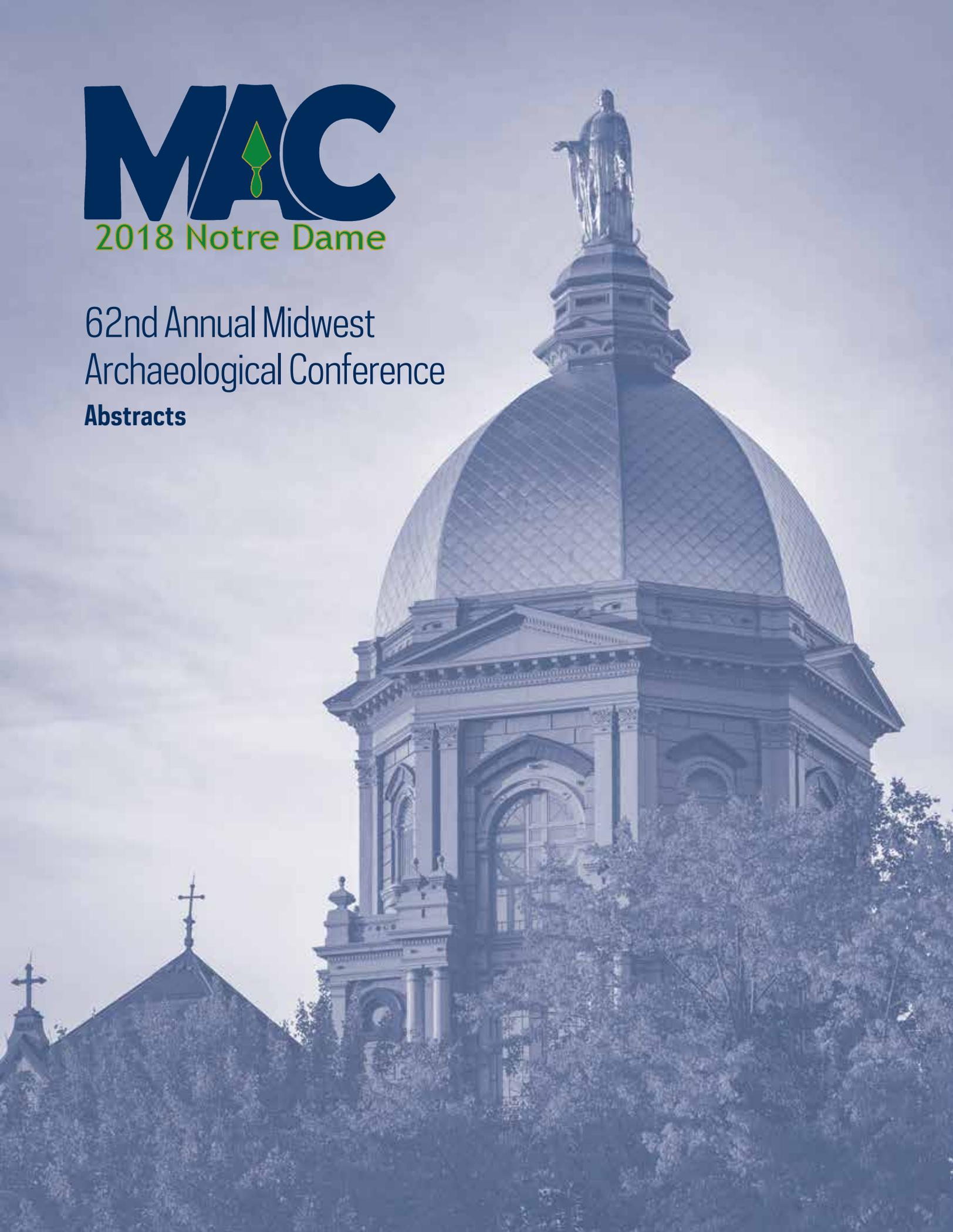


The logo features the letters 'MAC' in a bold, dark blue font. A green leaf-like shape is integrated into the letter 'A'. Below 'MAC', the text '2018 Notre Dame' is written in a green, sans-serif font.

**MAC**  
2018 Notre Dame

62nd Annual Midwest  
Archaeological Conference  
**Abstracts**



## Paper Symposia Abstracts

### **2018 Sponsored Symposium: Late Prehistoric Landscapes in the Northern Prairie Peninsula: A Lake Koshkonong Perspective**

Robert Hall and David Overstreet are the two most prominent 20th century scholars who have sculpted archaeologists' views about Oneota archaeology of the northern edge of the Prairie Peninsula. A 20-year long program of research into Late Prehistoric sites at the Lake Koshkonong Oneota locality has used new methods, techniques, and approaches to enhance and alter our understanding of human adaptations and use of the landscape during the 10th -15th centuries in the region. The symposium will highlight the cultural expressions that reflect the choices and responses of people to local cultural and environmental contexts as well as their pan-regional social, religious, and political connections of Late Prehistoric groups in the northern Prairie Peninsula. The sponsored symposium session will be a series of prepared papers followed by a panel discussion and a Question and Answer session.

### **Fur Trade, Farmsteads, and Foreigners: 400 Years of Wisconsin's Historical Archaeology**

In this symposium we consider the many contributions of historical archaeology to understanding Wisconsin's past. From initial down-the-line exchange of European-made trade items in the 1600s to the first colonial encounters among European visitors, ancestral Ho-Chunk and Menominee peoples, and displaced or migrant Native newcomers to Wisconsin, the earliest historic activities constitute a proto-historic period. Archaeological investigation of subsequent years reveals Native American sites affiliated with diverse descendant communities, colonial posts of the French and British fur trade; American military clashes and expansions; large and small fortifications and encampments, settler farmsteads, mining, industrial development and logging, shipwrecks, evidence of the lives and deaths of the urban poor in the early 20th century, and CCC and WPA-era camps. This session highlights the diverse peoples and lifeways of the last 400 years of Wisconsin's history through archaeology and material culture, exploring the creation, transformation, and structuring of social and cultural identities.

### **Ethnogenesis and Village Origins: Becoming Fort Ancient at the Guard Site, AD 1000-1300**

The emergence of agricultural villages in the 11th Century in the Middle Ohio Valley has been attributed to a variety of phenomena, not least of which is the migration of Mississippians and the introduction of maize agriculture. The large open floodplains of the lower Miami Valley were one of the key locales for Mississippians moving into the Middle Ohio Valley. Recent work at the Guard site in Dearborn County, Indiana, offers a case study for testing the variety of forces that contributed to the development of the Fort Ancient archaeological tradition. This session summarizes five seasons of excavations at Guard, the recovered material culture, site setting and structure, and chronology. Our work focuses on the confluence of local and non-local influences in a single-site setting and suggests that early Fort Ancient villages were complex admixtures of Woodland and Mississippian traditions.

### **Storing Culture: Subterranean Storage in the Upper Midwest**

Surface depressions are a common feature type in the Upper Midwest. These features are often interpreted as subterranean storage facilities although relatively few of them have been tested archaeologically. Ethnographic sources indicate such features were used by horticulturalists and hunter-gatherers, and archaeological evidence shows that storage pits were used by Native Americans from the Archaic into the twentieth century. Storage pits are an important technological innovation with significant social and economic ramifications. The creation and use of storage facilities assumes whatever is stored will be retrievable at a later time. The placement of a storage facility on the landscape and the know-how to use it require knowledge that is learned and transferred within the community in the present and over time. Thus, storage occupies a dynamic space straddling technology, culture, and the landscape. This session will explore this nexus through an examination of subterranean storage.

## Poster Symposia Abstracts

### **Food Production Past & Present: Multidisciplinary Perspectives**

During the summer of 2018, eight students participated in the National Science Foundation Research Experiences for Undergraduates "Long-term Perspectives on Human-River Dynamics at the Confluence of the Illinois and Mississippi Rivers: Interdisciplinary Research for Students in Ecology and Archeology" program at the Center for American Archeology, Kampsville, IL. Program activities combined conceptual and theoretical topics with practical activities designed to provide students with knowledge and experience necessary for research and careers in STEM fields. This unique program allowed students to participate in archaeological, archaeobotanical, and ethnographic research focused on human-plant interactions during the approximately 10,000 years of human occupation of the Lower Illinois Valley. As part of their experience, students conducted original research projects investigating various dimensions of past and present human-plant dynamics as documented by archaeological, paleoethnobotanical, and ethnographic approaches. In this symposium, student participants present results of research.

### **Student Centered Research in the Applied Anthropology Laboratories 2014-2018**

The Applied Anthropology Laboratories in the Department of Anthropology at Ball State University operates under a model of student-centered, experiential, and immersive learning to provide students with hands-on training in archaeology. We generate thousands of student hours on both research and compliance projects, meeting deadlines and standards for diverse clients and funding agencies. We present a sample of the research that has been conducted by and with our students over the last four years. Our projects cover a diverse array of the archaeology of the region including battlefield archaeology, siteless survey, landuse patterns, geoarchaeology, lithic analysis, ceramic analysis, spatial analysis, digital artifact modeling, public engagement, and more. These experiences prepare Ball State students for the various ways that archaeology can be applied in the modern job market.

## Paper And Poster Abstracts

### **Robert Ahlrichs (University of Wisconsin - Milwaukee)**

*Chemical Characterization of Copper Manufacturing Debris from Two Localities in Wisconsin*

LA-ICP-MS techniques for chemical characterization of copper artifacts have been in development for over a decade. This project contributes to that development through a chemical characterization of 30 pieces of copper manufacturing debris from two localities in Wisconsin. The results indicate that it is possible to differentiate copper from these two sites based on their trace elements. This project will present the results of the study, plans for expansion of the research from manufacturing debris to copper tools, and explore the implications of these results in terms of archaeological network analysis.

### **Lynn M. Alex (University of Iowa), William Green (Beloit College), Robin M. Lillie (University of Iowa) and Shannon M. Fie (Beloit College)**

*Rediscovering Toolesboro, a Middle Woodland Mound Group in Southeastern Iowa*

Toolesboro, situated on a bluff overlooking the Mississippi River valley, is one of Iowa's best-known Middle Woodland sites. Nineteenth-century excavators recovered numerous Havana-Hopewell artifacts from several large mounds. However, little information has been published about the site. We have analyzed all available material and data from Toolesboro, prepared comprehensive technical reports, and are completing a descriptive and interpretive publication. In this presentation, we summarize the history of investigations and discuss features and mound structure, diagnostic Havana and Hopewell material, human remains, and the mortuary program. While much of the artifact assemblage, including items made of copper, pipestone, mica, and obsidian, is curated at the Putnam Museum, we call particular attention to objects missing from extant collections but documented by early photographs. Most notable in that group is an early Havana Zoned jar that combines Morton Incised and dentate-stamped design fields along with a unique canid-paw intaglio image.

### **Zachary Allain (University of Wisconsin-Milwaukee)**

*Examining Possible Perceived 'Value' of Various Lithic Materials by the Oneota in the La Crosse Area*

Understanding the values a culture places on materials can be beneficial to advancing our understanding of all aspects of the culture. These values can come from a variety of reasons, quality of material, prestige with obtaining the material, association of the material with a region or people, and so on. Projectile points are often taken at face value, while observations include material and dimensions, they often lack inference into if a material was chosen by an individual for personal reasons that may not appear at first glance in the archaeological record. By examining possible values of materials as perceived by the Oneota, we can hopefully better understand aspects of Oneota life that may be a result of human agency in the selection of materials pleasing to an individual for aesthetic reasons.

### **Constance Arzigian (University of Wisconsin-La Crosse), Wendy Holtz-Leith (University of Wisconsin-La Crosse) and Katharine Stevenson (University of Wisconsin-La Crosse)**

*Patterning in Oneota Pit Feature Distribution: Examples from La Crosse, Wisconsin*

Patterning in the distribution of Oneota pit features within a village varies by soil type, landscape position, density of occupation, and inferred activity. Excavations at La Crosse, Wisconsin, villages have demonstrated a dense and overlapping pattern of pit features within the heart of the village, and more dispersed distribution on the site margins. Different processes are also apparent in the deposition of feature contents and the nature of the final pit fill episode. Such patterning provides insight into the use and disposal of village debris and the search for clean soil for food storage.

### **Melissa R. Baltus (University of Toledo)**

*Woodland life on the Maumee: Evidence from a Recently Identified Site in Northwest Ohio*

In the summer of 2018, a University of Toledo Archaeological Field School survey in the floodplain of the lower Maumee River, Lucas County, Ohio, revealed a previously unreported multi-component pre-Columbian site spread across the first and second terraces of the floodplain. Limited test excavations at varying elevations on those terraces yielded midden and an intact pit feature. The projected size of the site, the presence of intact sub-surface features, and the amount and type of material recovered suggest this minimally-disturbed site holds potentially significant information on the Woodland and Late Pre-Contact occupations of Northwest Ohio. This poster presents the results of excavations and preliminary analysis.

### **Emily R. Bartz (University of Florida)**

*Grand Island Pit Features: A Performance-Based Interpretation*

Pits are one of the Midwest's most common archaeological features, serving a variety of functions from subterranean storage features to basins for cooking. In this study, I investigate pit features from a Terminal Woodland period site on Grand Island along the southern shore of Lake Superior. A performance-based approach is used to consider pit stratigraphy, macrobotanical remains, radiocarbon dating, and other contextual evidence in order to investigate pit feature function at this coastal site. By understanding the distinct function(s) of a pit or group of pits at the site-level, the needs of the people who inhabited that landscape are better understood. In this paper, I explore how the performance characteristics of these features can be used to broaden our interpretive potential and help guide our mental constructions for their functional interpretation.

### **David W. Benn**

*Unified Theory of Cosmogram Decorations on Potteries of the Upper Midwest: Part III Late Woodland Period*

The Late Woodland pottery decorative tradition was an enduring symbolic system shared by women in the upper Midwest. Cosmograms in pottery motifs trace three universal metaphors of the Woodland era belief system. 1) Cooking vessels were feminine spirit-beings. 2) The Woodland culinary vessel represented her biological destiny as the reproductive vessel for humankind. 3) The cooking pot was a mandala of cosmograms expressing daily life, ritual practice, and cosmology. Late Woodland pottery decorations, including Madison ware and other contemporary potteries from Illinois, Iowa, Missouri, Wisconsin, and Minnesota, are illustrated to analyze the meaning of cosmograms in decorative designs. The basic motif was a horizontal belt of cordage/fabric impressions or finely trailed lines in geometric and some figurative motifs often bordered by cordage or tooled impressions on the upper rim. This design and its motifs represented the "web" of all beings from the perspective of the earth's surface, where spirit-beings from Above and Below realms interacted with human beings.

