

SYMPOSIUM ABSTRACTS

[1] FORUM ■ PRESIDENT'S FORUM: ARCHAEOLOGY AND THE MEDIA: A SYMBIOTIC RELATIONSHIP

Archaeological discoveries around the globe provide science journalists with a steady source of stories of wide public appeal. Archaeologists rely on media to extend the reach of their work and its significance to a wider audience. On the other hand the relationship between the media and archaeology is often fraught with miscommunication and lost opportunities. A panel of prominent +science journalists representing various media (television, radio, popular and scientific journals, and newspapers) and archaeologists with extensive experience in media relations explore this complicated relationship and how to improve it.

[2] GENERAL SESSION ■ RESEARCH ON LATE ARCHAIC AND POVERTY POINT PERIODS**[3] FORUM ■ CAPACITY-BUILDING FOR ARCHAEOLOGY IN THE 21ST CENTURY: HOW WILL PEOPLE MANAGE THE INFORMATION EXPLOSION?****(SPONSORED BY DIGITAL DATA INTEREST GROUP)**

Archaeology is experiencing a digital information explosion. We ask how archaeology is prepared, with human resources, to meet the challenges of an information-saturated environment. Databases, online archives, and grey literature proliferate, redefining collaboration, publication, and public stewardship. Today's university students (supposed "digital natives") often have poor information literacy. Data management requires advanced skills with desktop and Web applications. How can we prepare the next generation of archaeologists to cope with more data and changing tools? How does this information affect peer reviewed publication? How do we build broad technical and organizational capacity to better understand the archaeological record?

[4] SYMPOSIUM ■ DAVID H. KELLEY AND HIS CONTRIBUTIONS TO MESOAMERICAN ARCHAEOLOGY

David H. Kelley was an inspiration for his diverse and provocative approach to the pre-Columbian past. Throughout his long professional career, Kelley maintained a wide range of academic interests that influenced Mesoamerican studies worldwide. Best known for his fundamental role in the decipherment of Maya hieroglyphic writing, he was also a leader in Mesoamerican archaeoastronomy. Never limited to thinking within the 'box,' due, in part, to his vast and eclectic knowledge, Kelley helped to shape the field of Mesoamerican archaeology during the 20th century. The papers in this session discuss the wide-ranging nature and continuing influence of Kelley's significant contributions.

[5] POSTER SESSION ■ BIOARCHAEOLOGY IN THE ANDES**[6] POSTER SESSION ■ GEOARCHAEOLOGY****[7] POSTER SESSION ■ GEOPHYSICS SOLVING ARCHAEOLOGICAL PROBLEMS****[8] POSTER SESSION ■ SOUTH AMERICA****[9] POSTER SESSION ■ USING LIDAR IMAGES****[10] FORUM ■ RESEARCH IN THE FIELD: WHAT TO DO AND WHAT NOT TO DO IN RUNNING AN ARCHAEOLOGY PROJECT****(SPONSORED BY STUDENT AFFAIRS COMMITTEE)**

Whether you are beginning to write a dissertation or kick-starting your career, running your own field project can be an exciting but perilous process. Knowing how to run a proper research project—from gaining the proper permissions to obtaining the necessary funding and hiring a good crew—is critical to any successful career, especially a research-based field like archaeology. A well-run project with good data results can make or break your research. This Student Affairs Committee sponsored forum is designed to advise students on how to successfully run a field project from beginning to end.

[11] SYMPOSIUM ■ THE AURIGNACIAN IN THE CLASSIC REGION: NEW EXCAVATIONS, INSIGHTS AND APPROACHES

Comparisons between the Aurignacian (Upper Paleolithic) and the Mousterian (Middle Paleolithic) are often used to discuss the "transition" to modern human behavior in Europe. However, the Aurignacian exhibits extensive chronological, spatial and technological variability. This variability must be understood using modern excavation and analytical techniques before these data can be used in comparisons. This symposium focuses on the Aurignacian as an independent entity. The papers present results from recent inquiry (excavation, experimentation, analysis) into the nature of the European Aurignacian adaptation. Most are centered on the "classic region" (southern France), though other areas will be discussed.

[12] FORUM ■ THE IMPACT OF SPECIAL PURPOSE INSTITUTIONS ON THE FUTURE OF ARCHAEOLOGY

Archaeology is experiencing a rise in the creation of special purpose organizations. Joining established organizations are new institutes of archaeology, independent organizations focused on advancing segments of the archaeological endeavor and the expansion of leading CRM firms into fundamental research. These organizations bring new funding models and some already secured significant endowments. The impact of any individual organization may be limited; combined, they may lead archaeology in new directions. Directors from a number of leading organizations will articulate their vision, assess their successes and critically examine collective impact of their organizations on the future of archaeology.

[13] SYMPOSIUM ■ THE ROOTS OF CREOLE NEW ORLEANS: GARDENS AND MARKETS OF THE FRENCH QUARTER

In the last 10 years, the archaeology of New Orleans has been significantly enriched by several collaborative projects, particularly on colonial sites located in the French Quarter. These include the site of St. Anthony's Garden behind St. Louis Cathedral, which serves as the centerpiece for an ongoing comprehensive project aimed at deepening our understanding of how the city's early African, Native American, and European residents exchanged knowledge about medicine, gardening, food and domestic technologies. Papers will present results of new analyses on St. Anthony's Garden, the Rising Sun Hotel, and related sites in the French Quarter.

[14] SYMPOSIUM ■ FORENSIC ARCHAEOLOGY: RECENT CASES, CURRENT RESEARCH

As forensic archaeology continues to be utilised by crime scene investigators and law enforcement officials, case studies are of great use to those engaged in forensic work. This session aims to highlight recent projects from those active in the field. In addition, those involved in academia and postgraduate study have the opportunity to address areas untouched by current practitioners. This session also features research projects that are of benefit to forensic work and criminal justice.

