound appears to date to the later part of the Middle Woodland period. Details leading up to the mound's discovery, a summary of the data now in hand, and the mound's prospects for continued preservation are presented.

Gibbon, Guy (University of Minnesota) THAT OLD TIME ARCHAEOLOGY: SOPHISTICATED ANTIQUARIANISM OR ACCUMULATIVE SCIENCE?

"Traditional" pre-1960s archaeology has been a favorite purchasing-boy of New A Archaeology, Dismissed as "empiricist", "inductivist", and counterproductive, it was labeled a sophisticated antiquarianism. The same events viewed from a realist perspective suggest, however, a quite different interpretation. Examples from Midwestern archaeology are used to illustrate the argument.

Greber, N'omi (Cleveland Museum of Natural History) PATTERNS OF POSSIBLE ASTRONOMICAL SITING LINES WITHIN THE SEIP-LIBERTY GROUP

Work in progress on the patterns of construction of five square shaped geometric earthworks in Ross County, Ohio has shown a complex array of possible astronomical siting lines which were incorporated into the design of the embankment walls. It is estimated that (1) there is likely some local significance to sets of lines within each of the five squares which site towards classes of astronomical events involving, for example the moon or other horizon features visible to the naked eye, and (2) the entire set of squares is tied together and forms some type of single cultural unit based on a series of solar siting lines. The locations of the end points of the walls which form the site lines are being determined with the use of archived maps and photographs as well as by current field work using geophysical remote sensing techniques.

Green, William (University of Wisconsin-Madison) LATE WOODLAND PIONEER SETTLEMENT OF THE WESTERN ILLINOIS UPLAND FRONTIER

Between A.D. 300 and 1000 there was a gradual expansion of Late Woodland peoples into upland headwater areas in the Prairie Peninsula and maintenance of a successful adaptation to those areas. Such upland headwaters can be termed "frontier" zones and the new occupants "pioneers" because those areas had not been intensively utilized or occupied for the previous 800 to 1000 years. Surveys and excavations in west-central Illinois provide data on settlement organization, chronology, technology, and subsistence economy of the participants in this previously noted but unexplored pattern. Settlement along headwater streams was encouraged by several cultural factors and by environmental changes which increased the ratio of perennial to ephemeral streams. Four phases of pioneer settlement are identified, beginning with Weaver phase community movement into tributary valley systems (ca. A.D. 300-400). This was followed by a fissioning into smaller settlement units which continued the traditional reliance on riverine and aquatic resources, native cultigens, and use of darts (rather than bow and arrow) (ca. A.D. 400-600). This phase was followed by a long-lived, successful upland adaptation characterized by a major population increase, reflected in numerous dispersed communities occupied on a year-round basis (ca. A.D. 600-950). Bow hunting, upland nut and acorn collection, cultivation of selected food grains, mortuary structures for individual residential units, and maintenance of distinct ethnic group boundaries characterize this phase. The final phase (ca. A.D. 950-1200) involved the addition of corn to the diet and was affected by a variety of Mississippian influences which encouraged abandonment of the interior uplands.

Hart, John P. (see Lurie, Rochelle)

Herbstritt, James T. () EARLY GLASS TRADE BEADS IN THE OHIO VALLEY: AN EVALUATION

It has been recognized that glass beads are useful items of material culture for spatiotemporally organizing Protohistoric and Historic Period aboriginal occupations. This paper presents the results of an ongoing analysis of 17th century glass beads from middle Ohio Valley Fort Ancient and upper Ohio Valley Monongahela occupations. The analysis demonstrates that certain "hallmark" bead types co-occur at sites in both study areas. The hallmark types which appear to be time-sensitive indicators are evaluated in terms of established bead typologies for eastern North America and a provisional bead sequence for the Fort Ancient and Monongahela components is presented.

Kuttruff, Carl (Tennessee Div. of Archaeology) LATE WOODLAND SETTLEMENT AND SUBSISTENCE IN THE LOWER KASKASKIA RIVER VALLEY, ILLINOIS

A previously formulated model of Late Woodland Settlement and Subsistence systems in the Lower Kaskaskia River Valley, Illinois, is reevaluated. Suggested modifications of the first model are based on more recent surveys and excavations in the Kaskaskia drainage and surrounding areas, as well as further analyses of existing data.