### **Colin Betts (Luther College)**

*Geophysical Investigations at the Lane Enclosure Oneota Site (13AM200)*

The Lane Enclosure site is one of the few remaining enclosure sites in northeast Iowa, and is the only one that is firmly tied to Oneota tradition habitations. Late nineteenth and early twentieth century maps of the site show a circular ditch and embankment at the site, but differ on the exact structure of the enclosure. Multiple excavations over the past century have provided evidence for fifteenth and seventeenth century Oneota habitation of the site – however they have been poorly documented. Gradiometer and resistivity surveys were conducted at the site in June 2018 with the intent of addressing three primary research goals: to more precisely delineate the ditch and embankment that comprise the enclosure, to document the locations of the previous excavations, and to provide details about the relationship between the enclosure and the associated Oneota habitations.

### **Steven L. Boles (Illinois State Archaeological Survey)**

*Introducing the Copelin Valley Clovis Site: Kentucky's Best Kept Paleo Secret*

Since 2014 I have been recording Clovis assemblages in private collections from the Copelin Valley in Hart County, Kentucky including a plethora of material from the Copelin Valley site (15HT108). Collections from this site and neighboring sites indicate that the Copelin Valley was extensively utilized by Clovis groups. The assemblages include everyday toolkits (projectile points, scrapers, blades, cores, etc) as well as intensive biface production predominately from locally available Sonora chert. Data collected thus far is discussed as well as brief regional comparisons and tentative interpretations.

### **Samantha Bomkamp**

*Digging into Collections: Casas Grandes Ceramics Rediscovered*

The Milwaukee Public Museum houses over 100 ceramic items from Casas Grandes (Paquimé), Mexico but they have never been closely examined. My thesis research works to unveil the mysteries of these beautiful polychrome vessels to further the understanding of this UNESCO World Heritage site. I performed ceramic analysis in order to determine typology from each vessel. I have also analyzed and photographed vessels from two other museum collections (Museum of Northern Arizona and Amerind Foundation) from the same donor. Through comparative analysis, I hope to determine stylistic patterns between types and trends between three collections from the same donor.

### **Sarah A. Boncal (University of Wisconsin-Milwaukee)**

*Inherited Consequences: Evidence of Fetal Alcohol Syndrome in the Milwaukee County Poor Farm Cemetery*

Vertebrae possess the potential to provide invaluable insight concerning not just the anatomical consequences of physical activities, but also the social consequences of spinal health and its impact on a person's quality of life. For example, Fetal Alcohol Syndrome (FAS) results from alcohol exposure in utero that causes physical defects, cognitive problems, and social issues diminishing a person's ability to function or cope with daily life. FAS also frequently fuses the 2nd and 3rd cervical vertebrae, a condition observable osteologically. As part of an ongoing project to assess the spinal health of impoverished and/or marginalized adults recovered from the Milwaukee County Poor Farm Cemetery 2 individuals are examined and analyzed for a variety of spinal conditions and modifications, including FAS. This poster presents data recovered from five individuals who potentially suffered from FAS in addition to other reactive spinal pathologies and morphological alterations.

### **Joshua S. Boone (Illinois State University) and Maria O. Smith (Illinois State University)**

*Squatting Facets in Woodland Populations*

Three Woodland burial mound locations in Illinois, Albany (~200 A.D.), Kuhlman (650-780 A.D.) and Schroeder Mounds (900-1150 A.D.) were examined to determine the differences in habitual sitting posture between the populations. The femur, acetabulum, patella and proximal tibia were all analyzed to determine the frequency of a variety of facets. As expected, several of the facets occurred in greater frequency than in the other populations. When inspecting proximal tibias from the samples, the rate of patellar imprints exceeded expectations, proving to be significant, suggesting they often sat on their knees. A similar pattern appears with anterior cervical imprints (Fossa of Allen) through the different samples. In addition, a possible correlation between two different skeletal markers (Poirier's facet and acetabular lipping) appear to be present. A possible new facet on tibial plateau was observed, appearing to be the result of sitting habitually in a 'W' position since childhood.

### **Laura M. Bossio (University of Michigan)**

*Investigating Late Archaic Trade and Exchange in Southeast Michigan*

The Late Archaic in the Great Lakes region is traditionally characterized by increased sedentism, the exploitation of broad-spectrum subsistence, the use of cemeteries, and the formation of extensive trade networks. While exotic materials have been known to be a component of the Great Lakes mortuary tradition for some time, the trade networks that must have existed are not well understood. This poster presents some of the data relating to trade and exchange in the western Lake Erie region (including southeast Michigan, southwestern Ontario, and northern Ohio) and analyzes some hypotheses that have been proposed to explain and describe these trade networks. A preliminary research plan addressing the question of how trade and exchange operated during the Late Archaic in southeastern Michigan is presented, and what this means for our understanding of these Late Archaic people is discussed.

### **Janet G. Brashler (Grand Valley State University) and Donald H. Gaff (University of Northern Iowa)**

*Late Prehistoric Pit Features: A View from Southwest Michigan*

Over the last 12 years the authors and enthusiastic supporting staff and students conducted research at a number of sites along the Grand and Muskegon Rivers in southwest Michigan. Those projects, including our work in 2018, focused on a variety of sites with pit features evident at the surface by circular depressions, which in our Muskegon River Valley research, occupy a distinctive landscape that hosts fields of empty dated Late Prehistoric pits as well as other features and occupations. This paper presents our understanding of the formal attributes and chronology of these features, and their relationship to other newly discovered sites on the landform. Finally, we seek to situate the pits within both a regional and chronological context.

### **James A. Brown (Northwestern University)**

*The Late Prehistoric Continuum at the Edge of the Prairie Peninsula*

This paper examines the Lake Koshkonong locality in terms of a broad ecological framework forefronting cultural adaptation to the northern edge of the Prairie Peninsula. Relevant to this framework the archaeology of the Upper Illinois River Valley and the Lake Michigan Basin. Crucial to the nature side is the location and distribution of reliable aquatic resources; on the cultural side is the size and organizational standing of local communities and larger political entities.

### **Blaine Burgess (Beloit College) and Dana Mineart (Iowa State)**

*The Golden Eagle Site (Illinois): An Attribute Analysis of Lithics*

The Golden Eagle site (11C120), Calhoun County, IL is a presumed Middle Woodland (ca. 50 cal BC—cal AD 400) mound-and-enclosure site located on the Deer Plain Terrace near the confluence of the Mississippi and Illinois Rivers. Artifacts, while uncommon, represent the Archaic through Mississippian periods. Lithics can be used to interpret technological, cultural, and chronological patterns. Because lithics are the dominant artifact type at Golden Eagle, this is a promising approach for understanding this enigmatic site. We conducted an attribute-based analysis of debitage from 41 excavation units, and recorded attributes for 2372 lithics: chert type, weight, cortex, retouching, heat treatment, average thickness, and whether it is uniface or biface. Our goal is to understand lithic accumulation temporally and spatially in order to reveal cultural tendencies, which can help determine the function of the site on its own and place it in regional context.

### **Jarrold Burks (Ohio Valley Archaeology, Inc.) and David Lamp**

*Locating New Earthwork Sites in Old Aerial Photographs: Recent Discoveries in Central Ohio*

Ohio is home to many hundreds of Woodland period enclosure sites. Nearly 600 were presented in the 1914 Archaeological Atlas of Ohio. Few of these are still visible at the surface, and fewer yet are preserved in parks or conservation easements. Over the last two years, we, and others, have been working to identify enclosure sites in old aerial photographs, including USDA photos from the 1930s through about 1980, USGS imagery accessed via Earth Explorer, and Google Earth imagery. In this presentation we summarize our ongoing results for several counties in central Ohio, with some details on enclosure size and location. Our efforts have identified dozens of previously undocumented enclosure sites, as well as locating additions to known sites. Enclosures appear to be common at major stream confluences; and where there is one enclosure site, often there are others within one or two kilometers.

### **Amanda Butler (University of Illinois)**

*Modifying the Flesh: Scratchers and Scarifiers at a Mississippian Mission*

The Collins site is a Mississippian mission in East Central Illinois. A special temple atop the primary truncated mound, housed a unique set of bone scratchers/pins. This paper examines their use and importance within a Missionizing framework.

### **Michael Campbell (University of Toledo)**

*A Preliminary Analysis of the Harmeyer Site*

The Harmeyer Site, 33LU40, is situated in the lake plains on the western side of Lake Erie in Lucas County, Ohio. Today, the site sits mostly amongst farm land. Many pieces of ceramic sherds and lithic debris were found via surface collection in a plowed field. This poster will present a preliminary analysis of this extant collection and will be contextualized within the Lake Erie landscape and nearby mounds and groups. This research is of great importance as it can help provide answers to many questions about people in the Woodland period.

### **Natalie Carpiaux (The Field Museum) and Richard W. Edwards IV (Commonwealth Heritage Group, Inc.)**

*From Cache Pits to Middens: Navigating the Pitfalls of Feature Interpretation*

Refuse pits have long been known as troves for archaeological data. Traditionally they contain a significant breadth and quantity of materials, thus offering researchers an unparalleled glimpse into prehistoric life. However, like most archaeological contexts, they are fraught with complicating factors, necessitating nuanced interpretations. In the Koshkonong Locality of Wisconsin, there is an abundance of large cache/refuse pits, which are a hallmark of village sites in the region. However, the long-term occupation of the sites and the continual reuse of the landscape through time has created a dense palimpsest. These issues have obfuscated diachronic analyses, household approaches, and interpretations of site organization. Two decades of research in the region has provided an abundance of data on Oneota lifeways, while necessitating the ongoing refinement of our interpretative framework of pit features. In this paper, we discuss some of the highlights of our growing appreciation of the complication of pits.

### **Silas L Chapman (Illinois State University)**

*Use-Wear Analysis of Lamellar Blades at the Mound House Site*

Mound House is a unique and intriguing Middle Woodland site within the Lower Illinois Valley. Both mounds and habitations are present at this site in relative close proximity to each other and has been termed a “regional symbolic center”, which would have served to bring dispersed Middle Woodland communities together at Mound House during certain times of the year for ritual and social activities. The goal of this research is to conduct use-wear analysis on bladelets at the Mound House site, which will demonstrate what functions this type of tool had at Mound House. Use-wear analysis will allow a clearer understanding of what activities Middle Woodland people were using the site for. This research seeks to understand the role of bladelets in the lives of people who occupied the Mound House site and what it can say about the lives of broader Middle Woodland and Hopewell people.

### **Angela R. Collins (University of Iowa, Office of the State Archaeologist), Mary C. De La Garza (University of Iowa, Office of the State Archaeologist), John F. Doershuk (University of Iowa, Office of the State Archaeologist) and Elizabeth C. Reetz (University of Iowa, Office of the State Archaeologist)**

*Thermal Eye in the Sky: Update on Iowa's Digital Archaeology Initiatives*

The University of Iowa (UI) Office of the State Archaeologist (OSA) has rapidly developed its digital archaeology capabilities to reflect emerging technological opportunities that contribute to our mission to develop, disseminate, and preserve knowledge of the human past. We are exploring multiple initiatives within the realm of “digital.” Our goals include improving the management and delivery of information on Iowa’s archaeological sites, using drones to capture high resolution imaging for thermal and photogrammetric analyses; developing a variety of websites and mobile apps for research, fieldwork, and heritage tourism; and 3D scanning and printing. OSA staff are available to consult and hire to solve a myriad of digital archaeology challenges. Our partners include tribal, federal, and state units of government and archaeological organizations across the Midcontinent.

### **Aaron Comstock (Ohio State University), Robert Cook (Ohio State University), Mark Schurr (University of Notre Dame) and Sachiko Sakai (California State University, Long Beach)**

*Chronological Complexity of the Guard Site: Combining AMS, OSL, and Fluoride Dating*

Fort Ancient villages were complex residential arrangements that grew and shifted throughout their duration because of factors like population growth, household abandonment, and renovation. Since it is unlikely these villages were occupied for more than a century, examining fine-grained chronological patterns is difficult archaeologically. The Guard site is perhaps one of the best studied villages in the Eastern Woodlands in this regard and provides a model for using multiple chronometric techniques to reveal patterns of village growth and change. This paper summarizes results of AMS, OSL, and fluoride analyses focused on (1) chronologically anchoring the occupation of Guard within regional chronologies, (2) examining patterns of household growth over time, and (3) examining changes in pottery styles within the village over time. This multi-method approach provides a rich understanding of the occupation of Guard as well as a way to move beyond the limiting nature of traditional dating approaches.

### **Aaron Comstock (Ohio State University), Robert Cook (Ohio State University) and Marcus Schulenburg (University of Wisconsin - Milwaukee)**

*Fort Ancient Beginnings: The Guard Site in Regional Context*

The papers in this session outline findings from excavations at the Guard site, the results of which point to migration and ethnic hybridity producing one of the first villages of maize farmers in the Middle Ohio Valley. These findings are at odds with traditional models of gradual cultural development in the region, indicating significant variation within the Fort Ancient cultural area. This paper examines contemporaneous early Fort Ancient communities in the Ohio Valley and compares them with neighboring Mississippian communities in terms of community layout, residential architecture, and pottery production. Findings confirm that at least during the early Fort Ancient period, regional variation was substantial, and that the southwestern portion of the Fort Ancient culture area was strongly influenced by neighboring Mississippians. We are now at a point where detailed datasets allow us to explore and compare developmental trajectories within and between regions instead of applying pan-regional models.

### **Della Collins Cook (Indiana University), Nell Krahnke (University of San Francisco) and Beatriz Barros (Indiana University)**

*North Mounds and North Village, Clinton County Illinois: Bioanthropology*

Gregory Perino's 1962 excavation at North Mounds and Village produced a small series of Hopewell remains curated at IU. Two of three individuals he reports from Mound 2 Tomb A were recovered: an elderly male and an adolescent female. We relate the two crania to Perino's photo of Tomb A. Surprisingly, the cranium surrounded by Hopewell cache blades is the adolescent female. The five individuals from Tomb B are represented by paired femora and crania: two males and three females. A microcephalic woman from this elite mortuary context suggests that disability did not compromise social status. An elderly male with healed fractures and extensive arthritis comes from the multi-component midden. His fractured left femur is similar in density to the right femur, indicating that he was ambulatory, but it is much shorter. Secondary arthritic changes show that gait was compromised. Perhaps prone burial in a midden context reflects his impairments.

### **Lawrence A. Conrad (Western Illinois Archaeological Research Center), David H. Dye (University of Memphis), Robert V. Sharp (Independent Researcher)**

*The Earth Mother in the Illinois Valley: A Female Effigy Bottle From the Orendorf Site, Fulton County, Illinois*

A female effigy bottle fragment from a midden at the Moorehead-Horizon Orendorf site (Settlement C) in Fulton County, Illinois appears to be a unique import from the upper Midsouth, where they often circulated as ritual sacra among various Middle Mississippian polities. Female effigies found in the Lower Mississippi and Cumberland valleys are thought to represent the Earth Mother, a deity supplicated and venerated to ensure safe passage along the Path of Souls (Milky Way), and to bring about their eventual return through rebirth. The fragment considered here predates the period when this representational form, and presumably associated religious sodalities became commonplace in the Lower Ohio Valley (Caborn-Welborn and Late Kincaid) southwestern Illinois and in the American Bottom during Sand Prairie times or later. Female effigy bottles do not appear in contemporary Larson-, Crabtree- or Crable-phase sherd and vessel collections from the Central Illinois Valley.