[15] SYMPOSIUM ■ RECENT INVESTIGATIONS OF THE PACBITUN REGIONAL ARCHAEOLOGICAL PROJECT, CAYO DISTRICT, BELIZE

The Pacbitun Regional Archaeological Project (PRAP) has been conducting investigations in and around the Prehispanic Maya site of Pacbitun, Cayo District, Belize for the past four field seasons. This project represents the first investigations at the site in approximately 15 years. Much of this recent research has focused on the previously unexplored periphery, but has continued in the formally excavated epicenter. This symposium provides a forum for current project members and previous Pacbitun researchers to present their results on a wide range of topics including artifact production, causeways, caves, rock shelters, and minor centers.

[16] SYMPOSIUM ■ RESOURCES, NETWORKS, LANDSCAPES, AND FAMILY: RECENT DIRECTIONS IN HUNTER-GATHERER RESEARCH

This session showcases recent work investigating intertwined questions related to hunter-gatherer demography, subsistence, social relationships, and landscape use. The presenters explore a range of topics related to these questions, utilizing both archaeological and ethnographic data as well as a variety of modeling methods. New World and Old World examples are considered.

[17] SYMPOSIUM ■ CRITICAL THINKING IN ARCHAEOLOGY: PAPERS IN MEMORY OF DEE ANN STORY

For over four decades Dee Ann Story had a significant influence in archaeological research carried out by students and colleagues as she urged them to critically assess biases, methods, and alternative explanations of data. While her research largely focused on the Caddoan cultures of Texas, Oklahoma, Arkansas, and Louisiana, Dee Ann encouraged critical thinking regardless of the topic. In this session, former students and colleagues discuss how she aided and shaped their own research

with topics ranging from hunter-gatherer economics, social networks and interaction, bioarchaeological variation, human agency, consultation, and methodological advances.

[18] GENERAL SESSION ■ HISTORICAL ARCHAEOLOGY OF WESTERN NORTH AMERICA

[19] SYMPOSIUM ■ POLITICAL STRATEGIES IN PRE-COLUMBIAN MESOAMERICA

Anthropological discussions of power and authority in human societies frequently emphasize the need for rulers to differentiate themselves from other members of their community. The acquisition, maintenance, and exercise of political authority, however, are likely more complex, multifaceted processes. This session will explore the notion that those who are set apart as rulers must simultaneously demonstrate their sameness – to their followers, to past rulers, and to contemporaneous rulers of other communities. Specifically, the session will consider political strategies used in Pre-Columbian Mesoamerica and will examine whether and how rulers adopt strategies that resolve this apparent contradiction.

[20] SYMPOSIUM ■ STONES, BONES, AND PROFILES I: CELEBRATING THE CONTRIBUTIONS OF GEORGE C. FRISON AND C. VANCE HAYNES

Over the past five decades George Frison and Vance Haynes have become the most prominent pioneers in North American Paleoindian archaeology and Quaternary geoarchaeology. The pioneering contributions of these National Academy of Sciences members have created foundations of knowledge upon which their students and others continue to build, and have stimulated new ways of perceiving the early prehistory and ecology of North America. This session seeks to honor them with presentations on topics that exemplify their works individually or jointly. Such topics include the peopling of the Americas, experimental archaeology, flaked stone studies, geoarchaeology, and Plains/North American Prehistory.

[21] SYMPOSIUM ■ COORDINATE APPROACHES TO MIGRATIONS IN EPICLASSIC AND POSTCLASSIC MESOAMERICA

Ethnohistoric, linguistic, biological, and archaeological data coupled with imagery and epigraphy identify the Epiclassic through Middle Postclassic periods (6th to 14th centuries AD) of Mesoamerica as a particularly tumultuous time. Many processes triggered population movements as older cities declined and new ones arose, and as climatic or political change altered human relations with the landscape. These short and long distance migrations provide Mesoamericanists with important theoretical and methodological opportunities to address the interrelationship between material culture, biology, language, and social identity. This session takes advantage of Mesoamerica's rich documentation to pursue goals of broader anthropological relevance.

[22] GENERAL SESSION ■ RESEARCH IN THE YUCATAN PENINSULA

[23] SYMPOSIUM ■ ART MAKES SOCIETY

Archaeologists have investigated 'art' as meaning, symbols and representations, or cognition. Alternative

approaches include 'art and agency' models or work on aesthetics. We propose a new direction: Art is action; it is something people do as well as view. And action and practice are social: people act together, with or against others. Art is participatory, creating a focus or setting for relational action. It unites, divides or positions people. 'Art' objects and images – material culture - form an essential part of the materiality of groups, mediating social relations. Participants explore these ideas with case studies from around the globe.

[24] SYMPOSIUM ■ PUBLIC ARCHAEOLOGY IN THE 21ST CENTURY

(SPONSORED BY PUBLIC ARCHAEOLOGY INTEREST GROUP)

It has become increasingly common for public archaeology to no longer be viewed as synonymous with CRM and/or public education, but instead as the process whereby archaeology enters the public discourse. Under this definition, archaeologists are not viewed as conducting research on behalf of the public, but rather as mediators in the process whereby stakeholders and other interest groups negotiate the meaning of the past. The goal of this symposium is to educate professional archaeologists about the benefits and challenges of public archaeology by presenting examples of archaeological programs or projects in which the public has been successfully engaged.

[25] SYMPOSIUM ■ TRANSFORMATIONS DURING THE COLONIAL ERA: DIVERGENT HISTORIES IN THE AMERICAN SOUTHWEST

The American Southwest during the colonial period was a time of complex negotiations between and among indigenous groups and Spanish intruders. Many transformations occurred during this period in response to these new interactions and intrusions, forever changing the course of history throughout the region. This session draws together scholarship from across the Southwest to better understand these transformations and focuses on three divergent social and geographic contexts: Pueblo communities, Spanish colonial settlements in the New Mexico colony, and colonialism and missionization in the Pimeria Alta. Case studies help us to understand the divergent histories that were wrought by colonization.