Leigh, Steven (Northwestern University); Charles, Douglas (Wesleyan College) and Bullington, Jill (Northwestern University)
TITLE: INTRODUCTION TO THE ELIZABETH SITE

This paper presents a general summary of investigations at the Elizabeth Site, a complex mortuary site containing Middle Archaic, Middle Woodland, and Late Woodland components. Elizabeth is located at the northern end of the lower Illinois River Valley on a bluff-top overlooking the Napoleon Hollow Site. We focus on the Middle Woodland component at Elizabeth and its regional and cultural context. The Middle Woodland component is similar to other lower Illinois River Valley Middle Woodland bluff-top cemeteries. There are, however, potentially important differences between Elizabeth and previously excavated Middle Woodland mortuary sites in the lower Illinois valley as well as similarities between Elizabeth and central Illinois valley Middle Woodland sites. These similarities and differences and alternative explanations for them will be discussed. Finally, the relationship between Elizabeth and Napoleon Hollow is to be examined.

Leigh, Steven (see Wiant, Michael)

Lensink, Stephen C. (The University of Iowa) PREHISTORIC LOCATIONAL RESPONSE TO CLIMATIC EPISODE DURING THE HOLOCENE: AN EXAMPLE FROM THE UPLANDS OF THE PRAIRIE PENINSULA

Investigations completed recently in the Southern Drift region of Iowa along with earlier demographic research of the Des Moines Lobe provide data for a time-transgressive settlement model of mobile foragers during the Holocene. Projectile point data were used to construct regional utilization curves for the two areas which cover over 10,000 years. These curves argue that the foraging groups tended to abandon the prairie marsh habitats of the Des Moines Lobe during cool, moist climatic episodes. Under such conditions foragers appeared to have moved to Southern Drift Plain where the uplands and small stream habitats provided resources. Population movement of several hundred miles would have been necessary and should have taken place either annually or on a three-to-ten year cycle.

Lepper, Bradley T. (Ohio State University) EARLY PALEO-INDIAN LAND USE PATTERNS IN THE CENTRAL MUSKINGUM RIVER BASIN, COSHOCTON COUNTY, OHIO
Coshocton County has yielded a remarkable abundance of Paleo-Indian remains. This study is concerned with documenting and describing the Paleo-Indian archaeological record of this region in terms of Late Pleistocene hunter-gatherer land use. Since the Paleo-Indian archaeological record in eastern North America seems to be composed principally of isolated projectile points, a "settlement" typology was constructed based on projectile point attributes. Localities were classified as Chert processing loci, Food procurement-processing loci, or Workshop-occupations. These localities were found to articulate in a pattern suggestive of the settlement pattern

described by Gardner (1983) for the Flint Run complex in Virginia. Workshop-occupations which are presumed to reflect the multiple activities of a base camp, are restricted largely to the floodplains in close proximity to water. Chert processing loci tend to be situated on the fringes of the uplands between the Workshop-occupations and outcrops of Upper Mercer chert. Food procurement-processing loci are widely distributed throughout the floodplains, uplands, and interior hollows. These results suggest that Paleo-Indian populations in Ohio were exploiting fully the diverse habitats within the Appalachian Plateau much as later Archaic populations are believed to have lived.

Lurie, Rochelle and Hart, John P. (Northwestern University) RECENT EXCAVATIONS AT THE ROBINSON RESERVE SITE (11 CK 2): A LANGFORD TRADITION VILLAGE ALONG THE DESPLAINES RIVER IN CHICAGO, ILLINOIS
This past summer Northwestern University and Elgin Community College conducted a field school at the Langford tradition Robinson Reserve site. The site appears to be an unplowed village from approximately A.D. 1200. Sixteen 2x2 meter units were excavated. Midden was water screened through 1/4 and 1/8 inch hardware cloth. All materials from 26 features were subject to flotation. These methods for recovering small scale remains have produced large numbers of stone tools (primarily points and drills), debitage (indicating bipolar manufacture), sherds (typical of Langford tradition), and a wide range of plant and animal remains. Plans for analysis include functional studies of stone tools and pottery, technological evaluation of tool debitage, analysis of feature, artifact and debris distributions, as well as comparisons with other Langford components recently excavated in the Chicago area.