### **Robert Cook (Ohio State University), Aaron Comstock (Ohio State University), Marcus Schulenburg (University of Wisconsin - Milwaukee) and Jarrod Burks (Ohio Valley Archaeology, Inc.)**

*Introducing the Guard Site: Context, Layout, and Key Research Questions at One of the First Fort Ancient Villages*

The Guard site is providing much needed data on one of the earliest Fort Ancient occupations in the lower Great Miami Valley. Here we provide a brief overview of Fort Ancient's origins, Guard's environmental, temporal and cultural context, and introduce the key characteristics of the site. We particularly focus on current understanding of the overall site based on the magnetic gradiometry survey and ground-truthing over the last several years. We have learned much about the variation of feature forms, the delineation of the plaza from ritual spaces, evidence for solar alignments, and overall site formation processes. Ongoing research questions are focused on the integration of Hopewell mounds into this subsequent occupation and the ritualizing of non-local Mississippian elements in the plaza with a hybrid composition to the residential zone.

### **Monica Corley (University of Central Arkansas) and Kathryn Kuennen (University of Iowa)**

*Why is Archaeological Little Barley Naked: A Carbonization Experiment*

Little barley grains (*Hordeum pusillum*) are frequently found in the archaeological record carbonized and without the hull (naked) or other chaff. Processing experiments with little barley have failed to remove the hull, leading researchers to argue that the ubiquity of "naked" little barley indicates an ancient domesticated variety existed that is now extinct. This domesticated, hullless variety of little barley would be ideal for its easy harvesting and processing. We wanted to know if the absence of chaff in the archaeological record could be the result of burning. In this experiment, we carbonized modern wild little barley grains at 450° for three and six-hour increments in order to determine whether or not various parts of the chaff would be destroyed during carbonization. Our results indicated that carbonization does not result in "naked" little barley grains, providing further support for the conclusion that archaeological little barley is an extinct domesticate.

### **Jamie Countryman (University of Chicago), Madeleine McLeester (University of Notre Dame) and Mark R. Schurr (University of Notre Dame)**

*Hidden houses and a hazy hexagon: ground-truthing remote sensing data at Middle Grant Creek*

In 2018, the Middle Grant Creek (MGC) project undertook excavations in two new areas of the site to confirm and clarify features identified through an aerial thermal imaging survey, historical aerial photographs, and differential vegetation growth: a possible earthwork enclosure (dubbed "the Hexagon") and an anomaly suggestive of a house basin. This paper discusses the research objectives, methods, and results of these excavations,

and the implications for the detectability of such features at similar sites in the western Great Lakes. Qualities of the soil and the effects of deep plowing by Euro-American settlers in the late 19th to early 20th centuries render these features almost imperceptible through standard excavation procedures. Our work at MGC simultaneously demonstrates (A) the likelihood that many late prehistoric sites are significantly larger than previously considered, as well as (B) the impact of colonial erasure on the material record of pre-contact indigenous societies in North America.

### **Laura J. Crawford (The Ohio State University) and Aaron Comstock (The Ohio State University)**

*Mississippian Fuel: The contextual diversity of firewood taxa at Turpin*

Turpin is an early Fort Ancient site in southwest Ohio occupied between AD 1050-1275. Recent work has produced evidence of an intrusive Mississippian community characterized by wall-trench structures and other indicators of non-local connections. Relatively little work has focused on the paleoclimate or paleobotany of the site, particularly the availability and usage of woody taxa in everyday and ritual contexts. This project examined 489 carbonized wood samples recovered from midden and wall trench structures, as well as one pit that contained feasting refuse. Findings reveal a diverse array of locally available species in these contexts. The feasting context contained fewer species, many of which are frequently used for cooking and smoking meats. Results suggest that tree species were sometimes specifically targeted for certain tasks and that further examination of carbonized wood may produce key insights into prehistoric life.

### **Benjamin Cross (Ohio State University) and Andrew Weiland (Ohio State University)**

*The Guard Site Setting at the Mouth of the Great Miami River: A Common Mississippian Niche*

Many Mississippian cultures throughout the Midwest and Southeast developed primarily within rich floodplain settings that Bruce Smith described as the "Mississippian adaptive niche". In this model, Mississippians targeted specific locations along major floodplains due to the easily-tilled, nutrient rich soils deposited by annual floods and the large amount of plant and animal resources often located around the associated oxbows and backwater swamps. While there are a few notable exceptions to this pattern (e.g., Aztalan), the Guard site (12D29) fits well with this model. Located at the confluence of the Great Miami and Ohio Rivers, Guard's location may have been selected due to Mississippian migrants specifically targeting this location for its perceived energy sources in a familiar niche to which they were well adapted. Utilizing historical records, geospatial analysis and archaeobotanical samples to characterize this area we propose that Guard fits neatly within Smith's model.

### **Jamie Davis (Ohio Valley Archaeology, Inc.)**

*How Big is Big: Comparing the Size of Earthworks in the Ohio River Valley through Photogrammetric Analysis*

Photogrammetry has proven to be an effective tool for mapping the subtle surface features of prehistoric earthworks. The technique has found portions of earthworks at Portsmouth and Newark, Ohio that were previously thought to have been destroyed by modern development, and unknown features of the Snake Den Works in Pickaway County, Ohio. But, the ability to accurately calculate the volume of earthworks has proven to be a truly fascinating aspect of photogrammetry models. By knowing the precise volume of an earthwork, archaeologists can explore the effort needed to build the earthwork in terms of time and labor force. This poster compares the volumes of three very different earthworks: Serpent Mound, the Newark Octagon and Observatory Circle, and Grave Creek Mound.

### **Paige M. Dobbins (Illinois State University)**

*Childhood Pathologies as Indicators of Community Health in Four West-Central Illinois Woodland and Mississippian sites*

Temporal variation in subadult health status was examined in association with subsistence and settlement modifications in four pre-Columbian skeletal samples from the Mississippi River valley of West-Central Illinois. This study was performed on a sample of 98 subadults from temporally sequential mortuary contexts (Albany [11WT1], Kuhlman [11A163], Schroeder [11HE177], and Dickson [11F10] Mounds) representing the transition from the Middle Woodland to Mississippian period and sought to provide further information on community health and settlement patterning. This was accomplished through identification of porotic hyperostosis and cribra orbitalia in subadults as reflective of iron-deficient and megaloblastic anemia. Subadults of Kuhlman (AD 600-1050) and Dickson Mounds (AD 800- ~1250) shared patterns of higher frequencies of both pathologies when compared to the Albany (BC ~200-AD 300) and Schroeder Mounds (AD 900-1150) samples implying a greater likelihood of nonspecific disease, parasites, and malnutrition within these sites, circumstances closely associated with aggregate villages and sedentism.

**Paige M. Dobbins (Illinois State University) and Andrew R. Pavlenda (The University of Akron)**

*Tile drains and Environment Pains: Utilizing Remote Sensing and GIS to Explore a Spatial Relationship Between Tile Drain Clusters and Prehistoric Sites in Adams County Illinois*

Through use of remote sensing and GIS, this study sought to identify historic drainage systems and examine their spatial relationship to prehistoric sites. GPS locations of habitation sites from Adams county, Illinois were compared to distributions of identified tile drains utilizing ArcGIS 10.6 to determine if any relationship existed between tile drain and habitation site clusters. Tile drains were classified utilizing a modified version of the tile drain identification method developed by Thayn et al. (2011) and identified through SWIR reflectance differencing performed on free LandSat imagery with ENVI 5.3. The results of this study illustrate Adams county site clusters are distributed between two large drained areas while over 50% of sites were found within “Not Likely Drained” and “Not Drained” regions. The findings of this study give insight into prehistoric decision making and could imply that drained areas represent regions that were uninhabitable wetlands prior to their historic draining.

**Zoe Doubles (Center for American Archeology), Emma Jones (Center for American Archeology), Kenzie May (Illinois State University), Esmeralda Ferrales (New Mexico State University), Jason L. King (Center for American Archeology) and Jane E. Buikstra (Arizona State University)**

*Recent Investigations of the Eastern Embankment at Golden Eagle (11C120)*

The Golden Eagle site (11C120), located 8 km upstream of the confluence of the Mississippi and Illinois Rivers in Calhoun, County, is the only documented Illinois mound and enclosure site. William McAdams first reported the enclosure in 1881. CAA archaeologists mapped the site and profiled a modern erosion ditch in 1973, noting key differences in the embankment fill from the surrounding soil. Fieldwork during the 2014-2017 seasons at the Golden Eagle site (11C120) demonstrated the existence of an anthropogenic ditch-and-embankment, reporting construction sequences of layered sandy fill. In 2018, we excavated 16 1x2 m units to test for the presence of embankment fill north of Mound 1 near the 1973 CAA erosion ditch profile. Our results show construction techniques here were similar to other portions of the embankment; however, artifacts from the 2018 units suggest a Late Woodland origin for this portion of the structure.

**Sean B. Dunham (US Forest Service)**

*Cache Pits: Reflections from the Ne-con-ne-pe-wah-se site*

We excavated a series of surface depressions at the Ne-con-ne-pe-wah-se site in west Michigan in 1994. The results determined that the pits were used for storage by a mid-19th century Anishinabe (Ojibwe or Odawa) family. The relatively recent age of the features and the soil chemistry enabled botanical preservation which facilitated the identification of seeds associated with plants that were used for food and medicinal purposes. The pits and their contents, in concert with ethnographic and historical information, helped us determine that the site was created as a result of the activities of Anishinabe people gathering fruits and nuts across the landscape and stored them at this location. Since this project was completed, similar sites have been explored across the region. This paper serves as an introduction to this session as well as a reflection on what we learned nearly 25 years ago.

**Patrick R. Durst (Illinois State Archaeological Survey), Robert G. McCullough (Illinois State Archaeological Survey) and Thomas J. Loebel (Illinois State Archaeological Survey)**

*The Mitchell Initiative: Archaeological Investigations in the Greater Mitchell Mounds Region of the American Bottom*

The Illinois State Archaeological Survey (ISAS) recently began conducting archaeological investigations adjacent to the I-270 corridor in Madison County, Illinois as part of a proposed Illinois Department of Transportation (IDOT) road improvement project. In relation, ISAS personnel also completed research based surveys of nearby properties in order to glean new information on the Mitchell site, a poorly understood Mississippian Mound Complex. Through cooperation with private landowners and local farmers, this has included a combination of pedestrian survey, geophysical survey, and geomorphological investigations to identify the original extent of the site and what now remains.

**Richard W. Edwards IV (Commonwealth Heritage Group, Inc.)**

*Risky Landscapes: Agriculture and Upper Mississippian Societies*

While refuse pits traditionally offer researchers a significant breadth and quality of materials, these archaeological features are fraught with complicating factors. In the Koshkonong Locality of Wisconsin, there is an abundance of large cache/refuse pits, which are a hallmark of village sites in the region. However, the long-term occupation of the sites and the continual reuse of the landscape through time has created a dense palimpsest. These issues have obfuscated diachronic analyses, household approaches, and interpretations of site organization. Two decades of research in the region have provided an abundance of data on Oneota lifeways, while necessitating the ongoing refinement of our interpretative framework of pit features. In this paper, we discuss some of the highlights of our developing methodologies for analyzing these complex contexts.

**Kjersti E. Emerson (Illinois State Archaeological Survey) and Thomas E. Emerson (Illinois State Archaeological Survey)**

*Huber in the Protohistoric Shadowlands*

Analysis of the previously excavated Palos site in northeastern Illinois has brought to light new evidence suggesting it is one of possibly only a few protohistoric Huber occupations in the region. Trade beads and native artifacts made from European derived copper were present at this single-component Huber site, which radiocarbon evidence places no later than the early seventeenth century. Ceramic evidence further suggests Huber potters were beginning to incorporate stylistic attributes more often seen on wares associated with groups arriving later in Illinois, and coming from the east (i.e., Danner and Keating wares). The presence of European materials solidly within a Huber phase context along with the observable material changes in Huber ceramic technology provide an unprecedented and unadulterated glimpse of changes occurring at the juncture of late prehistory and history in the Illinois Country.

**Madeleine G. Evans (Illinois State Archaeological Survey), Dale L. McElrath (Illinois State Archaeological Survey) and Adam A. Tufano (Illinois State Archaeological Survey)**

*Middle Archaic Occupations at the Edging Site, St. Clair County, Illinois*

Decades of archaeological research in the American Bottom of western Illinois has produced one of the most robust regional chronologies in the Midwest, but, until recently, a long span dating to the Middle Archaic was largely devoid of information. Investigations at the Edging site encountered dozens of pit features, from which eleven radiocarbon assays were recovered, representing multiple Middle Archaic occupations. Based on the data from this site, we propose that the current Tep complex be identified as a phase in the American Bottom culture sequence, and we are extending the Falling Springs phase farther into the past than previously recognized. Our results suggest that the site, and perhaps the American Bottom in general, was intermittently occupied and served as a buffer for populations with more stable residences in surrounding areas during much of the Middle Archaic period.

**Timothy Everhart (University of Michigan, Museum of Anthropological Archaeology)**

*The Woodland Ohio Monumentality Project (W.O.M.P.): Report from the 2018 Field Campaign at the Junction and Steel Group Sites in Ross County, Ohio*

The Woodland Ohio Monumentality Project (W.O.M.P.), established in 2016, investigates the diversity of Woodland Period earthen monuments and the variability in associated ceremonial practices in Ohio. To date, this research has focused in the Central Scioto River Valley of Southern Ohio. The 2018 field campaign involved shovel testing, coring, geophysics, and horizontal excavation at the Steel and Junction Group sites. These sites represent two of the three conglomerate sites, with ditch and embankment enclosures of differing designs and of various scales, in the central Scioto River Valley. The W.O.M.P. project represents the first excavations at any conglomerate sites in this region, filling in a critical gap in our datasets and understandings. Results from this research lend insights into the construction pace and timing, use, and architectural complexity of the monuments of the Junction and Steel Groups.

**Patrick Finnigan (University of Notre Dame) and Kevin Walsh (University of Notre Dame)**

*Uncommon Brick: Defining Historic “Notre Dame” Brick Through Anthropological and Compositional Analysis*

Homogeneity of unreinforced clay masonry among University of Notre Dame buildings built of “Notre Dame” brick is valued for structural and aesthetic purposes. In the past, a “know it when you see it” method of describing and identifying these bricks ex situ has been inadequate. This paper serves to introduce these bricks into the archaeological record in order to establish their cultural and material definition, as well as to provide a reference print for field identification of historic unreinforced clay masonry by other disciplines and fields of study. Mechanical and chemical analysis of these bricks has helped to understand their position as artifacts, as well as their application for adaptive reuse and recycling as building material.