[26] SYMPOSIUM ■ RITUAL PRACTICE IN THE ANDES

While ritual has been a widely researched topic in the humanities and social sciences, archaeologists still debate whether the practice of ritual is distinguishable from the activities of everyday life in the material record. The goals of this symposium include: (1) explore the methods (e.g. architecture, ceramic, landscape, paleoethnobotany, zooarchaeology) to identifying ritual practice; and (2) discuss the influence of ritual practice on the formation, reproduction, and change, not only of the social structure but also of community life in past Andean societies. Current research will be presented from various archaeological contexts and time periods in the Andes.

[27] GENERAL SESSION ■ ARCTIC AND SUBARCTIC ARCHAEOLOGY

[28] SYMPOSIUM ■ REFLECTING ON THE ROLE OF WOMEN

IN ARCHAEOLOGY

(SPONSORED BY COSWA)

Women's roles in archaeology have varied. Women have founded and pioneered major avenues of research and methodology, been relegated to labwork, discouraged from fieldwork due to sexism and traditional gender roles, and mentored the next generation. This symposium reflects on the experiences of women in archaeology and on those who have benefited from their knowledge. Questions addressed include: Have changing gender norms affected views of women in archaeology?; Has a shift occurred in recognizing sexism within archaeology?; Do experiences differ between CRM, government, and academia?; In what ways might mentorship of male students by female professors differ?

[29] GENERAL SESSION ■ BIOARCHAEOLOGICAL ANALYSES IN SOUTH AMERICA

[30] SYMPOSIUM ■ THE SOUTHERN MESOAMERICAN HIGHLANDS AND PACIFIC COAST IN PERSPECTIVE: RECENT RESEARCH

The last years has seen an increase of research in the Highlands and Pacific Coast of Chiapas, Guatemala, and El Salvador. This symposium will present results from archaeological projects that include data on settlement survey, excavations, and analysis. These enlarge our knowledge of the understanding of the rise and fall of social complexity in southern Mesoamerica. Papers will focus on the Preclassic, Classic and Postclassic periods, showing the importance of understanding regional developments linked to our larger comprehension of Mesoamerica social processes.

[31] SYMPOSIUM ■ TRIBAL HISTORIC PRESERVATION OFFICES: ISSUES AND LESSONS LEARNED (SPONSORED BY IGIP AND CNAR)

Tribal Historic Preservation Officers face a multitude of special issues and hurdles when it comes to managing and protecting varied tribal cultural resources. These issues are seldom heard or discussed within the larger field of archaeology, nevertheless, these issues are of paramount importance to all archaeologists and their lessons can and should be used by other archaeologists when working collaboratively with tribal nations and communities to help improve historically tense relationships. The issues discussed in this symposium it is hoped, will create a dialogue and open possible avenues for further collaborative research between THPO, their offices, and archaeologists.

[32] SYMPOSIUM ■ COLLECTIVE BURIALS, COLLECTIVE IDENTITIES?

Collective burials – such as those of Neolithic Europe - are generally presumed to reflect a collective identity shared by the individuals housed in these burials. Put another way, the spatial contiguity of individual burials is assumed to indicate social proximity. What is the basis of this assumption, and what are the problems with it? How does our understanding of collective burials change when high-resolution chronologies are obtained of multiple individuals from a tomb? This session presents current thinking on collective tombs, focusing on those in Neolithic Europe, and draws on recent results of chronological studies and ethnographic comparisons.

[33] SYMPOSIUM ■ **THE SAN ANTONIO RIVER: SHAPING LIFEWAYS IN SOUTH TEXAS FOR 10,000 YEARS: RECENT ARCHAEOLOGY IN THE SAN ANTONIO RIVER BASIN**

In the past few years there has been an increase in archeological excavations along the San Antonio River, due primarily to the San Antonio River Improvement Project and enhancements which will bring an influx of new recreational opportunities, development and tourism along the San Antonio River. These investigations have greatly increased our knowledge of settlement patterns in this area from the PaleoIndian period through Spanish Colonial times. This session focuses on some of these newly discovered sites as well as research at Spanish Colonial sites that are directly and indirectly related to this project.

[34] SYMPOSIUM ■ **FORT ROSALIE: AN OUTPOST ON THE FRENCH COLONIAL FRONTIER**

Founded in 1716, Fort Rosalie was a node of order, communication, and trade of the Natchez Region, the Mississippi Territory, and eventually the State of Mississippi. It was also an early center of government prior to the establishment of civilian government. In 1729, it became the flashpoint of conflict between the Natchez Indians and French colonials, which brought an end to the French agricultural colony at Natchez, and to the Natchez Indians. This session presents data and information recovered from excavations conducted by the National Park Service's Southeast Archeological Center at the Fort Rosalie site, Natchez National Historical Park.

[35] POSTER SESSION ■ **ETHNOBOTANY AND PLANT USE**

[36] POSTER SESSION ■ **MAPPING, GIS, GPS**

[37] POSTER SESSION ■ **NEW GEOARCHAEOLOGICAL APPROACHES TO PALEOENVIRONMENTS AND SETTLEMENTS**

(SPONSORED BY GEOARCHAEOLOGICAL INTEREST GROUP)

This session is dedicated to new geoarchaeological research and is sponsored by SAA's Geoarchaeology Interest Group. Participants consider a wide range of applications including paleoenvironmental reconstruction, ancient agriculture, site formation, historical settlement and prehistoric monuments. This research is global in context and employs both traditional (paleoenvironmental, coring) and emerging (chemical residue analysis, XRF) methods

[38] POSTER SESSION ■ **PALEOENVIRONMENTAL RESEARCH**

[39] POSTER SESSION ■ **PALEOENVIRONMENTAL STUDIES IN SOUTH AMERICA**

[40] GENERAL SESSION ■ **IROQUOIAN STUDIES**

[41] SYMPOSIUM ■ **SUBMERGED CAVE ARCHAEOLOGY: METHODS, THEORY, AND RECENT FINDINGS**

Submerged caves present different challenges and opportunities than traditional underwater sites. Springs, flooded caverns, sinkholes, cave lakes, and siphons are significant as features in ancient landscapes and sheltered environments that protect cultural material from nature's dynamic forces. A relatively small number of submerged cave sites have been published; however,

interest is on the rise as archaeologists realize the potential of these sites. Publications show that approaches differ widely based on the background and training of the archaeologist. This session acts as a discussion for this developing subdiscipline while examining methodological approaches, theoretical frameworks for interpreting cave sites, and recent findings.