Madsen, Mark L. (Chicago Archaeological Society) FOUR ENDANGERED SITES BETWEEN THE FOX RIVER AND SALT CREEK IN ILLINOIS

This 15-minute slide presentation will begin at the forest-edge site (11-DU-69) with the results of a floral flotation analysis of carbonized organic material from the central fire pit of a Helton phase lodge c. 3,200 B.C. Thirty stratified multicultural grids were excavated and data salvaged prior to industrial development of this area along Salt Creek.

The importance of accurate plotting of surface collections will be demonstrated by survey results from three endangered farm fields along Poplar Creek near the Fox River. Artifact and chert debitage zones have left telltale traces of area living patterns. A nine-grid test excavation gives some clues as to stratigraphic fluctuations in chert and pottery varieties over time.

Markman, Charles W. (Northern Illinois University) PUTNEY LANDING (11HE3) INVESTIGATIONS 1986: A MIDDLE WOODLAND STAGE COMMUNITY IN NORTHWEST ILLINOIS

In May and early June excavations were conducted at Putney Landing, a large Middle Woodland site, on the Mississippi River about 60 miles downstream from Rock Island, Illinois. A 12-meter-wide block along a 40 meter length of shoreline was excavated. Extensive areas of dense midden were encountered along with 70 pit features. The site is a high-density Havana-Hopewell village with a significant assemblage of exotic raw materials including obsidian, copper, and galena. Behind the village component is a group of 19 mounds. Putney Landing, along with a number of other Middle Woodland sites in the vicinity, show that this stretch of the Mississippi was a major Havana Hopewell center. This center was an important link in the trade

network through which obsidian, copper, and galena made their way from northern and western sources to far-reaching areas of the riverine Midwest and the South.

Martin, Terrance J. (Illinois State Museum) and Phillippe, Joseph S. (Midwestern Archeological Research Center - Illinois State University) SUBSISTENCE AND SOCIOECONOMIC STATUS AT THE DRAKE SITE, A LATE 19TH CENTURY FARMSTEAD IN NORTHERN ILLINOIS

Historical documents, ceramic data, and faunal remains were analyzed in order to better understand socioeconomic status and subsistence at a northern Illinois farmstead. The Drake site (1838-1900) was investigated by the Midwestern Archeological Research Center (Illinois State University) in 1985 under contract with the Illinois Department of Transportation and yielded abundant samples of artifacts and animal remains. Although socioeconomic scaling techniques met with varying degrees of success, the research provides a perspective on the affect of regional traditions on artifact and faunal assemblages and will be useful as additional work is carried out on 19th century farmstead sites elsewhere in the Midwest.

McGimsey, Charles R. (Illinois State Museum) THE HAVANA-HOPEWELL COMPONENTS AT THE NAPOLEON HOLLOW SITE

Napoleon Hollow is a stratified multicomponent site located in the lower Illinois River Valley, west central Illinois. Two spatially and functionally distinct Middle Woodland activity areas are present. The floodplain deposits include a structure, features and refuse disposal facility. The artifact assemblages and spatial organization are distinct from other excavated Middle Woodland sites. It is interpreted as a short-term habitation for individuals participating in mortuary activities at the blufftop mound group. The second activity area is a refuse disposal facility located on the steeply sloping bluffs. It contains the refuse from activities conducted at the blufftop mound group. Together, these deposits provide a unique view of Middle Woodland adaptation in the Midwest.