**Kathryn Frederick (Michigan State University)**

*Now and Later: A Cross-Cultural Comparison of Hunter-Gatherer Food Storage Practices*

The proliferation of subterranean food storage during the Late Woodland period in northern lower Michigan indicates a dramatic change in settlement and subsistence strategy. One method for understanding the decisions driving such a change and the behavior correlated with the act of food storage, is an ethnographic/ethnohistoric cross-cultural comparison. This paper will discuss recent research on food storage practices of ethnographically recorded hunter-gatherer groups from across the globe. Data was collected on a series of variables for each group and analyzed for patterns of use. Archaeological data from subterranean storage features in northern lower Michigan were then compared against the hunter-gatherer dataset; with the goal of determining if the behavior seen archaeologically in Michigan correlates with the patterns of use found in other hunter-gatherer groups. Further, this paper emphasizes how patterns in the use of food storage can inform on socio-economic changes.

**Shelby Frideger (Ball State University), Cecilia Szmuto (Ball State University), Chyan Gilaspy (Ball State University), Matthew Purtill (Ball State University) and Kevin C. Nolan (Ball State University)**

*Searching for Singapore: Identification and Evaluation of Archaeological Resources in an Abandoned 19th Century Lumber and Mill Town in Michigan*

The AAL conducted Phase I archaeological survey the proposed construction of a new marina near Saugatuck, Michigan in an area potentially including portions of the Village of Singapore (20AE619). Singapore represented an early Michigan lumber and mill town that contained a number of residences, multiple saw mills, a company store, a 'wildcat' bank, warehouse, town hall, a cemetery, and a hotel/boarding house. The village was occupied between 1837 and 1896. The investigation included 17.8 acres of GPR, shovel testing, and auger testing yielding hundreds of artifacts and dozens of features. Most historic artifacts and features are interpreted as representing the remains of Singapore. Several areas retained intact and NRHP eligible deposits. We present the results and preservation initiatives that resulted from this project.

**River Fuchs (Centre College) and Joshua Raymond (Arizona State University)**

*Exploring Contemporary Agricultural Identity: Community, Landscape, and Connections to the Past*

Archeologists often perceive a divide between the local community and "arkies," as well as an assumption that private landowners neglect to report finds for fear of outside interference. By exploring the identities, perceptions, and suggestions of local farmers, archeologists can gain insights on how to better relate to and communicate with community stakeholders concerning shared concerns of preservation and stewardship. During the summer of 2018, eight students from the Center for American Archeology conducted exploratory surveys of 11 farmers in Calhoun County, Illinois, in order to understand how they identify with their heritage, the landscape, the pre-Columbian past, and the implications of outside influences for archeologists. These exploratory interviews incorporated participant observation, freelists, material probing, and ranked and open-ended questions, yielding preliminary conclusions of the value of heritage, landscape, and personal sovereignty.

**Pete Geraci (University of Wisconsin-Milwaukee)**

*The uses and limitations of LiDAR technology in archaeological research*

Light detection and ranging (LiDAR) technology is rapidly becoming an indispensable tool in the archaeological toolbox. Recent advances in technology and affordability have enabled archaeologists to locate thousands of previously unknown archaeological features in densely vegetated and remote areas and these discoveries are already contributing to our understanding of complex cultural processes like urbanization. In Illinois, a taxpayer-funded program has funded the collection, analysis and distribution of high-accuracy LiDAR imagery for the entire state. This opportunity has created a minor revolution in archaeological practice, particularly in the prospection, management, and analysis of the thousands of Native American earthworks distributed across the state. This paper will discuss how I and other researchers in Illinois have applied and integrated LiDAR imagery into our research, but it will also address some of the limitations of LiDAR and will provide a few recommendations on how to overcome these challenges in the future.

**Maclaren Guthrie (Indiana University Bloomington)**

*Bicentennial Buttons: Bridging Indiana University's Past and Present Through Archaeology*

As part of Indiana University's (IU) Bicentennial celebration, the Glenn A. Black Laboratory of Archaeology (GBL) and Wylie House Museum partnered to raise awareness of campus cultural heritage through archaeological excavations at the 1835 home of IU's first president, Andrew Wylie. Wylie House remained home to members of the Wylie family for nearly 80 years; Andrew's cousin and IU professor Theophilus A. Wylie and his large family lived there from 1859-1913. The GBL's 2018 field school investigated a subterranean greenhouse built into the Wylie House front lawn and uncovered 11 buttons of various styles, materials, and time periods. Buttons have been utilized for millennia and remain part of everyday material culture rendering them easily recognizable and accessible artifacts for public consumption. The Wylie House buttons discussed here have played an important role in engaging the campus and public communities and in highlighting the archaeological resources on IU's historic Bloomington campus.

**Jennifer R. Haas (University of Wisconsin-Milwaukee)**

*New Insights into the Early and Middle Woodland of Southeastern Wisconsin*

In southeastern Wisconsin, the period from circa 500 BC to AD 400 encompasses the Early Woodland and Middle Woodland periods. Marked by significant technological innovations, a robust understanding of these periods are hampered by a limited archaeological data set. Although many sites in the region harbor Early and/or Middle Woodland components, few sites have been subjected to large scale, systematic excavation.

Recent archaeological data recovery efforts at the Finch site (47JE0902) have yielded a wealth of information regarding Early and Middle Woodland lifeways. As a domestic habitation, the Finch site assemblage thus far constitutes only the second Early Woodland living space excavated in southeastern Wisconsin and the first Middle Woodland living floor excavation. This paper provides an overview of the Early and Middle Woodland site activities and architecture, culinary habits/subsistence, ceramic material culture, and AMS dates. How the Finch site relates to the region's culture history, including correlation with localized Early Woodland phases and the Middle Woodland Waukesha phase, is also discussed.

**Michael J. Hambacher (SEARCH, Inc.)**

*A Bountiful Landscape and Empty Cache Pits: Some More Insights on Food Processing and Storage from the M-231 Project in the Lower Grand River Valley of Michigan*

Cache pit sites are among the most common Late Woodland site types in the Upper Great Lakes. As locales where food and other economic resources were acquired, processed, and stored they form an integral part of a strategy of residential mobility, social and economic flexibility, and a range of broad social integrative mechanisms adaptations to a variable, seasonally abundant, and dispersed resource base. Despite the recent interest in these sites many aspects of their construction, use, abandonment, and social role remain unclear. Among these vexing issues is the seemingly empty nature of cache pits when they are excavated. Drawing primarily on data from the M-231 project this paper will examine the range of food stuffs that were processed and stored at the site, aspects of resource processing and feature taphonomy that influence the ability to recover evidence of feature contents, and some of the challenges in identifying and interpreting the use of these features and their contents.

**Sarah A. Hinkelman (Ohio State University), Aaron R. Comstock (Ohio State University) and Robert A. Cook (Ohio State University)**

*Lithic Tools and Production Debris at the Guard Site*

The lithic assemblage from the Guard site is comparable to other late prehistoric sites in the region and beyond. Our analysis focused on differences in sizes and ratios of production debris, variation of projectile points and formal tools, and distinction in raw material usage. Lithic reduction at Guard was clearly focused on the utilization of a bipolar reduction strategy focused on the production of triangular projectile points. Findings also support the interpretation that there is a divide in stone tool production and raw material choices between residential and plaza contexts at the Guard site, with higher quality raw materials and later stage reduction/resharpening being more common in the plaza and lower quality raw materials and all stages of reduction more concentrated in the residential locations. This paper concludes with a general exploration of the technological and social implications of stone tool production in this early farming community.

**Ryan J. Howell (Cardno, Inc) and Sean Dunham (US Forest Service)**

*Past in the Pines: The Archaeology of Historic Era Logging in Wisconsin*

The logging era in Wisconsin, spanning roughly from 1820-1920, formed a unique economic and social episode in Wisconsin history. Nineteenth and early 20th century logging produced a heavy environmental footprint that still dominates the Northern Wisconsin landscape and economy today. Moreover, the period also saw a highly mobile and transient use of the archaeological landscape leaving some well-defined archaeological site types, such as camps and town as well as a variety of ephemeral and hard-to-recognize archaeological deposits and sites. This paper reviews the archaeological context of historic logging in Wisconsin, some commonly associated site types and landscape features, and the artifacts diagnostic to logging-related sites.

**Meghan C. L. Howey (University of New Hampshire)**

*Cache pits and (or as?) ritual practice at the Cut River Mounds Site (20R01) in north-central Michigan*

Globally, archaeologists are increasingly approaching storage pits as features enmeshed in networks of social engagement. This is true for the subterranean storage, or cache, pits of the northern Great Lakes as well but the sparse number of excavated pits continues to pose interpretive challenges. That these features are often removed from habitation sites tends to hinder their identification and investigation. Being physically removed from sites, they can seem "removed" too from the archaeological story. This paper examines a case where pits were treated as removed from the main narrative at an important Late Woodland ceremonial mound site. Two pits from a cluster of over 40 were excavated during the last week of a multi-year field program. They produced surprising materials including significant ceremonial objects. While these pits appear spatially on the edge, here I foreground them conceptually in the center of the ritual practices at the site.

**Lucas S. Howser (Midwest Archaeological Research Services) and Steven A. Katz (Midwest Archaeological Research Services)**

*Breaking New Ground at Macktown: Initial Deployment of 3D Analysis and GIS*

Prehistoric cultural groups have occupied northern Illinois for thousands of years. In order to discover and interpret what they left behind, archaeologists utilize a variety of geospatial and 3D analytical tools. In particular, the archaeological site that rests upon the limestone bluffs, overlooking the Rock and Pecatonica Rivers at Macktown Living History Center has been intermittently inhabited by semi-nomadic peoples. So, Midwest Archaeological Research Services (MARS) organized and operated an archaeological field school in order to understand the extent, intensity, and overall function of the Macktown site. By implementing Geographic Information System software to identify the distribution and density from the artifacts found in 2017, a considerable amount of cultural material was recovered during the 2018 season (e.g. stone tools, ecofacts, and debitage). From carbon dating, diagnostic artifacts, and the utilization of 3D rendering software, MARS has discovered that the extractant occupation of the site extends from the late archaic period (~4,500 year before present) to European-American contact.

**John Jadrich and Morgan Tanner**

*Calhoun County Landscape, Infrastructure & Cultural Identity*

In July of 2018, we conducted an exploratory ethnographic research project on behalf of the Center for American Archeology. This research, centered in Calhoun County, Illinois, focused on the natural landscape and the inhabitants of the county. Our research included surveys and structured interviews meant to gather qualitative data about cultural identity, history, and agriculture. Our focus in this research identified the landscape as a prominent factor in shaping the cultural identity of the inhabitants in the region. The geographic isolation of this area has led to a paradox; to maintain their cultural identity, they must sacrifice elements of economic development. In turn, to benefit from economic and infrastructure development, they must give up a part of their cultural identity that they have held since the mid 1800's. In this poster, we explore the common themes that we felt were centered around the landscape and cultural change over time.

**Robert Jeske (University of Wisconsin - Milwaukee), Katherine Sterner (University of Wisconsin - Milwaukee) and Richard Edwards IV (Commonwealth Heritage Group, Inc.)**

*New Perspectives from Lake Koshkonong*

Historically, the Koshkonong Locality has played a pivotal role in our understanding of Oneota and human adaptation to the northern Prairie Peninsula. Hall's (1962) seminal work at Carcajou Point had a profound impact on future scholars (e.g., Gallagher et al. 1985; Overstreet 1978), which has essentially defined Wisconsin Oneota. New methods, theoretical perspectives, and data from research in the Koshkonong Locality have necessitated that we modify or abandon long-held assumptions about human adaptations to the region, and their relationships to people in other regions, in the 11th – 15th centuries AD. It is clear we need to re-conceptualize both archaeological taxonomy and past behaviors to achieve a more nuanced discussion of identity, interregional politics, subsistence, and trade.

**Robert J. Jeske (University of Wisconsin - Milwaukee)**

*The Social Landscape of 11th to 15th Century Lake Koshkonong*

Multiple lines of evidence provide the opportunity for a synthetic discussion of the origin, growth and waning of the human occupation of the Lake Koshkonong region between AD 1000-1450. Data collected over 20 years of excavations and survey support a model of human exigencies, interaction, agency, and constraints that is more complex and nuanced than previously thought. People in this region were more dependent upon maize, more engaged in violent activities, and more economically and socially independent of other contemporary groups than previously understood.

**Victoria Kiefer (Wisconsin Historical Society), Tamara Thomsen (Wisconsin Historical Society) and Caitlin Zant (Wisconsin Historical Society)**

*If You Can Build a Barn You Can Build a Scow: Analyzing Wisconsin's Great Lakes scow schooners and their impact on small town development.*

A scow schooner is a boxy hulled sailing vessel with flat bottom and vertical sides, more closely resembling a barge than a conventional sailing craft. These vessels had shallow drafts that were well-suited for the unestablished harbors of small lakeshore communities. Because of their boxy shape, the scow required the simplest construction techniques that any layman could reproduce for very little money. Many varieties of scows were built depending on the quality of skill, material, and funding the builder provided. The scow schooner became the

life-blood of immigrant families, providing an entry point for many into the Great Lakes maritime trades as sailors, masters, and vessels owners. This paper will analyze and compare the history and construction of Wisconsin's scow schooners to discuss the variety in vessel type construction, their significance to small community development, and their impact on shipbuilding worldwide.

**Addison P. Kimmel (University of Iowa)**

*Persistence, Resistance, and Survivance: The Archaeology of 18th- and 19th-century Ho-Chunk Communities in Wisconsin*

Following initial European contact, Ho-Chunk groups remained in their homeland, stubbornly persisting despite the mounting challenges of removal and settler colonialism during the 18th and 19th centuries. Fairly little archaeological work has been conducted at Ho-Chunk sites dating to this turbulent period. Studies conducted in the 1960s and 70s by anthropological luminaries Bob Hall and Janet Spector at sites on Lake Koshkonong remain the most expansive examples of archaeological research on Ho-Chunk affiliated sites to date. Various CRM projects throughout Wisconsin have produced artifacts that may be related to historically-documented Ho-Chunk villages. More recently, efforts have been made to locate Ho-Chunk villages including the large 1820s settlement of Ke-Chunk near Beloit, to examine Ho-Chunk components of a pluralistic community at Gratiot's Grove, and to reevaluate Hall and Spector's earlier work. This recent surge of scholarly interest in 19th-century Ho-Chunk history and archaeology indicates a bright future for such studies going forward.