[42] SYMPOSIUM ■ **CULTURAL LANDSCAPES AS HISTORIC PROPERTIES. MANAGING NATIONAL GUARD BUREAU TRAINING LANDS WITHIN A BROADER SPATIAL CONTEXT (SPONSORED BY NATIONAL GUARD BUREAU)**

Cultural resources such as archaeological sites or historic structures do not exist in a vacuum, but are more often than not part of a larger network of continuous activity and land use. In order to appropriately manage historic properties under Army National Guard (ARNG) jurisdiction, it is necessary to consider them within a broader spatial context, what is called a landscape perspective. This may require consideration of several different types of resources (such as a group of structures, archaeological sites, and natural features as they change over time) as a single integrated system of cultural activity.

[43] GENERAL SESSION ■ **PLAINS ARCHAEOLOGY**

[44] GENERAL SESSION ■ **PAPERS ON EXPERIMENTAL ARCHAEOLOGY**

[45] GENERAL SESSION ■ **STUDIES SPANNING THE ARCHAIC AND WOODLAND PERIODS**

[46] SYMPOSIUM ■ **FROM SOURCE TO CENTER: RAW MATERIAL ACQUISITION AND TOOLSTONE DISTRIBUTIONS (SPONSORED BY PREHISTORIC QUARRIES AND EARLY MINES INTEREST GROUP, ARCHÆOLOGIC USA, LLC)**

Quarry locales are often separate from where people lived. In such cases, toolstone procurement may require organized task groups to obtain the raw material and bring it to reduction areas or ultimately to use and then discard zones, rather than ad hoc opportunism. This symposium examines patterning and cases that diverge from the expected, to better understand the relationship between places where populations use their tools and the locations where raw materials are found. In turn, by looking closely at these relationships, archaeologists may come to new conclusions about the technological systems within which tool making plays a key role.

[47] SYMPOSIUM ■ **COLOR IN THE AMERICAN SOUTHWEST, AD 1150-1600**

Color is important in every culture, past and present, yet archaeologists have little understanding of how ancient Southwesterners used color. The papers in this session examine the prevalence (and absence) of different colors in various media, from ceramics, painted murals, and rock art to textiles, plaster, and painted figurines. They also address the technical and material constraints of pigments and dyes used in different media. Each paper focuses on a specific time, place, and medium, combining to create a picture of the use of color in the ancient Southwest from the mid-12th century through the protohistoric

[48] FORUM ■ **DEVELOPING STANDARDS FOR ETHICAL MANAGEMENT OF ARCHAEOLOGICAL COLLECTIONS**
(SPONSORED BY COMMITTEE ON MUSEUMS, COLLECTIONS, AND CURATION)

Stimulated by the Society for Historical Archaeology's recent proposal to develop inter-organizational standards for collections management, and in the context of the curation crisis, the Committee on Museums, Collections, and Curation invites SAA members to participate in an open forum focused on the ethics of managing archaeological collections in the field and the repository. Building on SAA's Ethical Principle No. 7 (Records and Preservation) and related implementation guidelines, we plan to discuss culling, deaccessioning, in-field analysis, and standards for evaluating collection significance. The goal is that participants come away better prepared to represent SAA in discussions with other organizations.

[49] GENERAL SESSION ■ **ETHICS BOWL**

[50] SYMPOSIUM ■ **MISSISSIPPIAN IN MISSISSIPPI: CHIEFLY POWER AND MONUMENTALITY IN THE NORTHERN YAZOO BASIN**

Prehistoric archaeological sites and earthen monuments in Mississippi's northern Yazoo Basin constitute an anthropogenic landscape that is patently distinctive within the greater Mississippian Southeast. While platform mounds were constructed throughout the Southeast, the density of Mississippian mounds, and the frequency of their construction, makes the Yazoo Basin unique. Using theoretically informed analyses of archaeological data, this session focuses on monumentality and landscape as a medium that embodies the organizational abilities of institutionalized leaders. By coordinating the formation of this anthropogenic landscape, leaders reinforced and institutionalized systems of social organization and power.

[51] SYMPOSIUM ■ **WHAT ROLE DID CHANGING TEMPERATURES PLAY IN THE SUCCESS OF NORTH AMERICAN FARMING SOCIETIES IN THE LAST PREHISPANIC MILLENNIUM?**

Prehispanic agriculture in North America depended heavily on three plants: maize, beans, and squash. Since all except the domesticated squash used in eastern North America were tropical in origin, temperature probably constituted a major limiting factor in their northwards expansion. Here we review evidence for changing paleotemperatures in North America from AD 500 to 1500 and compare that with evidence for the range of, and degree of dependence on, these cultigens across North America, to assess how the success of farming societies in each area was affected by changing temperature regimes.

[52] SYMPOSIUM ■ **BEYOND THE IMPERIAL FRINGE: EXPERIENCING THE INCA EMPIRE FROM THE OUTSIDE**

Empires are ubiquitous to human history. Empire implies, at the simplest level, a relationship between colonisers and colonised; yet there is another relationship, that of the empire to the uncolonised. This third group encompasses those beyond immediate imperial control, veritable trans-frontier communities. This session then investigates the people on, and beyond the edge of the Inca Empire and how they interacted with this new imperial presence; emphasising changes across all

aspects of society, especially identity within these trans-frontier polities. The aim is to arrive at a preliminary vision of the development of these societies along the whole of Inca Empire.