McGimsey, Charles (see Wiant Michael)

McGowan, Kevin P. (University of Illinois) SURVEY DATA AND THE DEVELOPMENT OF CULTURAL SEQUENCES

Evaluation of survey results from the Lake Shelbyville locality in East-Central Illinois has raised questions regarding the ways archaeologists commonly present cultural sequences in their reports. At one extreme is the presentation of a cultural sequence which mirrors the general sequence presented for the Eastern United States which runs from Paleo-Indian to Historic Indian. At the other extreme is a cultural sequence of very specific phases. However, this form of cultural sequence of very specific phases. However, this form of cultural sequence really requires extensive excavation to be adequately constructed. Since most localities lack an extensive excavated data base it is common to see surveys citing the general sequence for their area. From a research standpoint this does little more than suggest that the very broad trends seen in the Eastern United States are also noted in the locality of study. To improve this situation a third type of cultural sequence is presented and evaluated for its potential to increase the specificity of research questions while accounting for the weaknesses inherent in survey derived data.

Moffat, Charles (see Yingst, James)

Morgan, David T. (Center for American Archeology/Mississippi Department of Archives and History) THE CONTRIBUTION OF CERAMIC ANALYSIS TOWARDS INTERPRETING THE MIDDLE WOODLAND OCCUPATIONS AT NAPOLEON HOLLOW AND ELIZABETH SITES

Havana and Hopewell materials dominates the ceramic assemblages at the Napoleon Hollow and Elizabeth site. At both sites Hopewell ceramics compose an unusually large percentage of the inventory. In this paper, the ceramics from these two sites will be inspected as a means for discerning intrasite and intersite variation and possible temporal and/or functional correlates. Includes is a discussion of the thirty whole (or reconstructable vessels recovered from the Elizabeth site).

Murphy, Harry (Ohio Department of Transportation) AN ANALYSIS OF SOME ADENA CACHE BLADES

Dragoo's (1963) observation was that Adena blades tend to become broader relative to length through time. This analysis of Adena cache blades is based on the idea that Adena caches have attributes in common that may reflect cultural continuity. These caches are thought to form a continuum from the early narrow Cresap blades to the late wide Robbins blades. Based on this understanding, one can estimate the date and cultural affiliation of a cache by placing it in the appropriate position along this continuum. The problem encountered with this method of analysis is the subjective determination of where a cache belongs or which other cache does it resemble most. The traditional method of analysis lacks precision and repeatability. Maximum length and width measurements were collected for 1,000 Adena leaf blades to provide a sample on which to test Dragoo's hypothesis. There are eighteen separate cache populations in the sample, representing caches from Ohio, Kentucky and West Virginia. The sample was analyzed by means of the BMDP-7M (1946) Stepwise Discriminant Analysis Program. The results confirm Dragoo's hypothesis.

Nass, John Jr. (Ohio State University) A PRELIMINARY FUNCTIONAL STUDY OF HOUSEHOLD UNITS AT THE INCINERATOR SITE, A FORT ANCIENT COMMUNITY IN SOUTHWESTERN OHIO

The study of cultural variation and change has concerned archaeology for decades. One means for developing models of social and economic organization for the purpose of studying variation and change is the household since it represents the basic social entity at which a society articulates directly with both its social and natural environments. Settlement, feature, artifact, and use-wear data from the Incinerator Site will be used to study household variation on a functional basis, and the entire site on a general basis.

Nowicki, Bill (Cook County Forest Preserve District) THE JOE LOUIS SITE

During the recent remodeling of a golf course, the presence of an Upper Mississippian/Oneota village site became apparent. The site is the Joe Louis Golf Course which is located on the south bank of the Little Calumet River, which flows into Lake Michigan, just south of Chicago. Through a series of surface collections of the disturbed soil, many artifacts were found, which include scrapers, drills and blades. One feature was found in the

graded area and contained a great variety of bones from aquatic animals. Also, three 2m x 2m test-pits were dug which revealed post-molds, fire-pits and scapula hoes. Lithic and ceramic analysis also suggest a cultural affiliation with local groups along the same river and its tributaries.