**Jason King (Center for American Archaeology), Jane Buikstra (Arizona State University), Natalie Mueller (Cornell University) and Joshua Raymond (Arizona State University)**

*Cultivating Opportunities: STEM Education and Research at the Center for American Archeology*

Integrative, participatory research and education programs are central to the Center for American Archeology's (CAA) pursuit of its mission of education, research and public service. Such programs provide students with formative research experiences as they pursue training for careers in archaeology and related disciplines. In 2018, eight students at the CAA participated in "Long-term Perspectives on Human-River Dynamics at the Confluence of the Illinois and Mississippi Rivers: Interdisciplinary Research for Students in Ecology and Archeology," a National Science Foundation Research Experiences for Undergraduates (NSF-REU) program that provided students with firsthand experience in archaeological, archaeobotanical, and ethnographic research focused on human-plant interactions in the Lower Illinois Valley. In this poster, we present details about the program and its connection to the broader research and education mission of the CAA.

**Susan M. Kooiman (Michigan State University), and Heather Walder (University of Wisconsin-Madison)**

*A Revised History of the Late Precontact and Historic Era Occupations of the Cloudman Site*

Recent reexaminations of pottery, copper objects, and glass trade beads using modern analytic methods have amended the occupational history of the Cloudman site, revealing new insights into the poorly understood settlement patterns and social interactions of various Upper Great Lakes groups between AD 1300 - 1700. The site, located on Northern Michigan's Drummond Island in Lake Huron, was once touted as the earliest contact period site in Michigan, based on apparent association of Iroquoian pottery with European-made trade goods relatively dated to ca. AD 1630. AMS dating of carbonized food residue collected from Late Woodland and Ontario Iroquois pottery vessels suggests some contemporaneous use of both styles and the culmination of occupation by pottery-making groups by AD 1500. Elemental analysis of glass beads suggests recovered trade items were likely manufactured post-AD 1650. The results enhance understandings of regional social relationships and population movements before and after the arrival of Europeans.

**Ian Kuijt (University of Notre Dame), Madeleine McLeester (University of Notre Dame) and Mark R Schurr (University of Notre Dame)**

*Experimental research on plant storage at Midewin Prairie, Illinois: Considering the shelf life of plant storage within subterranean pits*

The ability of people to develop and manipulate food in the New World, both wild and domestic, and to regularly overcome periods of food stress, represents a technological, social, and economic threshold in the human trajectory. Despite the widely recognized importance of plant storage, however, archaeologists have yet to understand the storage shelf life of different plants, such as corn, under different circumstances. Designed around prehistoric storage features from Midewin Prairie, Ill, this project seeks to integrate ethnographic observations of plant storage with experimental research involving the construction of replicated subterranean storage pits. This presentation outlines the research program for this three year study, including the use of remote sensors to gain multi-feature temporal data on temperature and humidity within storage pits, to better understand the process of food storage and the factors modifying the period of time that plants can be stored.

### **Douglas Kullen (Burns & McDonnell)**

*A Key to Rim Design Elements in Nineteenth Century Staffordshire Transferprinted Ceramics*

Petra Williams and Marguerite Weber produced two excellent collectors' guides to Victorian-era transferprinted ceramics manufactured in Staffordshire, England. These ceramics saw wide distribution across the United States during the mid- to late nineteenth century and are commonly found at residential sites from that period. Linked to known manufacturing date ranges, many of the designs can serve as reliable dating tools. However, the fragmentary condition of sherds found in archaeological contexts often makes identification of specific designs problematic. Through a systematic study of the various designs illustrated in Williams' and Weber's publications, I have identified categories of stylistic elements that occur on transferprint plate, saucer, and cup rims and have cross-referenced those design elements with specific, named transferprint patterns. Using this key can facilitate the identification (and dating) of highly fragmentary transferprinted rim sherds.

### **Emma M. Lagan (Ohio State University), Robert A. Cook (Ohio State University) and Christopher W. Schmidt (University of Indianapolis)**

*What they Ate: A Biological Perspective at the Guard Site*

Dental microwear texture analysis complements other archaeological and bioarchaeological analyses related to diet. Dental isotopic analysis and paleobotanical analysis at the early Fort Ancient site Guard (AD 1000–1300) both support interpretation of high maize consumption alongside supplemental foods (nut and mussel shell meat consumption is particularly prevalent in the paleobotanical and faunal assemblages, respectively). To further explore individual variation in dietary variation, this study conducted a three dimensional microwear texture analysis of mandibular first and second molars (n = 9) at Guard. Occlusal texture complexity (Asfc), anisotropy (epLsar), and textural fill volume (Tfv) were calculated to assess dietary hardness, toughness, and jaw movements during chewing. Initial microwear results support the dietary inferences from other sources, suggesting differential processing techniques. Further comparisons will be made within individuals' microwear and isotopes to understand dietary changes within a lifespan (childhood diet and pre-mortem diet), as well as within-group differences.

### **Savannah Leach Newell (Indiana University) and Krystiana Krupa (Indiana University)**

*Tobacco Smoking and Tuberculosis in the Lower Illinois River Valley*

Clinical literature demonstrates that tobacco smoking in modern people increases risk for tuberculosis (TB) infection. Individuals with respiratory damage from long-term smoking are at greater risk for these types of infections. Paleopathological evidence suggests that TB was widespread in the Lower Illinois River Valley by the Mississippian period (1050-1400 CE), and artifacts associated with tobacco smoking are common during the same time period. It is possible that tobacco was smoked therapeutically by those infected with the disease, which may increase lung damage and therefore disease severity. This study determines nicotine presence/absence using liquid-chromatography tandem mass spectrometry in prehistoric individuals from the Schild and Yokem sites who were previously identified as TB-infected using ancient DNA PCR methods. Individuals with large nicotine peaks, suggestive of smoking practices, are compared with PCR data to determine whether tobacco smoking in the past increased risk of TB infection during the Late Woodland and Mississippian periods.

### **Jamie Leeuwrik (Ball State University), Abby Clark (Ball State University), Christine Thompson (Ball State University) and Kevin C. Nolan (Ball State University)**

*Archaeological Survey of a Data Deficient Region: Survey of > 2,600 acres in Newton County, Indiana*

The AAL conducted three data enhancement projects for archaeological resources in Newton County, Indiana funded by FY2014, FY2015, and FY2016 Historic Preservation Fund Grants. These project covered all townships in Newton County. A total of 2,691 acres of agricultural land was surveyed, identifying 275 new archaeological sites. The survey recovered 683 prehistoric artifacts and 7,638 historic artifacts. Cultural periods represented in the artifact assemblage include precontact era Middle, Early, and Late Archaic, Middle and Late Woodland, and Late Prehistoric, in addition to Historic components. Sixteen sites were recommended for additional research and are potentially eligible for the National Register of Historic Places.

### **Katelyn C. Lutzmann**

*A Study in Ceramic Decoration and Socio-Economic Status of the Baum Family*

The Daniel Baum family settled in Carroll County, Indiana, in April 1825, becoming some of the first pioneers and one of the county's prominent families. In this paper I analyze the various ceramics from an ash layer at the Baum's Landing site (12C700), excavated by the University of Indianapolis from 2013 to 2017, to test whether the historical and archaeological record are in accordance with one another regarding the Baums' socio-economic status.

The percentage and economic value of each decorative type found in the assemblage are calculated and compared to ceramic assemblages from three other mid-nineteenth century historical sites to provide better insight into the Baum family's socioeconomic status.

### **Colin Macleod (Ball State University), Christine Thompson (Ball State University) and Kevin C. Nolan (Ball State University)**

*Archaeological Survey of a Data Deficient Region: Survey of > 900 acres in Jasper County, Indiana*

The AAL conducted a data enhancement project for archaeological resources in Jasper County, Indiana funded by a FY2014 Historic Preservation Fund Grant. This project focused on major waterways such as the Iroquois and Kankakee Rivers in the southern half of the county. Approximately 900 acres of agricultural land were surveyed, identifying 112 new archaeological sites. The survey recovered 209 prehistoric artifacts and 307 historic artifacts. Cultural periods that are represented in the artifact assemblage include Middle Archaic, Late Archaic, and Late Woodland/Late Prehistoric components that were documented from the precontact era, in addition to Historic components. Two sites were recommended for additional research and are potentially eligible for the National Register of Historic Places.

### **Mark L. Madsen (Chicago Archaeological Society/IAAA/SSAS)**

*Possible Circle, Elliptical, and Quadrangle Earthworks at Crete, Illinois Compared to Those in Indiana*

An aerial photo from 1939 shows what appears to be Middle Woodland gated circles, a quadrangle, and an elliptical earthwork in Crete, Illinois. Several traces of these earthworks still exist, but most have been destroyed. What might account for them being built is their location. They are near the junction of the Vincennes Trail and a southeastern branch of the Sauk Trail leading to Crown Point, Indiana. This presentation and paper will cover a brief history of the people who owned the land where these earthworks are located as well as artifacts and sites found nearby. The circle and elliptical earthworks at Crete resemble the smaller-sized earthworks at the Anderson, New Castle, and Cambridge, Indiana. A study using SkyMap Program (corrected for horizon obstructions) indicates similar moon, star, and sun alignments at all these sites. For instance, the top three stars of Crucis Constellation (the Southern Cross) could still be seen until about A.D. 90 at Crete, and until A.D. 366 at New Castle before disappearing due to the slow shift of the Earth's axis called "precession of the equinoxes." There are several alignments to Corona Borealis Constellation which resembles the gated circle earthworks. The Lakota considered Corona Borealis a "Hearth," the Chippewa saw it as a "Sweat Lodge," the Micmac a "Bear Den," and the Pawnee a "Council Circle."

### **Rob Mann (St. Cloud State University), Mike Penrod (St. Cloud State University) and Courtney Kujala (St. Cloud State University)**

*Detecting the 1862 US Military Post at Sauk Centre, Minnesota*

This poster illustrates our attempt to locate the material remains of a US military stockade established in 1862 as part of a line of outposts built in central Minnesota during the US-Dakota War of 1862. Both visual and documentary sources suggest that it was a relatively large stockade, which included permanent quarters for officers, soldiers, administrative and supply buildings, stables for livestock, and quarters for civilian travelers along the Red River Oxcart Trail. We conducted metal detector surveys of the suspected location of the Sauk Centre US Military Post using a combination of Very Low Frequency (VLF) and Pulse Induction (PI) metal detectors. The results of the VLF and PI detector surveys were used to guide the placement of shovel test pits and test excavation units. Our findings in the field suggest that we have successfully located intact deposits relating to the US Military Post at Sauk Centre.

### **Kay "Kakendasot" Mattena and Edward A. Jolie (Mercyhurst University), James M. Skibo (Illinois State University) and Eric Drake (Hiawatha National Forest)**

*The Twined Textile from Gete Odena: Technological Analysis and Reshaping Using Solvent Vapors*

Algonquian peoples living around the Great Lakes have left signs of their lives scattered across the soil over hundreds of years. These artifacts are key to reconstructing traditional material culture but we typically lack the preservation of organic items that were a critical aspect of daily life. At the site of Gete Odena, located on Grand Island, Michigan, a particularly fine plant fiber textile was found preserved due to its proximity to copper. However, structure and form remained difficult to understand due to condition and post-depositional shape. This paper discusses preliminary results of a technological analysis of the textile and describes the process of reshaping it using solvent vapors to facilitate cleaning and analysis.

**Robert G. McCullough (Illinois State Archaeological Survey), Donald L. Booth (SCI Engineering, Inc.), Patrick R. Durst (Illinois State Archaeological Survey), Duane E. Esarey (Illinois State Archaeological Survey) and Thomas J. Loebel (Illinois State Archaeological Survey)**

*Reevaluation of the Mitchell Site in the Northern American Bottom, Illinois.*

The Mitchell site, once a major Mississippian mound center, has been impacted by previous excavation, the construction of I270, and modern development. The most significant investigation since highway salvage work in the early 1960s by James Porter, was SCI Engineering's excavation prior to lumber yard expansion. This project identified numerous, superimposed Late Stirling structures indicating a greater time depth than suggested by Porter. SCI Engineering also reconstructed the locations of Porter's 1960s and 1975 excavations, as well as later CRM-funded projects, and overlaid these on existing maps. This year the Illinois State Archaeological Survey began reconnaissance and geophysical surveys in the broader Mitchell site area in advance of proposed roadway improvements by the Illinois Department of Transportation. Importantly, these new evaluations suggest that the Mitchell site, as defined by Porter, is part of a larger, sprawling complex encompassing other nearby archaeological sites, perhaps best characterized a "Greater Mitchell" site complex.

**Madeleine McLeester (University of Notre Dame) and Mark R. Schurr (University of Notre Dame)**

*Late Precontact Storage and Refuse at the Middle Grant Creek Village in Northern Illinois*

Within Northern Illinois, many late prehistoric archaeological sites contain multiple components, resulting in "mixed" assemblages, which create a murky picture of the late precontact period. As a single component, well-preserved 17th century village, the Middle Grant Creek site at Midewin National Tallgrass Prairie offers a unique glimpse into late precontact lifeways. In this paper, we discuss the detection, distribution, and contents of refilled storage features. We provide results from geophysical survey and the reliability of these data to detect late prehistoric storage features. We also discuss the distribution of pit features as well as the variability in the form and contents of pits, focusing on those used for storage. Last, we contextualize findings with a discussion of the construction of these storage features within the broader regional context. Overall, this investigation of late precontact storage practices expands understandings of the technology, economy, and environment of these communities.

**Rachel C. McTavish (University of Wisconsin-Milwaukee)**

*Archaeofauna as Evidence for Oneota Landscape Investment During Periods of Conflict and Stress*

Archaeofaunal data from three sites at Lake Koshkonong are compared to address the site function, dietary preferences, and adaptive cultural mechanisms related to the prevalence of warfare and stress during the Late Prehistoric period. Resource management and sustainability during times of systemic conflict on the landscape are reflected in site placement, resource management, selection, and processing. These cultural practices are used as evidence for a long-term investment into a particularly lucrative and defensible location on the landscape.

**Molly R. Mesner (Indiana University) and Elizabeth Watts Malouchos (Indiana University)**

*IU Bicentennial Archaeology at Wylie House: Catalyst for Community Engagement*

Indiana University's (IU) Wylie House Museum is the 1835 house of IU's first president Andrew Wylie. Wylie House was home to members of the Wylie family for nearly 80 years as Theophilus Wylie, Andrew's younger cousin and IU professor, resided there after 1859 with his wife Rebecca, their eight children, and eventually grandchildren. During Theophilus' residence, two underground cold-frame hot houses were built into the front lawn of Wylie House to overwinter flowers and plants. Household floriculture and the subterranean greenhouses are documented in family correspondence and photographs, however, aspects of the number and exact location of the greenhouses and their construction, use, and decommissioning remained a mystery. As part of IU's Bicentennial celebration, the Glenn A. Black Laboratory of Archaeology led a field school to investigate the subterranean greenhouses in June of 2018. This poster presents some preliminary results and discusses our program to engage campus and community members.