[53] SYMPOSIUM ■ **THE ARCHAEOLOGY AND LEGACY OF THE 1862 HOMESTEAD ACT AND RELATED USE OF THE GENERAL LAND OFFICE RECORDS FOR THE BUREAU OF LAND MANAGEMENT**

2012 marks the bicentennial of the General Land Office and the sesquicentennial of the Homestead Act. As part of the Bureau of Land Management's commemoration of these events. Without them the West today would not exist as we know it. The presenters will discuss their use of the GLO records for research, investigations of the historic remains of homesteads, capturing reminiscences of homesteading descendents, and sharing these heritage resources with the public.

[54] SYMPOSIUM ■ **INSIGHTS FROM SMALL STATE DYNAMICS AND SETTLEMENT PATTERNS: PAPERS IN HONOR OF BARBARA L. STARK**

For almost four decades, Barbara Stark has made important contributions to an impressive variety of topics and methods in Mesoamerican archaeology enhancing our knowledge of coastal adaptations, craft production, urban forms, gardens, interregional interaction, and the effective application of settlement pattern research. The conceptual and methodological breadth of Stark's research on small state dynamics in Veracruz has inspired generations of students and colleagues in Mesoamerica and beyond. The papers in this session are directly inspired by topics, ideas, and methods introduced by Stark and include presentations by Stark's colleagues and past and present graduate students.

[55] SYMPOSIUM ■ **STONES, BONES, AND PROFILES II: CELEBRATING THE CONTRIBUTIONS OF GEORGE C. FRISON AND C. VANCE HAYNES**

Over the past five decades George Frison and Vance Haynes have become the most prominent pioneers in North American Paleoindian archaeology and Quaternary geoarchaeology. The pioneering contributions of these National Academy of Sciences members have created foundations of knowledge upon which their students and others continue to build, and have stimulated new ways of perceiving the early prehistory and ecology of North America. This session seeks to honor them with presentations on topics that exemplify their works individually or jointly. Such topics include Paleoindian prehistory, faunal exploitation, bone bed taphonomy, and Plains/North American Prehistory.

[56] SYMPOSIUM ■ **ANSWERING PSEUDOARCHAEOLOGY: PROACTIVE DIALOGUE AND RESEARCH IN RESPONSE TO EXTRAORDINARY POPULAR AND ESOTERIC ARCHAEOLOGICAL CLAIMS**

In popular media and culture, extraordinary and esoteric claims, dubbed "pseudoarchaeology," dominate the image of the human past. The success of these alternative narratives demonstrates a latent interest in archaeology that the scientific community has not been able to satisfy. Past efforts to confront pseudoarchaeological claims have focused on dismissal and redirection to questions of more viable research interest to scholars, a tactic that has not borne much fruit.

This session instead points to a more proactive model of research and presentation directly aimed at the "alternative" questions regarding the human past that are popular in public discourse.

[57] SYMPOSIUM ■ THE "NETWORKED" FEAST

Examining the feast requires interrogating its surrounding networks--networks of integration with social practice and cultural boundaries--and asks how meanings are maintained, strengthened and restructured. At the same time, the individual calculus of conspicuous consumption draws us towards economic networks, such as production, distribution and ownership. The objective of the "networked feast", then, is to understand the variegated negotiations that are incorporated through these events while investigating the networks that they synthesize. By delimiting and reinterpreting categories of feasting, we seek to provide a theoretical and methodological roadmap that will help guide future research.

[58] SYMPOSIUM ■ INTERDISCIPLINE FOR THE PAST: ARCHAEOMETRICAL STUDIES IN MESOAMERICA

Archaeometry is a wide field of research that is defined as the application of scientific techniques to the analysis of archaeological material. In Mesoamerica, archaeometrical studies have been developed as a disciplinary link between anthropological and natural or exact sciences, for the analysis of movable and unmovable cultural objects. The present symposium is intended to discuss the advance of an interdisciplinary field of study that implies a close collaboration between archaeologists and other scientific disciplines, and as an approach that uses modern instrumental techniques to extract historical, cultural, and technological information from archaeological and historical materials and contexts of Mesoamerican heritage.

[59] SYMPOSIUM ■ UNIQUE MORTUARY RITES: INTERPRETATIVE CHALLENGES AND OPPORTUNITIES FOR NON-MODAL FUNERARY PRACTICES

Most archaeological approaches to mortuary practice tend to focus on the identification of patterns of variability that allow us to examine the social, political, and/or ideological dimensions that governed mortuary behavior in the past. However, interpretations based on modal patterns are often challenged by unusual funerary contexts, such as ossuaries, cenotaphs, and dismembered bodies. The goal of this symposium is to shift our attention to these distinctive and often overlooked mortuary cases in order to reconsider our methodological and interpretive framework. Incorporating such examples offers key insights into the fluid and sometimes contested relationships between the living and the dead.

[60] SYMPOSIUM ■ BIOARCHAEOLOGY OF ASIA

There is a growing interest in bioarchaeological research in Asia (e.g. Oxenham and Tayles, 2006, Robbins-Schug, 2011). This region poses some unique research issues, including complex population interaction and movement, and subsistence strategies. This session explores these issues by presenting work that investigates migration and population movement and the effect that the intensification of agriculture and emerging socio-political intensification had on past peoples' health

and society. In this symposium we also aim to integrate interpretation of skeletal materials with their archaeological contexts.

[61] SYMPOSIUM ■ CURRENT TRENDS IN BELIZEAN ARCHAEOLOGY

In recent years, a tremendous quantity of new archaeological research has been conducted in Belize, Central America, shedding new light on the lives of the Ancient and Colonial Period Maya, as well as those who preceded the Maya and colonized this region in the 17th-19th centuries. Researchers are focusing on multiple lines of investigation; excavating newly discovered sites, compiling greater regional analyses, applying cutting-edge investigative methods, and undertaking comparative approaches. This session brings together papers on some of this recent work from various sites throughout Belize, and highlights the important research contributions emerging from this nation.