Oehler, Charles - Cincinnati Museum of Natural History
(see Tankersley, Kenneth)

Pacheco, Paul Joe (Ohio State University) STORAGE PIT VARIATION DURING THE MIDDLE AND LATE WOODLAND PERIODS OF WEST CENTRAL ILLINOIS
Variability in storage pits, as measured by four metrical attributes and shape, is examined within a sample of eighteen excavated Middle Woodland (N=6) and Late Woodland (N=12) components from west central Illinois. Temporally the mean age of the components ranges from 127 B.C. to 1024 A.C. The four terminal Late Woodland components are classified as Late Bluff cultures (Emergent Mississippian in the American Bottoms) and are included in the analysis for comparative purposes. Three regions are represented by the sample; the Illinois River drainage (N=4), the Kaskaskia River drainage (N=6), and the American Bottoms, along a side drainage of the Mississippi River. Variation is investigated through time and between regions, with volume being the most important attribute to the analysis.

Initial analysis identified bell-shaped pits and straight-sided pits with flat-bottoms as the pit feature classes which were most likely storage pits. Central to this identification is the assumption that storage pits are on average the largest pit features. The sample of storage pits (N=278) is composed of more Analytical methods included descriptive statistics, one and two-way ANOVAS, the nonparametric Kruskal-Wallis test, and Dunn's method for multiple comparisons. Generally storage pits show a trend of increasing size through time with some interesting deviations from linearity, but the increase is not consistent between regions. Within regions size variation is much more consistent. Late Woodland components generally possess larger storage pits than Middle Woodland components, probably as a result of increased population at the local level. The density and ratio of storage pits to other pit feature classes (such as basin shaped pits) is roughly the same for both periods. This similarity in the settlement systems. A few components from both periods have low ratios of storage pits to other pit features. These components are probably not sedentary habitations. A tentative model for the identification of non-habitation sites emerges from this comparison, although further testing and investigation is required.

Phillippe, Joseph (see Martin, Terrance)

Purdue, James (see Styles, Bonnie)

Redmond, Brian G. (Glenn A. Black Laboratory of Archaeology) THE YANKEETOWN PHASE: AN EMERGENT MISSISSIPPIAN CULTURAL MANIFESTATION IN THE LOWER OHIO RIVER VALLEY

The Yankeetown phase is the name given to a late prehistoric cultural manifestation located in the lower Ohio and Wabash river valleys of southwestern Indiana, southeastern Illinois, and north-western Kentucky. The results of a recent study of Yankeetown settlement in this region suggest the occupation of sedentary floodplain villages, dispersed hamlets, and small extractive campsites. Previous archaeological investigations have outlined various aspects of Yankeetown material culture, subsistence, and chronology.

In this paper these data are discussed and interpreted in relation to the newly acquired settlement information. The result of this analysis is the characterization of the Yankeetown phase as an emergent Mississippian cultural manifestation.

Riggs, Rodney E. (University of Wisconsin-Madison) CERAMIC SEQUENCES FROM THE LOWER LITTLE MIAMI VALLEY

This interim report focuses on a preliminary study of the Late Woodland and Fort Ancient ceramic assemblages from the Sand Ridge (33HA17) and Turpin (33HA19) sites. The ceramic study is part of a larger study of ceramic chronology being undertaken by the author in southwestern Ohio. The results, using newly acquired stratigraphic and radiometric data, suggest that the Fort Ancient ceramic assemblages, when classified using the current typology, are predominantly Anderson-like and not predominantly Madisonville assemblages. Further, the results suggest that the local Late Woodland-Newton ceramic assemblage was probably transformed into a Fort Ancient assemblage in situ. Finally, the results also suggest that these Anderson-like developments continued until either a replacement by, or development into the Madisonville phase at the same sites. The implications of these findings will be discussed.

Ruhl, Katharine C. (Cleveland Museum of Natural History) STYLISTIC VARIATION IN COPPER EARSPOOLS OF THE HOPEWELL PERIOD

A study of copper earspools from the major Hopewell period sites in Ohio has revealed distinct variations in surface contour and construction method. Sites may be grouped according to earspool style, but these groupings do not coincide with geographical areas. If the profiles of the contours are arranged in a developmental sequence, a possible temporal relationship between sites may be proposed. Although a time span for larger sites is to be expected, the observation of variation within some very specific proveniences suggests that cultural factors are also reflected in style.