**G. Logan Miller (Illinois State University)**

*Overview of an Excavated Wall Trench Structure from Noble-Wieting, McLean County, Illinois*

This presentation provides an overview of recent excavations at the Noble-Wieting village in McLean County, Illinois. Noble-Wieting is a nearly six-acre Langford Tradition mound and village site along the Kickapoo Creek, far from the Langford core along the upper Illinois River. The site has long been known for its unique geographic position as well as the association between Langford pottery and shell-tempered Mississippian wares. Recent excavations in the northern portion of the site, guided by geophysical data, revealed two partially superimposed wall trench structures. Excavated wall trenches and other features revealed information about above ground architecture, burning episodes, construction sequence, as well as continuity and change in the structure through the rebuild. Overall, the house shares some similarities with other Langford structures but also sheds light on unique architectural elements represented at Noble-Wieting.

**Charles V. H. Morse (University of Notre Dame), Mark R. Schurr (University of Notre Dame), Madeleine McLeester (University of Notre Dame) and Joi Misenti (University of Notre Dame)**

*The Mosaic of Middle Grant Creek: Results of the 2018 survey at a Late Huber site*

The Middle Grant Creek (MGC) site in northern IL contains late prehistoric and historic components. Materials from the late prehistoric occupation hold the potential to contribute greatly to our understanding of Huber Phase (~1500-1675) Upper Mississippian peoples. The site's many storage pits and diverse artifact assemblage signal complex subsistence practices, ritual activity, and long-range trade. Yet, during the historical period, 19th century farms and the construction of bunkers in the 20th century left substantial material impacts that can obfuscate the record of earlier periods. This paper reviews our use of various survey techniques to investigate MGC's wide array of archaeological signatures. We used a combination of investigative methods—magnetometry, resistivity, and ground truthing—in connection with overlaid aerial photography to tease apart MGC's intricate history. While designed to contribute to ongoing excavation, this survey also illuminates MGC as a multifaceted palimpsest of human occupation spanning several periods.

**Cailey D. Mullins (University of North Carolina)**

*Archaeology for the People: Community-Based Research, Hands-On Education, and their Place in Archaeology*

Archaeology has long captured the minds of the public, but it has not always been as open to community involvement as it could be. How could the field change if our research was run by, with, and for communities? How can archaeology shape the minds of young people through educational programs? When used in a hands-on educational manner, archaeology can help increase the STEAM (Science, Technology, Engineering, Arts, and Mathematics) literacy of both children and adults, opening up lifelong learning and career opportunities. Through the results of an online survey, this paper will explore how pre-college educational youth programs in archaeology can benefit both archaeology and the students involved.

**Charity Munro (Ball State University), Lindsey Cron (Ball State University), Tristan Spoor (Ball State University), Nicole Roberts (Ball State University), Emily Demler (Ball State University), Sage Hatcher (Ball State University), Deion Hallmon (Ball State University), David Byrd (Ball State University), Matthew Nicholas (Ball State University), Kevin C. Nolan (Ball State University) and Mark A. Hill (Ball State University)**

*Copper Mining in the Ontonagon River Basin: Preliminary Results of the 2018 BSU Summer Field School*

As part of a 3-semester Immersive Learning project, the 2018 BSU Summer Field School investigated site 20 ON 209, a placer copper mining site on the Ontonagon River within the Ottawa National Forest. Following the work of Ferrone (1999) we explored a copper processing area, conducted GPR survey of several pits and processing areas, and discovered two previously undocumented copper mining areas. We found evidence for substantial on-site processing of lithics and copper, and time depth for the mining activities indicating a likely deeper history of activity at 20 ON 209 and the other localities in the ONF than indicated by the diagnostic artifacts and dated material recovered by previous investigations.

**Wendy Munson-Scullin (Midwest Ethnohorticulture) and Michael Scullin (Midwest Ethnohorticulture)**

*Testing for Structure and Phytolith Analysis of Ridged Gardens*

Soil samples acquired through coring and excavation in prehistoric ridged gardens in Wisconsin and Michigan display patterns of variation in phytolith assemblage and in microscopic and macroscopic charcoal content of the planting surfaces which are unlike proximate, non-garden control samples. These variations are accompanied by diagnostic maize leaf phytoliths. Surfaces appear to be enhanced through concentration of topsoil and possibly addition of organic matter or organic-rich soil from local sources. Such a practice can achieve the goals of assisting with water retention in these very well-drained, sandy soils, increasing available nutrients and providing nutrient storage.

**Kevin C. Nolan (Ball State University), Mark F. Seeman (Kent State University), Mark A. Hill (Ball State University), Eric Olson (University of Akron) and Emily Butcher (Ball State University)**

*Scale and Community in Hopewell Networks (SCHoN): An Updated Summary*

The SCHoN project analyzed curated collections from over 30 Hopewell sites in the Scioto Valley of Central Ohio. We systematically analyzed ceramic, lithic, and copper artifacts from each site (where available) to begin to piece together the multi-layered networks that make up the phenomena we refer to as "Hopewell". Results from six different analyses are summarized here. We shed light on the relationships between two adjacent household sites (Brown's Bottom and Lady's Run), the distribution of copper sources used by Scioto Hopewell, the nature of social connections symbolled by copper procurement, the structure of lithic procurement networks, a descriptive summary of overall relations in the analysis, and the timing of the Hopewell phenomena in the Scioto Valley. Together these analyses are refining and reshaping our collective understanding of Scioto Hopewell.

**Lara K. Noldner (Office of the State Archaeologist, University of Iowa), David Mayer Gradwohl (Iowa State University-Ames), Cynthia L. Peterson (US Army Corps of Engineers) and Daniel K. Higginbottom (Iowa State Historic Preservation Office)**

*"We Release You Once More to the Ground": Reburial of four Euro-American Pioneer Skeletons from the Henry Woods Site, Polk County, Iowa*

In 1967 the Iowa State University Archaeological Laboratory, contracted by National Park Service, excavated four burials at the Henry Woods Site. The remains, brought back to ISU, were cleaned, catalogued, and curated. The skeletons and cultural context indicated the individuals were part of the early Hopkins Grove community (late 1840s/early 1850s). Osteological analysis by ISUAL personnel and forensic archaeologists at Iowa's Office of the State Archaeologist determined the remains represented a newborn infant, a young child, a teenage female, and an adult female. In 2010 the remains of the Euro-American pioneers were deaccessioned from ISUAL and deposited at the OSA. Personnel from OSA, Iowa's SHPO, and the USACE worked together on plans to rebury the four individuals in the historic Hopkins Grove Cemetery. On October 23, 2017, in a ceremony officiated by Pastor Craig Ferguson, these pioneers were reinterred, and a granite monument set to honor their lives.

**Dana Northam (Ball State University), Hunter Davis (Ball State University), Matthew Purtill (Ball State University) and Kevin C. Nolan (Ball State University)**

*A Virtual Window on the Dawn of Indiana Archaeology: Digitizing the Dolan Collection*

It is increasingly recognized that archaeology needs detailed information about the material contained in private collections. This material can also help us to engage the broader public in archaeology in novel ways. In collaboration with the Syracuse-Wawasee Historical Museum, Inc. (SWHM), the AAL is digitally recording the JP Dolan collection. Mr. Dolan was a friend of Eli Lilly and helped to spark Lilly's early interest in Indiana archaeology, and to introduce Lilly to several collectors that were instrumental in furthering Lilly's interest in these materials. We create a catalog, record 2D images of the full collection, and 3D scans of a select sample of the collection. This will enhance visitor experience for the SWHM's visitors and promulgate information about local and regional archaeology through multiple online venues. Additionally, this analysis is revealing new insights into the interaction patterns throughout time in the Syracuse area and other prehistoric social systems.

**Eric C. Olson (University of Akron), Kelli Wathen (Ball State University), Andrew Weiland (Ohio State University), Kevin C. Nolan (Ball State University) and Michael J. Shott (University of Akron)**

*Central Ohio Archaeological Digitization Survey (COADS)*

COADS is a large-scale, systematic effort to engage with private collectors in one small geographic area to enrich the official record of the pre-contact period archaeology in the region. This initial 2-year effort is funded by the National Science Foundation and has already documented over 13,000 artifacts and 300 sites. All materials are documented digitally (2D images) with a random 5% sample 3D scanned. We summarize methods, progress, public response, and a preliminary comparison to previously documented records. With over 10,000 artifacts and 80 sites in Ross County, we can conduct a coarse comparison to the previous OAI records and our newly recorded sites and materials.

**Amber E. Osterholt (University of Nevada, Las Vegas)**

*The Bioarchaeology of Instability: Nutritional Deficiency and Trauma at the Fort Ancient Site of Hardin Village*

The Late Prehistoric occupations of Hardin Village (AD 1425 – 1675), a Late Fort Ancient site located on the Ohio River, occur concurrently with the increased environmental, social, and biological stressors of the Little Ice Age and European Contact. This period marks a time of instability in the region: resources are less predictable, violence is increasing, and disease and nutritional stress are common. For the 403 individuals from Hardin Village, their story is one of repeated experiences of trauma, stress, and disease cutting across age and sex boundaries. Nearly one third of the individuals from Hardin Village show some evidence of disease or stress, including nutritional deficiency, infectious disease, and violent injury and death. Overall, the skeletal remains from Hardin Village show a community stressed by environmental and sociocultural instability, with high infant mortality and a low average age at death.

**David F. Overstreet and David J. Grignon (Menominee Tribe of Indians of Wisconsin)**

*Kinepoway's Village, a Model for Late Prehistoric-Early Historical Era Summer Agricultural Villages in Northeastern Wisconsin and Adjacent Areas of Michigan's Upper Peninsula*

Kinepoway, a mid-19th Century Menominee leader, moved his band from the Lake Poygan locality in east-central Wisconsin to the Menominee Reservation following the Treaty of the Wolf River in 1854. His group settled in the southeast corner of the reservation until 1871 when, according to Felix Keesing, Kinepoway re-located his band to the confluence of the West Branch Wolf River and the Wolf River.

The location, known on the Menominee Reservation as "West Branch" was largely abandoned when the mill opened at Neopit in 1908; the abandonment resulting from the heretofore almost total absence of employment opportunities on the reservation. Maps compiled by Keesing in the 1930s (1987) and those provided by Bureau of Indian Affairs timber cruiser's notes in 1920 provided baseline data for defining the footprint of Kinepoway's Village. Supplemented by vintage USDA aerial photos, on-the ground archaeological surveys, compilation of oral histories, individual homestead mapping, and utilizing a Geographic Information Systems approach, Kinepoway's Village serves as a potential model for both size and structure of late prehistoric-early historical era summer agricultural villages associated with the Menominee Tribe of Indians of Wisconsin. The model is untested but multiple sites on the Menominee Reservation, as well as several on the Menominee River are sound candidates for testing the model's validity.

**Paul Pacheco (SUNY Geneseo), Jarrod Burks (Ohio Valley Archaeology, Inc.) and DeeAnne Wymer (Bloomsburg University)**

*Ohio Hopewell Settlement in the Uplands: the Balthaser Home Site*

Hopewell settlements abound in central Ohio, both in the rich floodplains and in more remote areas of the uplands. In 2005 we teamed up to intensely study the Brown's Bottom cluster of Hopewell settlements in the Scioto River floodplain near Chillicothe, OH—an area concentrated with earthworks. We moved our settlement research to the uplands one county north in 2014, to study settlement variability in an area with few earthworks and between the major concentrations in Ross and Licking Counties. Through geophysical survey, surface collection, and block excavation, the work at Balthaser has to date uncovered two overlapping Hopewell houses, a rich record of artifactual and paleoethnobotanical data, and pit features, as well as an undated circular paired post structure that may be part of an as yet undated Early Woodland occupation at the site.

**Autumn M. Painter (Michigan State University) and Susan M. Kooiman (Michigan State University)**

*Historic Cuisine On the Go: A Campus Archaeology Program and MSU Food Truck Collaboration*

In 2017, the MSU Campus Archaeology Program (CAP) used archaeological and archival data to reconstruct historic campus cuisine, and, in collaboration with MSU Culinary Services, orchestrated an 1860s-era luncheon event. To expose a broader audience to historic cuisine, CAP once again worked with Culinary Services in the spring of 2018 to bring some of the favorite "historic" dishes from the luncheon to the students, faculty, and staff across the campus through the MSU ON-THE-GO Food Truck. Consumers were able to learn about MSU's history by tasting the food that past students and staff would have consumed. Based on the popularity of these "throwback" offerings, the project will continue in the fall with an expanded number of dishes, allowing opportunities for growth and improvement of creative outreach endeavors.

**Jeffrey M. Painter (Michigan State University), Autumn M. Painter (Michigan State University) and Jack A. Biggs (Michigan State University)**

*Archaeology along the Banks of the Red Cedar: Summary of 2018 Riverbank Survey*

During the summer of 2018, the Michigan State University Campus Archaeology Program (CAP) conducted a survey of the northern and southern banks of the Red Cedar River in response to severe spring flooding. Archaeological remains were discovered during pedestrian survey in a segment of the northern bank. We expanded this work to identify the extent of the deposits by performing systematic shovel tests and one excavation unit. This poster will discuss our findings during this survey, as well as a history of landscape modification and use in the area.

**Staffan Peterson (Indiana University) and Michael Strezewski (University of Southern Indiana)**

*Large-Scale Magnetometry Survey at the Mann Site, an Indiana Hopewell Ceremonial Center*

A multi-decade research effort at the Mann site, an Indiana Hopewellian ceremonial center, has resulted in a better understanding of a site rivaling the largest Ohio Hopewellian earthworks. Since 2006, nearly 120 acres of the site have been surveyed with magnetometry, providing a detailed look at the distribution and nature of features at this understudied but important site. Architectural details of post circles are consistent with those at "classic" Hopewellian ceremonial sites, while the magnitude and spatial relationships of a ceremonial complex on top of the largest platform mound does not resemble any yet recorded. A wide variety of other features at this exceptional site were also discovered, including hundreds of roasting pits and magnetically quiet areas. Results so far suggest distinct spatial separation of core ceremonial spaces from those devoted to habitation. Challenges in the interpretation of the results and directions for future research are addressed.