[62] GENERAL SESSION ■ MEXICAN ARCHAEOLOGY

[63] GENERAL SESSION ■ NEAR EAST AND EUROPE, EPIPALEOLITHIC THROUGH CHALCOLITHIC

[64] GENERAL SESSION ■ PAPERS ON ARCHAEOLOGICAL METHODS

[65] GENERAL SESSION ■ CONTRIBUTIONS IN PUBLIC EDUCATION AND OUTREACH

[66] SYMPOSIUM ■ AN INCONSTANT LANDSCAPE: ARCHAEOLOGICAL INVESTIGATIONS AT EL ZOTZ, GUATEMALA

Archaeologists have been investigating the ancient Maya site of El Zotz and its surrounding landscape for six seasons. This symposium uses such data to study concentrated Maya settlement in a region of conflict and alliance with larger polities. There will be two parts to the session: 1) a set of papers examining the El Zotz landscape on a period by period basis; 2) a set of papers by project specialists focusing on topics such as the paleoenvironment, ceramics, and lithics. The goal of this session is to construct a coherent narrative of cultural and landscape change around El Zotz.

[67] POSTER SESSION ■ HISTORICAL ARCHAEOLOGY OF NORTH AMERICA

[68] POSTER SESSION ■ LA RECONNAISSANCE: ARCHAEOLOGY IN TRINIDAD'S NORTHERN RANGE

Recent archaeological research in Trinidad's Northern Mountain Range has yielded exciting new results about Amerindian lifeways in the island's interior. Most previous research on the island has focused on shell mound sites along the coast. These previous studies have emphasized inter-island exchange networks and importation. Archaeological research at the multicomponent La Reconnaissance site paints a more nuanced view and indicates that while certain artifact styles are shared with other parts of the Caribbean, artifact manufacture emphasized local resources and production.

[69] POSTER SESSION ■ NEW VOICES HEARD: CONTEMPORARY STUDIES IN AFRICAN, AFRICAN

AMERICAN, AND APACHE ARCHAEOLOGY

Africans, African Americans, and Apaches have long been underrepresented in archaeology, both as practitioners and as subjects of research. While the last ten years have witnessed great strides in investigations of these diverse communities, the number of voices heard remains small. Recent studies by students at Howard and other universities, however, promise to help change that situation. This session brings together research by undergraduate and graduate students on different archaeological problems, ranging from studies of structures and artifacts to considerations of trade and commerce in different communities. Together, they offer fresh perspectives on pasts that are still only

[70] POSTER SESSION ■ RESEARCH ON THE MAYA**[71] POSTER SESSION ■ STUDIES IN MESOAMERICAN ARCHAEOLOGY****[72] FORUM ■ BIOARCHAEOLOGY IN CULTURAL RESOURCE MANAGEMENT: PRACTICE, PROFESSIONALISM, PROSPECTS**

This forum addresses the role of bioarchaeologists in CRM, including a range of issues regarding professionalism and practice. The discussants work in corporate and agency settings in the field, laboratory, office, and at the negotiating table. They bring their experience to discuss such questions as: How can bioarchaeologists can have a proactive role in planning and implementation of fieldwork? What strategies work best for in situ and in-field analysis? What is the bioarchaeologist's role in addressing descendant communities' interests? What ethical and professional issues pertain when publication or data use is prohibited, and is research fundamentally incompatible with compliance?

[73] SYMPOSIUM ■ PATHS TO POWER: STRATEGIES OF HIGHLAND MESOAMERICA'S LATE FORMATIVE AND EARLY CLASSIC RULERS

The Formative/Classic transition was a time of great demographic upheaval for Mexico's highland communities. As the competitive chiefdoms of the Late Formative failed to keep pace with growing population density, increasing social inequality, intensified territorialism, and environmental degradation, rulers experimented with new ways of constructing and maintaining power. This symposium seeks to explore the nature of this experimentation by examining building projects, ritual practice and specialized production in the context of shifting exchange networks and political alliances.

[74] FORUM ■ REFLECTIONS FROM THE GLITTERING SEA: NEW RESEARCH AND INSIGHTS INTO THE HUMAN AND ECOLOGICAL HISTORIES OF THE CALIFORNIA ISLANDS

While the Baja and Alta California islands were home to a variety of indigenous societies, there are similarities in the ways these peoples inhabited and interacted with their island homes over the course of millennia. Despite parallels, some chose different pathways to resolve comparable challenges. It is in examining and discussing these convergences and divergences through cultural residues and environmental data (past and present) from these special, bounded landscapes that will aid the ways in which we attempt to elucidate and retell this

remarkable past.

[75] SYMPOSIUM ■ ZOOARCHAEOLOGY OF COASTAL MESOLITHIC

Mesolithic archaeology has greatly developed in the last years producing a great amount of new zooarchaeological data. Archaeofaunal studies from these sites are fundamental to shed a new light and understanding to the Paleoeconomy and Paleoecology of Mesolithic coastal hunter-gatherers. We would like to discuss such topics as animal resources, hunting methods, seasonality, and evidence of human pressure and how they can help interpret the social, cultural and environmental changes of the early and middle Holocene.

[76] SYMPOSIUM ■ RECENT INVESTIGATIONS AT THE ROLLING FORK SITE: LATE MISSISSIPPIAN IN THE LOWER DELTA

In 2008-2010, the USACE, Vicksburg District contracted Panamerican Consultants to investigate a 32-acre parcel containing part of the Rolling Fork Mounds, 22SH506, a Late Mississippian Deer Creek Phase village, with two large mounds, a plaza, and habitation areas. The project involved geophysical survey and multiphased excavations and was the first intensive, multidisciplinary study of a single component Deer Creek phase village. Characterization of the artifact and feature assemblages combined with zooarchaeological, archaeobotanical, and bioarchaeological analyses give us a detailed examination of a late Mississippian occupation in the Lower Delta. This project also represents close collaboration with several Native American Tribes.