Stothers, David M. (The University of Toledo) THE WESTERN BASIN MIDDLE WOODLAND: FACT OR FICTION?

The Western Basin Middle Woodland, as originally defined, does not appear to represent a valid taxonomic construct for the culture history of NW Ohio and SE Michigan. Recent C¹⁴ determinations and stable carbon isotope calibrations suggest that the original formulation of this taxon was the result of: unperceived, but mixed component sites; erroneous C¹⁴ dates; and, the erroneous use of an 'in situ' analogue model for cultural development. The Western Basin Middle Woodland (modified from the original definition) is suggested to be a valid construct for the SW Ontario peninsula. As the Middle Woodland time period gave rise to the subsequent early Late Woodland Period (Riviere au Vase), territorial expansion of these populations into SE Michigan and NW Ohio ensued. As now perceived the Middle Woodland time period, in the lands surrounding the western basin of Lake Erie (in SE Michigan and NW Ohio) was characterized by Esch phase Hopewellian, as opposed to Western Basin Middle Woodland populations.

Strong, John (Long Island University) THE CONTRIBUTIONS OF E.G. SQUIER TO THE ARCHAEOLOGY OF CENTRAL AMERICA

Although Squier's work in North and South America are well known and appreciated, his contributions to the study of Central American pre-history have not been given the credit they deserve. Some have even argued that Squier's reports on the Nicaraguan antiquities were well below the standards

set in his other work. When Carl Bovallius re-examined some of the materials described by Squier he challenged the accuracy of the descriptions. Bovallius, whose work in Central America in 1882-83 was sponsored by the Swedish Society of Anthropology, claimed to have found several inaccuracies in Squier's drawings and interpretations. More recently a scholar has suggested that Squier's work in Central America represented a "hiatus" in his otherwise brilliant career.

The purpose of this paper is to reassess Squier's contribution to Central American archaeology. The sources used for this study includes Squier's published reports, the assessment of modern scholars, the Zapatera Collection in the National Museum of Nicaragua and the materials in the Smithsonian.

Styles, Bonnie W. and Purdue, James R. (Illinois State Museum) MIDDLE WOODLAND FAUNAL EXPLOITATION AT THE NAPOLEON HOLLOW SITE: EVALUATIONS OF SITE FUNCTION FROM A SUBSISTENCE PERSPECTIVE

Analyses of over 70,000 bones from Middle Woodland contexts at the Napoleon Hollow site yield dramatic contrasts to faunal assemblages from Woodland Period habitation sites in the lower Illinois River Valley. Comparisons to the Smiling Dan site, a Middle Woodland base camp on the east side of the Illinois River in Scott County yield the following results: 1) although the density of faunal remains in the deposits was similar, species richness at Napoleon Hollow is lower on the whole and within each class of animal, 2) deer is more dominant at Napoleon Hollow and, 3) representation of deer body parts at Napoleon Hollow shows a greater emphasis on fore and hind quarters; phalanges, skull parts and teeth are virtually absent. These data support an interpretation of the site as a special-use facility, probably used in conjunction with the nearby Elizabeth Burial Mounds. The fauna from the burial mounds provides interesting contrasts to Napoleon Hollow and Smiling Dan in the extremely low number of species represented, in the higher proportions of elk, marine shell, waterfowl, and turkey, in the select series of body parts represented, and not surprisingly in the higher proportion of bone artifacts.

Tankersley, Kenneth B. (Indiana University) LITHIC DETERMINATION OR BIG GAME EFFICIENCY: AN EXAMINATION OF EARLY PALEOINDIAN LITHIC EXPLOITATION AND SETTLEMENT PATTERNS IN THE MIDWESTERN UNITED STATES

The lithostratigraphic and geographic distribution of high quality chert resources in Indiana, Kentucky, and Ohio, have recently been identified. The petrologic composition of these chert source areas have also been identified and compared with those cherts which have been manufactured into fluted projectile points. These data will be used to demonstrate the significance of high quality cherts in the exploitation and subsistence strategies of early Paleoindians of the Midwestern United States.