### **Jennifer L. Picard and Catherine R. Jones**

*Recent Excavations at the McCauley Site (47WN0222): New Evidence of the Protohistoric Provisional Dandy Phase on Lake Winnebago*

Located on the northwest shore of Lake Winnebago, the McCauley site (47WN0222) is a Woodland, Oneota, and Historic Indian habitation and burial site. David Overstreet (1993) included McCauley in his definition of the Provisional Dandy Phase, a protohistoric Oneota phase beginning as early as the 1620s. Overstreet argued that McCauley was a locus of Oneota interaction with French and other traders. In 2017, Cultural Resources Management at the University of Wisconsin-Milwaukee conducted excavations at McCauley for a utility project. Seven features were identified, including burials, hearths, and storage pits; one feature likely relates to the Provisional Dandy Phase Component, and other features may as well. Recovered materials include historic trade goods, pottery, lithic artifacts, and faunal remains. These findings indicate intact deposits at the site despite over a century of residential development, and showcase the potential for the site to yield additional data regarding the protohistoric period in eastern Wisconsin.

### **Justin M. Reamer (University of Pennsylvania)**

*The Role of Storage in Foodways in the Late Woodland Upper Delaware Valley*

Foodways encapsulate all the practices and social contexts through which people transform raw materials into the food we eat. Although storage is an important stage in foodways both now and in the past, archaeologists often neglect storage in these studies to instead focus on consumptive and cooking practices. In this paper I examine the role of storage in the foodways of the Late Woodland people of the Upper Delaware Valley (UDV). At this time, people were transitioning hunting and gathering supplemented by small scale cultivation to agricultural foodways centered on the production of maize. Concurrently, subterranean storage pits become increasingly more common at archaeological sites in the UDV. Using storage features identified at sites from the region I will explore what these subterranean features can tell us about the adoption of agriculture. In particular, I will focus on what storage reveals about productivity and the organization of labor surrounding foodways.

### **Brian G. Redmond (Cleveland Museum of Natural History) and Alyssa L. Davis (Cleveland Museum of Natural History)**

*"The Place of Solemne Prayer": Intrasettlement Post and Ditch, Mortuary-Ritual Structure in Late Precontact Northern Ohio*

Most traditional archaeological interpretations of life within Late Precontact period village sites in the Eastern Woodlands focus primarily on the domestic sphere or ritual activities associated solely with burial features. Yet, ethnohistorical studies reveal that both the domestic and ritual-ceremonial realms were tightly entangled in the lives of indigenous actors during the Contact period. A recent reanalysis of a small enclosure and burial precinct at the White Fort site in northern Ohio presents new evidence of ceremonial use and reuse within a large habitation site during the Late Precontact period (ca. AD 1250-1400). Excavation data reveal how human interment, artifact caching, and layering of colored soils were incorporated into six pit burials arranged around a C-shaped, post and ditch enclosure. The sequencing of interments and enclosure construction that comprised this distinct area served as a hub for burial and ritual behavior over multiple generations of seasonal village occupation.

### **Patricia B Richards (University of Wisconsin-Milwaukee)**

*All lie down together and are soon forgotten: the Milwaukee County Poor Farm Cemetery Project*

The Milwaukee County Poor Farm Cemetery (MCPFC) project has developed into a multifaceted research initiative focused on one of the largest systematically excavated and permanently curated collections of osteological and material culture remains in the United States. The University of Wisconsin-Milwaukee's Archaeological Research Laboratory curates all human remains, material culture, and documentation associated with archaeological excavations that resulted in the recovery of over 2400 individuals. As a project focused on a late 19th and early 20th century cemetery, the MCPFC is situated not only within the history of historical archaeological research but is also influenced by the recent bioarchaeological trend of engaging with social theory to examine social identity and lived social experience. This paper summarizes the project to date within the overarching goal of returning a voice and an identity to individuals robbed of both by burial in the MCPFC.

### **Bret J. Ruby (National Park Service, Hopewell Culture National Historical Park), Friedrich Lüth (German Archaeological Institute, Berlin), Rainer Komp (German Archaeological Institute, Berlin), Jarrod Burks (Ohio Valley Archaeology, Inc.), Timothy Darvill (Bournemouth University, UK) and Sebastian Messal (German Archaeological Institute, Berlin)**

*Hopewellian Woodhenges: Recent Research at Hopewell Culture National Historical Park*

Monumental timber post circles or "woodhenges" are ancient and enduring elements in the ritual landscapes of Native North America. Examples are known from as much as 3500 years ago at Poverty Point; from 2400 years ago in Adena ceremonial contexts in the Ohio Valley; from 1000 years ago at Cahokia; and in contemporary use at many American Indian traditional ceremonial grounds. Archaeologists are now documenting a growing number of examples in Hopewellian contexts. Recent landscape-scale geomagnetic surveys at Hopewell Culture National Historical Park identified numerous examples ranging from about 10 m in diameter, to a colossal timber post circle more than 320 m in diameter. Small-scale ground-truth excavations at two of these are beginning to shed light on the age and function of these monumental Hopewellian woodhenges.

### **Ashley Rutkoski (Kent State University)**

*Toward a "quantitative genetic" approach to Late Woodland ceramic sherd variation: an experimental case study from Northern Ohio*

Ceramic sherds are one of the most abundant artifactual remains in the archaeological record. They have been used in the past to address technological, typological, and chronological questions. However, less research has focused on whether non-production related behaviors contribute to sherd variation. Toward this end, an experimental data set of 30 replica vessels—that were modeled from those found in the Late Woodland period of Northern Ohio were created. The vessels were then subjected to one of two simple conditions: dropped while empty or dropped while full of grain. The number of sherds produced, sherd size, and sherd shape were all recorded in order to determine whether these variables were influenced by the difference in experimental condition.

### **Robert F. Sasso (University of Wisconsin-Parkside) and Daniel J. Joyce (Kenosha Public Museums)**

*An Archaeological Journey into the Nineteenth Century in Southeastern Wisconsin*

Coming out of respective backgrounds in prehistoric archaeology, the authors' historic era research came to dovetail into shared interests and collaborative efforts in studying nineteenth century life in southeastern Wisconsin. What began as research into Native American agriculture, local historical Potawatomi and fur trade sites, and early Euro-American settlement grew organically into a more extensive ongoing research program. We focused on a period of great importance in the history of our state, with increasing Euro-American and Native American interaction, Native American removal, and early Euro-American settlement. Our research has considered several localities and sites with great cultural and historical significance across a seven-county area. Historic Potawatomi habitation and agricultural sites, fur trade posts, early Euro-American cabin sites, early taverns, and later nineteenth century sites have been explored. Here we present an overview of our work and discuss our findings and a number of significant lessons learned along the way.

### **Seth A. Schneider (University of Wisconsin-Milwaukee) and Natalie A. Carpiaux (Field Museum)**

*Identities in Clay: Displays of Group Identity on Pottery from Oneota Villages on Lake Koshkonong*

Oneota has traditionally been known as a "Pottery Culture" with shell-tempered globular jars as the indicator, covering a wide geographic area. Recent research has demonstrated multiple and overlapping identities among Eastern Oneota groups in Wisconsin. The ceramics reflect this complicated socio-political relationship among localities and among their inhabitants. Between AD 1050-1400 potters chose specific manufacturing techniques and decorative motifs to emphasize and communicate different aspects of their identities. In the Koshkonong Locality, shell-tempering, vessel shape, and decorative motifs connect them to a larger network of Oneota groups distinct from Middle Mississippian and Late Woodland networks. However, potters used grooved paddle surface treatment and unique designs to emphasize their socio-political autonomy from other Oneota localities and Upper Mississippian groups in the Prairie Peninsula.

### **Seth A. Schneider (University of Wisconsin-Milwaukee) and Jennifer R. Haas (University of Wisconsin-Milwaukee)**

*Finding the Late Prehistoric Connection: Late Woodland and Oneota Cultural Relations through Pottery on Lake Koshkonong*

The question of Late Woodland and Oneota cultural relationship in Wisconsin from AD 1000 to 1200 has been debated for decades. Some researchers argue that Oneota culture represents a cultural continuity from Late Woodland to Oneota. Other researchers have argued that Oneota culture is a product of devolution of Middle Mississippian groups living in the Western Great Lakes region. Recent radiocarbon dates and stylistic dating of pottery from archaeological investigations on Lake Koshkonong indicates that Oneota sites overlap with Late Woodland sites temporally. The spatial relationship of villages on Lake Koshkonong indicates that these two cultural groups were also occupying different landscapes around the lake.

**Marcus Schulenburg (University of Wisconsin - Milwaukee), Robert Cook (Ohio State University) and Aaron Comstock (Ohio State University)**

*Pottery Morphology, Design, and Compositional Analysis at the Guard Site*

Recent excavations at the Guard site have produced significant quantities of ceramic materials. This paper will characterize the variety and trends of these ceramic morphology, design, and composition. These data will be used to examine the presence and nature of pottery production communities within the village. Among the ceramics recovered are individual unique items of clearly non-local origin. In addition to obvious prestige items, some of these ceramics appear to have been domestic in nature and have been part of the non-prestige ceramic assemblage. This paper will examine the extent to which non-local pottery traditions were integrated with local traditions in creating the Fort Ancient ceramic assemblage. Due to the level of preservation and extent of excavation these relationships can be used to develop and understanding of the social organization structuring early Fort Ancient village life.

**Mark R. Schurr (University of Notre Dame), Madeleine McLeester (University of Notre Dame) and Terrance J. Martin (Illinois State Museum)**

*Pits, Postmolds, and Paint: A Summary of Findings from the Middle Grant Creek (11 Wi 2739) 2018 Field Season*

The 2018 excavations at Middle Grant Creek (11 Wi 2739) in northern Illinois continued to explore the deep stratified refuse-filled storage pits that were located with magnetic survey. The pits contain a wide array of early seventeenth century Huber materials. Although features share similarities in depositional patterns and contents, each pit produced distinctive artifacts, indicating inter-regional contacts and ceremonial activities. The well-preserved faunal assemblage includes abundant aquatic resources composed of a diverse array of fish, turtles, and freshwater mussel species. The majority of these mussel shells are painted with a red pigment, an unusual find that may be unique to Middle Grant Creek. Pit excavations were also supplemented with a block excavation of 44 m<sup>2</sup>, which was opened to better define the distribution of features across the site, ground truth our magnetic survey, and investigate features that did not appear on magnetic survey.

**Mark F. Seeman (Kent State University), Amanda N. Colucci (Kent State University) and Charles Fulk (Archaeological Society of Ohio)**

*Joe Caldwell's Ghost: Adaptation and Regional Lithic Supply in the Ohio Valley, USA.*

Caldwell's (1958) concept of Primary Forest Efficiency (PFE) formed the base for adaptationist thinking in the American Midwest. One expectation following from PFE is that group mobility should decrease gradually over the course of the Archaic period. Here we use raw material percentages for county-level data to examine the size and shape of the Upper Mercer/Flint Ridge lithic supply area longitudinally across the Paleoindian and Archaic periods, using five diagnostic biface styles and over 6,500 individual bifaces. We use fall-off curves, GIS interpolations and exotic vectors to show that the UM/FRF lithic supply zone (and group mobility) does not monotonically become smaller over time. Accordingly, we point toward unique historical circumstances as important primary determinates of Archaic lithic supply patterning in the Ohio Valley region.

**B. Jacob Skousen (Illinois State Archaeological Survey, Parkland College), Wayne R. Meyer (Parkland College), Jasmine Holmes (Parkland College) and Rachel V. Lawrence (Illinois State Archaeological Survey)**

*Recent Archaeological Investigations at Robert Allerton Park, Piatt County, Illinois*

In 2017, the Illinois State Archaeological Survey and Parkland College began a collaborative, multi-year archaeological project at Robert Allerton Park, a 1,500-acre natural area along the Sangamon River in Piatt County, Illinois. The goal of the project is to investigate the archaeological resources in the park and develop ways to better interpret and preserve these resources. This paper describes the results of the 2017 and 2018 investigations, which were performed by ISAS personnel and field school students from Parkland College. Surveys identified a number of previously unrecorded sites throughout the park, and excavations at the Samuel's Mounds site (11PI43), perhaps the only remaining mound group in the upper Sangamon valley, provided important information about Late Woodland groups who visited this place. While the amount of data collected is small, it provides a foundation for future research on the Late Woodland period in this area.

**Christine N. Stephenson (Michigan Department of Transportation)**

*Rice, Rice, Baby: Wild Rice and Its Effect on Native American Settlement Choice in Southeastern Michigan*

The location and spatial distribution of Native American archaeological sites within the southern half of the Lake Erie Coastal Zone of South-eastern Michigan is evaluated using presettlement vegetation types as recorded by nineteenth century General Land Office surveyors. Recent research on the former distribution of wild rice beds in Michigan is used to interpret the spatial patterning of previously known sites, as well as generating a sensitivity model for predicting the locations of as yet unidentified sites.

**Katherine M. Sterner (University of Wisconsin-Milwaukee)**

*Upper Mississippian Stone Tools and Community Organization*

This research uses community organization as an approach to understand the shift from typologically complex to simpler lithic technology after circa A.D. 500 in the Prairie Peninsula. Three types of lithic analyses were conducted on nine different Wisconsin Oneota sites to achieve research goals. Assemblage analysis was conducted on all nine assemblages. Microwear analysis was conducted on a sample of four site assemblages. Finally, a small sample of lithic tools from one site was tested for protein residue. A comparison of the lithic practice of Oneota groups settled in western Wisconsin (A.D. 1400-1700) to that of groups in eastern Wisconsin (A.D. 1100-1450) was used to develop a model for communities in two different geographic and temporal contexts. The data indicate that the Koshkonong tradition was characterized by a tightly knit multi-village community while evidence of such a community unit at La Crosse does not exist.

**Cecilia Szmuto (Ball State University), Lindsey Cron (Ball State University), Christine Thompson (Ball State University) and Kevin C. Nolan (Ball State University)**

*Archaeological Survey of a Data Deficient Region: Survey of >900 acres in Southern Fulton County, Indiana*

The AAL conducted a data enhancement project for archaeological resources in Fulton County, Indiana funded by a FY2017 Historic Preservation Fund Grant. This project focused on four south-central townships (Henry, Liberty, Union, and Wayne), and General Land Office (GLO) sites in Rochester Township. A total of 924 acres of agricultural land was surveyed, identifying 108 new archaeological sites. The survey recovered 94 prehistoric artifacts and 1,806 historic artifacts. Cultural periods represented in the artifact assemblage include Precontact era Early Archaic and Late Woodland components, in addition to 65 Historic components. Six sites were recommended for additional research and are potentially eligible for the National Register of Historic Places.

**Christine Thompson (Ball State University), Mark Groover (Ball State University), Amanda Balough (Commonwealth Heritage Group) and Bryan Mitchell (Ball State University)**

*Exploring Urban Landscape Change at Fort Recovery, Ohio*

Urban landscapes are dynamic depositional environments that present unique interpretive challenges during site investigations. During summer 2016 students and staff with Ball State University conducted excavations at the site of Fort Recovery, an early Federal period fort constructed in 1793. Site investigations in the town lot consisted of two GPR surveys and the excavation of a ca. 40 square meter area. Field results revealed the town lot was intensively used from the 1790s to the 1940s. Based on archaeological information, the town lot contains possible remains from the 1793 fort. A house was also located in the lot from the 1830s to the 1930s. Results indicate a combination of remote sensing and standard excavation is needed to adequately document urban landscape change. Further, by using a phasing approach, the field results reveal the dynamic landscape events that occurred in the town lot during an approximately 160-year interval.