[77] GENERAL SESSION ■ ANDEAN ARCHAEOLOGY**[78] GENERAL SESSION ■ ONEOTA AND OTHER UPPER MISSISSIPPIAN****[79] GENERAL SESSION ■ ARCHAEOLOGY IN FLORIDA****[80] GENERAL SESSION ■ ETHNOBOTANICAL AND PALEOENVIRONMENTAL STUDIES IN NORTH AMERICA****[81] FORUM ■ DIGITAL DATA STANDARDS AND "BEST PRACTICES" NEEDED FOR ACCESS TO AND PRESERVATION OF ARCHAEOLOGICAL INFORMATION**

With ever greater frequency, archaeologists produce and use archaeological information and data in digital formats. Grants programs, curation agreements, background research, comparative studies, and syntheses of archaeological information require better access to and long-term preservation of digital archaeological data. Some standards and "best practices" already exist, others remain to be developed. Participants will discuss existing standards, efforts underway to provide better or needed standards, and related key topics from the perspectives of data-generating, funding, preservation, and regulatory agencies, as well as organizations that have created and utilized standards.

[82] FORUM ■ RECENT RESEARCHES ON THE ARCHAEOLOGY OF SOUTH INDIA: SACRED AND POLITICAL LANDSCAPES OF KARNATAKA FROM THE EARLY HISTORIC TO EARLY COLONIAL PERIODS

This panel will discuss the identification of long term continuities and shifts in the use and re-use of sacred and political landscapes in Karnataka through a consideration of both material culture and historical analysis. We argue that landscapes are constituted by and continually constitute human actions (after Bender 1993). Uthara Suvrathan highlights the Early Historic (ca. 300 BC-ca 500 AD) landscape of Banavasi in west-coastal Karnataka. Hemanth Kadambi discusses the Early Medieval period (ca. 550AD-ca. 900 AD) in North Karnataka. Elizabeth Bridges discusses the Medieval (ca. 900 AD-ca 1700 AD) Vijayanagara empire and their Early Colonial Nayaka subordinates and successors.

[83] POSTER SESSION ■ **EUROPE, AFRICA, NEAR EAST**

[84] POSTER SESSION ■ **LITHIC ANALYSIS**

[85] POSTER SESSION ■ **SOUTHWEST**

[86] SYMPOSIUM ■ **THE ARCHAEOLOGY OF SUSTAINABILITY**

This session will explore the current state of sustainability research in archaeology. Drawing on research spanning a wide range of geographic and temporal settings, attention will be paid to how archaeologists study sustainability and resilience, theoretical and practical constraints and how we might seek to resolve them. Enhanced multidisciplinary approaches to the study of sustainable systems that explicitly employ long term perspectives on human ecodynamics will contribute not only to a better understanding of our past but also to more useful, policy-relevant application of this knowledge to tackling the concerns we face today.

[87] GENERAL SESSION · **ARCHAEOLOGY IN GUATEMALA, HONDURAS, AND SOUTHERN MEXICO**

[88] GENERAL SESSION · **ARCHAEOLOGY OF ANCESTRAL PUEBLOS AND PAQUIME**

[89] SYMPOSIUM ■ **COMPLEX PROJECTILE TECHNOLOGY: NEW INSIGHTS FROM ETHNOARCHAEOLOGY, EXPERIMENTATION AND ARCHAEOLOGY**

Complex projectile technology is thought to have been a major factor in our species' evolution, dispersal, and adaptive success. Past archaeological efforts to investigate the origins of projectile technology using typological approaches have been of limited value because of inadequate middle-range theory about generative behavioral variability. Why did prehistoric people use a particular weapon system, or combination of systems, and not others? This symposium pulls together studies from ethnoarchaeology, experimental studies, and the archaeology of both Old and New Worlds to examine the sources of variability in complex projectile weapons systems.

[90] SYMPOSIUM ■ **DIG IT! INTERSECTIONS BETWEEN EXCAVATION METHODS AND RECORDING SYSTEMS**

Archaeologists have continually developed new ways to excavate and record, but what's driven the changes that have been introduced? Has commercialisation led to an increased emphasis on elaborate systematic recording systems at the expense of critical excavation methods? Are the strategies adopted for an archaeological investigation driven by the recording system, the

excavation methods used, the research objectives, or all three? This session will address the issue of why excavation methods and recording systems used in field archaeology are the way they are, seeking to identify the causes of diversity and its impact on the results of archaeological investigations.

[91] SYMPOSIUM ■ **HISTORICAL ECOLOGY, LANDSCAPE CAPITAL, AND "SENSES OF PLACE"**

Historical ecology examines the complex historical relationship between communities and their natural and engineered landscapes. Presently, this perspective's archaeological application outside of the Americas is limited. We examine its application to a broad range of sedentary and transhumant societies in different regions. The symposium expands upon the historical ecology framework by examining the intersection of this framework and work on "senses of place" and how "landscape capital" operated in different societies. These issues are relevant to anthropological theory and today's world because they address long-term landscape evolution and how local knowledge and place-making tie into sustainable land-use strategies.

[92] SYMPOSIUM ■ **LIVING ON THE EDGE: LOCAL ENTANGLEMENTS IN GLOBAL PERSPECTIVE(S)**

This session seeks to open a dialog between the perceived core and its margin, between contemporary models and past social practice, between Worlds 'Old' and 'New,' and between the scales of local and global. Archaeology at the 'edges', of complex systems or of historical narratives, provides local insights on the processes of conjuncture, entanglement, and cooptation. We will examine and/or problematize systemic perspectives on the past, through explorations of local consumption of exotic goods, mobility, maintenance or development of frontiers, continuity and change in livelihoods and craft production, and situations of culture contact and overlap at various scales.