Tankerseley, Kenneth B. and Oehler, Charles (Indiana University) THE GEODARCHAEOLOGY OF THE MADISONVILLE SITE

A geochronology of the Madisonville site (33Ha36) has been developed by correlating Late Pleistocene and Holocene alluvial deposits and erosional features, radiocarbon dates, temporally diagnostic artifacts, faunal remains, soil analyses, and stratigraphic data from excavated profile sections. Definite stratigraphy has been identified and suggests that the site was intermittently occupied from ca. 9,500 B.C. to A.D. 1000, and continuously from at least ca. A.D. 1000 to A.D. 1650. Petrographic and mineralogical analyses demonstrate that raw ceramic materials occurring at Madisonville affected habitation site selection.

Trubowith, Neal L. (Indiana University - Indianapolis) THE SEARCH FOR THE 18TH CENTURY WEA: 1986 IUPUI FIELDWORK

The Anthropology Department of Indiana University-Purdue University at Indianapolis (IUPUI) began a long range research program in 1986 designed to investigate the effects of Euroamerican and Native American contact in the Lafayette-West Lafayette area of Tippecanoe County, Indiana. The Wabash River was the center for several different tribes in the 18th century, which attracted the French, who established Fort Quiatenon among the Indian villages. The 1986 field research undertook floodplain reconnaissance on the north and south sides of the river, successfully recording new historic loci, and began test excavations of the largest known village, the Wea site 12T6. The tests, designed to provide data for a National Register of Historic Places eligibility determination, included intensive surface recovery, a proton magnetometer survey, and test units one meter square in size. This work produced encouraging evidence of features surviving below the plowzone in cultivated portions of the site, cultural debris buried over 80 cm below flood deposits in the overgrown portion of the site, and a wide range of artifacts of both native and imported manufacture. These remains were found both on the surface and in context with abundant well preserved faunal remains.

Wiant, Michael D. and McGimsey, Charles R. (Illinois State Museum); Leigh, Steven (Northwestern University) and Charles, Douglas (Wesleyan College) REANALYSIS AND EXPANSION OF STRUEVER'S CONCEPT OF MORTUARY CAMP

Struever's (1968) concept of mortuary camp as a distinct lower Illinois River valley Middle Woodland settlement type is reexamined in light of the Elizabeth and Napoleon Hollow site investigations. These assemblages are compared and contrasted with those from other lower Illinois River valley Middle Woodland settlements. It is concluded that Napoleon Hollow represents a non-secular encampment. The potential for ritual activities outside the mound complex is explored. It is proposed that Elizabeth and Napoleon Hollow sites represent functionally distinct but related aspects of Middle Woodland ritual.

Wiant, Michael D. and McGimsey, Charles R. (Illinois State Museum) THE ORGANIZATIONAL CHARACTER OF LITHIC ARTIFACTS FROM THE HAVANA-HOPEWELL COMPONENTS AS ELIZABETH AND NAPOLEON HOLLOW SITES

Morphofunctional, low-power mangification edge-wear, and technologically-oriented approaches are used to analyze these artifact assemblages. Based on the morphofunctional analysis, the composition of the lithic artifact assemblages conform to Struever's expectations for a mortuary camp. However, edge-wear analysis conducted by George Odell indicates on site activities were more diversified than expected. Technological analysis expands our understanding of factors organizing at least one aspect of Middle Woodland lithic technology and indicates that provisioned, curated and expedient artifacts were used at the site.

Wiant, Michael D. (Illinois State Museum) THE HAVANA-HOPEWELL COMPONENTS AT ELIZABETH AND NAPOLEON HOLLOW SITES: INTRODUCTORY REMARKS

This symposium investigates Struever's (1968) concept of mortuary camp as a distinct lower Illinois River valley Middle Woodland settlement type. Two adjacent sites, Elizabeth, a bluff-crest cemetery, and Napoleon Hollow, a bluff-base habitation site, provide new insights on understanding Middle Woodland settlement. Expectations about the attributes of a mortuary camp are

examined from several perspectives including analyses of facilities, lithic and ceramic artifacts, floral and faunal remains, and cemetery structure. It is concluded that the concept is viable if expanded to encompass non-secular activities. The potential for ritual activities outside the mound complex is explored.