**Christine Thompson (Ball State University), S. Homes Hogue (Ball State University), Cailin Murray (Ball State University), Kevin C. Nolan (Ball State University) and Sneha Chavali (University of Wisconsin)**

*NAGPRA Process and Progress at Ball State University*

Ball State's Department of Anthropology and AAL has focused on NAGPRA since 2010, with National Park Service NAGPRA grants awarded in 2012, 2013, 2014, and 2015. Our NAGPRA projects been instrumental in providing graduate students and undergraduates an opportunity to meet with tribal representatives and learn from them the importance of the NAGPRA process. Students also enhanced their skills in curation procedures, skeletal analysis, documentation, and communication. We are currently working towards repatriation of all NAGPRA collections. In addition to documenting and eventual repatriation of human remains and burial goods within the department, the NAGPRA process has allowed us to build invaluable research relationships with our tribal partners.

**Christine Thompson (Ball State University), Connor M. McCoy (Ball State University), Kristin Barry (Ball State University), Lisa Hensell (Ball State University) and Kevin C. Nolan (Ball State University)**

*Fort Recovery Wayside Exhibits and Story Map*

The AAL has prepared a series of 15 wayside exhibits and an associated Story Map to tell and reframe the story of two significant Northwest Indian Wars battles that took place in present-day Fort Recovery, Ohio: the Battle of the Wabash (1791) and the Battle of Fort Recovery (1794). The project uses maps and images to emphasize the extent of the landscape involved in the battle and its role in shaping the outcome, emphasize the American Indian perspective and battle strategy, and stress the importance of future preservation and protection of the battlefield. One of our goals was to reintegrate American Indians as active agents in these events with real human motivations of protecting family and home. We balance the interests of the two descendent communities to recount a story that is more faithful to the history and archaeology of these two significant events in American history.

**Christine Thompson (Ball State University), Kevin C. Nolan (Ball State University) and Amanda Balough (Commonwealth Heritage Group)**

*Archaeological Survey of a Data Deficient Region: Survey of >1,700 acres in Benton County, Indiana*

The AAL conducted two data enhancement projects for archaeological resources in Benton County, Indiana funded by FY2016 and FY2015 and FY2016 Historic Preservation Fund Grants. These project covered all townships in Benton County, focusing on both previously unsurveyed areas and on areas documented as collector reported sites. A total of 1,769 acres of agricultural land was surveyed, identifying 201 new archaeological sites. The survey recovered 183 prehistoric artifacts and 2,603 historic artifacts. Cultural periods represented in the artifact assemblage include precontact era Early Archaic, Late Archaic, Middle Woodland, in addition to Historic components. Thirteen sites were recommended for additional research and are potentially eligible for the National Register of Historic Places.

**Clare Tolmie (Illinois State Archaeological Survey), Lauren Fitts (Illinois State Archaeological Survey), Luke Cavallaris (Illinois State Archaeological Survey) and Kenton Geier (Illinois State Archaeological Survey)**

*Along the Rock River from Byron to Rockford: Results of Recent Fieldwork*

The Rock River in Illinois has long served as a corridor between the Mississippi River and the uplands of central Wisconsin. The Northern Illinois Field Station of the Illinois State Archaeological survey has conducted a series of systematic Phase I surveys along the Rock between Sterling and Rockford, most recently between Byron and Rockford. A recent survey of sections of IL Rt 2 between Byron and Rockford resulted in relocation of 9 known sites and the identification of 12 new sites including mound groups; Early Archaic, Late Archaic, Late Woodland, Late Woodland/Upper Mississippian village sites; and shell middens. We report on these results and discuss possible implications for interactions between the prehistoric inhabitants of north-central Illinois and areas to the north and south.

**Melissa G. Torquato (Purdue University) and Erik Otárola-Castillo (Purdue University)**

*Why Do We Farm?: The Effect of Climate Change and Risk on the North American Foraging-Farming Transition*

The evolution of the genus Homo is characterized by the emergence of numerous biological and cultural traits. One behavioral trait is the transition from a foraging to farming. Anthropologists have studied the foraging-farming transition and proposed several hypotheses to explain its occurrence. Current research has prioritized ultimate explanations, which emphasizing long-term causality, over proximate explanations, which emphasize immediate causal mechanisms. This study evaluates climate change and foraging risk as potential, proximate mechanisms facilitating the North American foraging-farming transition during the Late Archaic period (4500–4000 BP). This study uses archaeological diet data and paleoenvironmental proxies to analyze dietary variation and reconstruct the paleoenvironment during the transition period. Results (1) support the shift to agricultural resources during the Late Archaic and (2) demonstrate that climate change influenced subsistence behavior by increasing the risk associated with foraging. Future research will quantify foraging risk and further examine its connection to climate change.

**James M. VanderVeen (Indiana University South Bend)**

*Activism Among Archaeological Field School Students: Community Based Research Leads to Civic Engagement*

Archaeological field schools are a form of apprenticeship, providing students with the skills needed to become professionals in the discipline. But there is an added and unexpected value to the experience: field school students seem to be more engaged and informed citizens. Students report they are more civically engaged and likely to take political action on issues important to them than non-field school students. They also show a higher disposition towards matters that have implications for a fair and just society. In this small study, with limited participants, the results are in line with larger, longitudinal studies of civic learning in higher education. The power of an archaeological field school can be more than an investigation into the past and training of specific excavation and analytical skills. It can also be positively linked to the development or increase of commitments to social and political concerns.

**Heather Walder (University of Wisconsin-Madison)**

*Searching for Evidence of Protohistoric and Early Colonial Encounters in Wisconsin*

This paper summarizes recent investigations of late pre-contact Native American archaeological sites through the European contact-era and early colonial periods in Wisconsin. A brief discussion of terminology (including protohistory, early historic, contact, early colonial, etc.) will precede the review of evidence by region. These include: Eastern Wisconsin and protohistoric Ho-Chunk and Menominee, western Wisconsin's late precontact sites and the protohistoric Ioway, and northern Wisconsin's protohistoric potentials in the Northern Highlands and other areas, including possible 17th century Anishinaabeg or other sites around Chequamegon Bay. Archaeological evidence for the histor-

ically documented migrations and early colonial-era activities of later arrivals, including the Potawatomi, Meskwaki, and Wendat (Huron) and related groups also will be discussed. In sum, the study of protohistoric interactions in Wisconsin has progressed in recent decades, but the archaeological evidence of early exchanges and colonial encounters remains to be uncovered and investigated.

**Kelli M. Wathen (Ball State University), Shelby Frideger Cornett (Ball State University), Cecilia Szmuto (Ball State University), David K. Byrd (Ball State University), Chyan M. Gilaspy (Ball State University), Robin N. Johnson (Ball State University), Connor M. McCoy (Ball State University), Tristan M. Spoor (Ball State University) and Kevin C. Nolan (Ball State University)**

*Ottawa National Forest Archaeological Resource Management Plan*

As part of an Immersive Learning project (funded by the BSU Office of the Provost), members of ANTH 457/557 compiled a Historic Preservation Plan for the Ottawa National Forest to manage and maintain the historic property identified as site 200N29. The site is a rare example of prehistoric placer copper mining in the Upper Peninsula's Keweenaw region. The site has the potential to address a number of important issues for understanding the nature of prehistoric activities in the region as well as contributing to our understanding of acquisition and exchange of copper throughout eastern North America. However, the archaeological resources of 20 0N 209 face several environmental preservation problems that will need to be resolved for the future survival of the site. The goal of this plan is to enhance long term maintenance and preservation of a unique archaeological resource with the potential for public education and outreach.

**Kelli M. Wathen (Ball State University) and Giuseppe Vercellotti (Institute for Research and Learning in Archaeology and Bioarchaeology & Ohio State University)**

*A Study of a Juvenile's Remains in a Central Ohio Cholera Cemetery*

The Harrison Township Cholera Cemetery (HTCC) in Pickaway County, Ohio was used by the local community from 1804 to 1859 to bury the local community as well as victims of cholera epidemics. Now, the cemetery is largely unmarked. Run by the Institute for Research and Learning in Archaeology and Bioarchaeology (IRLAB), one of the excavation's goals is to determine the layout of the cemetery, study the remains to learn about those buried within, and reinter the remains with proper markers. One such burial uncovered in the cemetery is that of a juvenile. Once excavated using standard archaeological methods, the remains were taken to a lab to be cleaned, inventoried, and analyzed. The findings concluded the juvenile to be about four years old at the time of death, of undetermined sex, and with very little trauma evident on the remains, resulting in inconclusive evidence of the cause of death.

**Elizabeth Watts Malouchos (Glenn A. Black Laboratory of Archaeology, Indiana University)**

*Exploring Monroe County's Past: Archaeological and Historical Landscapes of the Bean Blossom Creek Drainage*

From 2017-2018, Indiana University's Glenn A. Black Laboratory of Archaeology conducted a Phase Ia survey of eight nature preserves throughout the Bean Blossom Creek drainage in northern Monroe County, Indiana. Approximately 511.5 acres (207 hectares) of Indiana University and Sycamore Land Trust nature preserves were surveyed resulting in 56 new archaeological sites and one new cemetery identified and recorded. The survey recovered 833 artifacts with unidentified precontact, Middle Woodland, and 19th-20th century historic cultural periods represented in the survey assemblage. This poster presents the survey results and highlights some of the unique cultural resources present on the Indiana University-Bloomington campus. This project was funded in part by a grant from the U.S. Department of the Interior, National Park Service's Historic Preservation Fund (CFDA #15.904) administered by the Indiana Department of Natural Resources, Division of Historic Preservation and Archaeology.

**Andrew W. Weiland (Ohio State University), Lucretia Kelly (Ohio State University), Kirby Trovillo (Ohio State University) and Kristie R. Martin (Ohio State University)**

*What they Ate: Macrobotanical and Faunal Remains at the Guard Site*

Five seasons of archaeobotanical and faunal sampling and analysis at the Guard Site have led to a large and diverse dataset that reveals much about diet choices, niche construction, and ethnic cuisine. Generally, a more diverse set of wild resources and Eastern Agricultural Complex plants underlies a narrower, maize-focused set of plants, separated by episodes of capping and subsequent reuse. Maize kernel/cupule ratios throughout the site reveal a pattern that suggests processing in residential areas and consumption/storage near the central plaza. In addition to major staples such as maize, nuts, and EAC plants, various wild plants and animals round out the picture of diet, differential processing, feasting, and culture change. A regional comparison of the archaeobotanical and faunal remains from Guard with those of Mississippian, Late Woodland, and middle Fort Ancient communities suggests that Guard is most closely related to a Mississippian subsistence system.

**Joshua J. Wells (Indiana University South Bend), David G. Anderson (University of Tennessee, Knoxville), Stephen J. Yerka (University of Tennessee, Knoxville), Kelsey Noack Myers (LG2 Environmental Solutions), Eric Kansa (Open Context), Sarah W. Kansa (Alexandria Archive Institute) and R. Carl DeMuth (Indiana University, Bloomington)**

*Finding People in Mounds of Big Data: Considerations of Late Prehistoric Demographics, Landscapes, and Archaeological Ontologies through the Digital Index of North American Archaeology (DINAA)*

Archaeologists today create a wide variety of digital archaeological site records composed of primary data, derivative interpretive explanations, and ontological descriptors which are used to represent the results of surveys, excavations, and collections research. Archaeological site definitions and descriptors, as reported through public agencies such as State Historic Preservation Offices, State Archaeologist offices, and similar entities, comprise the backbone of the Digital Index of North American Archaeology (DINAA). The completely public, free and open source, DINAA visualization and raw data download tools provide a unique-yet-reproducible informatics capacity to investigate the extent to which different strands of archaeological information, brought together in combination as archaeological big data, may illuminate different aspects of the lived past experiences gleaned from the archaeological record; in this case, data are presented regarding Late Prehistoric population densities, site distributions and definitions, and emergent patterns of professional sampling strategies at regional and continental scales.

**Wendi Wingerson (Beloit College) and Natalie Mueller (Cornell University)**

*Sumac for Food or Ceremony? Paleoethnobotanical Analysis of Middle Woodland Medicinal Plants*

Paleoethnobotanical analysis of Middle Woodland (ca 50 BC - AD 400) sites in the Lower Illinois Valley has focused on revealing patterns in ancient subsistence strategies. While diet and nutrition has been studied in depth, there has been a lack of research on the medicinal uses of plants. To address medicinal plant use, two previous paleoethnobotanical analyses were examined and 70 liters of flotation samples from a large feature were analyzed from the Mound House site (11GE7), Greene County, IL. Mound House is a Middle Woodland mound site dating to 50 BC to AD 400 that is theorized to be a floodplain mound center or seasonal civic-ceremonial site. These analyses show concentrations of medicinal plant remains in greater quantities than at other Middle Woodland sites. These plants are reported to hold ceremonial or 'alterative' qualities that may have been used during ceremonies at Mound House and similar sites.

**Katharine C. Woollen (Illinois State University) and Maria O. Smith (Illinois State University)**

*Foot and Ankle Squatting Facets in the Late Woodland Period Osteological Sample from the Schroeder Mounds (11He177) Site*

The compressive biomechanical forces caused by habitual squatting result in the development of distinctive flat platforms, or facet, along the anterior margin of the distal tibia and head/neck of the talus. These facets may also form on the distal metatarsals and pedal phalanges if squatting includes the heel-up position. An examination of adults in the Late Woodland (~AD 900-1150) period site of Schroeder Mounds indicates that over 68% (41/60) exhibit an ankle squatting facet with approximately 15% of also displaying distal metatarsal facets. Locations of tibial facets suggest differences in stance. Although females are more likely to exhibit facets (26/36, 72.2%), the difference (14/24, 58.3%) is not statistically significant ( $p=0.2803$ ). Additionally, a statistically significant number of habitual squatters ( $p=0.0001$ ) (5/41, 12.2%) exhibit specific ankle/foot osteoarthritic changes. More research is needed to test whether this posture is activity-specific, reflects division of labor by sex, or is simply a ubiquitous resting position.

**Jessica Yann**

*Trade Relationships of Eighteenth Century Ottawa along the Grand River, Michigan*

This paper examines the trade relationships between the Ottawa living along the Grand River in Michigan and the local traders, Rix Robinson and Daniel de Marsac during the late eighteenth century. Using a resource dependency framework to examine the material transactions between these groups, power dynamics, in the form of mutual dependency and power imbalance, can be observed. This allows for a more in-depth analysis of the trade and exchange that took place between these groups during a time of significant political upheaval.