Wiant, Michael (see McGimsey, Charles)

Wilkie, Duncan C. (Southeast Missouri State University)

TESTING FOR IMPACT OF BURYING SITES UNDER A HIGHWAY:

Will discuss a presently completed research project by the Missouri Highway Department to scientifically document the impact of burying 2 sites under 20' to 6' of fill for construction of a highway. One site is Early Mississippian hamlet and the other is a Woodland camp site. It was a multiple discipline research including an archaeologist, soil scientist and a geomorphologist. The final results of the research may have significant impact on how Highway departments deal with archaeological sites in the future.

Wolforth, Thomas (University of Wisconsin-Milwaukee) CHANGE IN SITE BOUNDARIES AND SPATIAL ORGANIZATION AT THE ANGEL MOUNDS SITE

Excavations in 1983 at Angel Mounds focused on the stockade construction in and around the central site plaza. Results from that field season and examination of original field notes from previous seasons' work at Angel indicate that a significant change in community size and plan occurred over the course of several centuries of occupation. Site reorganization is discussed as it pertains to Middle Mississippian settlement patterns and the transition to the Caborn-Welborn cultural expression in the Ohio River Valley.

Dee Anne Wymer (Ohio State University) THE MIDDLE WOODLAND-LATE WOODLAND INTERFACE IN CENTRAL OHIO: SUBSISTENCE CONTINUITY AMID CULTURAL CHANGE
The appearance of the Middle Woodland (Hopewell), as well as its disappearance, has been the focus of numerous debates. Such drastic, and apparently sudden cultural shifts have often been linked with changes in the subsistence base of the populations. The Ohio Middle Woodland-Late Woodland interface is no exception and several authors have argued the cultural change was due a basic shift in agricultural systems, typically cited as the introduction of maize.

Recent research in central Ohio has focused on paleoethnobotanical investigations of two Middle Woodland and two Late Woodland habitation sites. Results show that both populations practiced horticulture based on an intensive use of the Eastern Agricultural Complex and that the most striking aspect is the nearly identical archaeobotanical assemblages for both time periods. Thus, although a major shift in cultural lifeways has occurred, the botanical portion of the subsistence base remained virtually the same.

Dee Anne Wymer (Ohio State University) THE MIDDLE WOODLAND-LATE WOODLAND CULTURAL SHIFT IN THE MIDWEST: THE PALEOETHNOBOTANICAL RECORD

This paper explores the paleoethnobotanical record of the Middle Woodland-Late Woodland periods in Illinois and Ohio and addresses the questions concerning a basic subsistence change between the two periods and the diversity/similarity of the regions' archaeobotanical assemblages. The data suggest a series of subtle trends between the Middle Woodland and Late Woodland and a similarity among the research areas. Lastly, the researcher focuses on the difficulty in conducting this examination due to inadequate and uneven reporting of data and suggests a standard format for paleoethnobotanical materials.

Yingst, James R. (Illinois Historic Preservation Agency) ARCHAIC SITE DISTRIBUTIONS AND LITHIC ASSEMBLAGE PATTERNING IN THE UPPER KASKASKIA RIVER DRAINAGE, ILLINOIS

Seven contract archaeology projects undertaken over the past two decades in the upper Kaskaskia drainage have reported seventy-one Archaic sites located in several environmental zones. The entire Archaic sequence appears to be represented, but projectile points associated with the Late Archaic Helton Phase are particularly common. Analysis of site distributions indicates a shift from an extensive settlement pattern during Early-Middle Archaic times to one concentrated in the river valley terrace zone by Late Archaic times. Analysis of lithic assemblages from surface collections indicates that the shift in site distributions involved: 1) changes in the locations of functionally diverse habitation camps; 2) a decline in the frequency of specialized hunting camps; and 3) the partial replacement of hunting camps with a new kind of specialized site. These results are compared to those obtained from other studies of Archaic site distributions in central and northern Illinois.