[93] SYMPOSIUM ■ **EXCAVATIONS AT SCHÖNINGEN AND NEW INSIGHTS INTO MIDDLE PLEISTOCENE ADAPTATIONS IN NORTHERN EUROPE**

Since the middle of the 1990s Schöningen has stood at the center of discussions about the lifeways of hominins in northern Europe during the Middle Pleistocene. The eight wooden spears and the rich faunal remains from the site brought a sudden end to the great hunting vs scavenging debate of the preceding decade. The spectacular preservation of the finds from the site has provided key insights into a wide range of other archaeological topics. The site instantly became a mainstay of the cannon of archaeological knowledge. This symposium presents the results from the ongoing excavations and of the state-of-the-art research at Schöningen. The session aims to go beyond the myths of this key site and critically examine the data and competing hypotheses on topics including: paleoenvironments, site formation, chronostratigraphy, pyrotechnology, lithic economy, subsistence practices and social organization.

[94] SYMPOSIUM ■ **COMMINGLED AND DISARTICULATED HUMAN REMAINS: WORKING TOWARDS IMPROVED THEORY, METHOD AND DATA**

Commingled and disarticulated human remains present

unique challenges for bioarchaeology and archaeology. The goal of this session is to explore how new theories, better methodologies, and creative interpretation of data employed by bioarchaeologists and archaeologists. For example, bioarchaeologists can benefit not only from techniques derived from zooarchaeological method in the formulation of population size (e.g. MNI, NISP), but also the frameworks used to mitigate biases introduced into the sample. New approaches to data collection, especially with taphonomic recording, are setting new standards and demonstrate utility in bioarchaeological analysis.

[95] SYMPOSIUM ■ IDENTIFYING TRACES OF CULTURAL CONTACT, INFLUENCE, AND EXCHANGE IN THE ARCHAEOLOGICAL RECORD - A GENERAL ISSUE AS SEEN FROM MATERIAL IN SOUTHEAST ASIA AND SOUTHWEST CHINA

Recent archaeological research has highlighted the importance of inter- and intra-regional exchange and contact in the early cultural developments in Southeast Asia and Southwest China. This symposium gathers papers exploring mechanisms of culture contact, influence, and exchange within the varied environment of this area as seen from the archaeological record, investigating inter- as well as intra-regional contact. It thus provides a platform not only for presenting recent advances in the archaeology of Southeast and East Asia, but also for discussing theoretical issues of cultural contact and exchange networks, and the way they are influenced by geographic preconditions.

[96] SYMPOSIUM ■ PALEOECOLOGY AND TAPHONOMY OF FAUNAL LANDSCAPES

This symposium seeks to bring together professionals working in both the New and Old World in order to foster a new working relationship among those interested in Paleoindian and Paleolithic faunas. Although each region and time period is distinct and the same questions cannot be asked of each site, closer ties within the taphonomic community can work to address some of the fundamental issues regarding fossil bone accumulations. Renewing efforts in collaborative research will reinvigorate the conversation about taphonomy's role in archaeological interpretation by sharing research goals and methods that may be useful for sites segregated by spatial and temporal scales.

[97] SYMPOSIUM ■ CEREMONIAL SPHERES OF THE EASTERN WOODLANDS

The ceremonial nature of such Eastern Woodland macro-assemblages as Red Ochre, Adena, Hopewell, Swift Creek, Mississippian, etc., along with their distributions, is widely recognized as delineating extensive systems of inter-regional interaction in their respective periods. This symposium takes this ceremonialism as basically religious in nature, and treats their distribution from ca 4000 B.C. to A.D. 1500 as reflecting the dynamics of ceremonial spheres of panregional religious interaction. The symposium asks how archaeology can use these assemblages to broach religious practices and how or if we can relate these ceremonial practices to the subsistence and settlement practices of the same regions."

[98] SYMPOSIUM ■ MESOAMERICAN TARASCANS, THEIR

FORBEARERS AND NEIGHBORS: ESSAYS IN HONOR OF HELEN POLLARD

Once an under-studied corner of Mesoamerica, West Mexico has become the focus of intense archaeological inquiry. Providing a useful counterpoint to models based in Central and Mayan Mesoamerica, these essays focus on the unique cultural histories of the larger North and West region and the cultural context of Tarascan emergence. In accordance with the legacy of Helen Pollard, this symposium reflects the collaborative multidisciplinary and multi-national research of the region.

[99] GENERAL SESSION ■ PAPERS ABOUT HERITAGE AND MANAGEMENT OF CULTURAL PROPERTY

[100] GENERAL SESSION ■ PAPERS ON PALEOINDIAN ARCHAEOLOGY

[101] SYMPOSIUM ■ ROCK ART: METHODOLOGY AND INTERPRETATION IN THE ARCHAEOLOGY OF THE SITE (SPONSORED BY ROCK ART INTEREST GROUP)

The cultural manifestation we label rock art has the potential of being identified and recorded from wherever humanity has traveled. In the pursuit of innovative instrumental technique, enhanced interpretive insight and successful approaches to preservation, this Rock Art Interest Group sponsored symposium is intended to provide a context within which recent archaeologically informed rock art research can be shared.

[102] SYMPOSIUM ■ SCRIBES & COMMONERS, WAR & PEACE: FORTY YEARS OF MESOAMERICAN ARCHAEOLOGY AT PENN STATE

Archaeology at Penn State is well known for its emphasis on the intersection of ecology and cultural complexity. The explanatory perspective of cultural ecology has been successfully used to conduct dozens of archaeological projects over the past forty years and to produce abundant research that has furthered the knowledge of the human condition. Understanding of socio-political evolution and conflict has been advanced through an empirical approach to the studies of settlement patterns, household archaeology, and demography, among other topics. This session will revisit and update some of Penn State's classic studies of the diverse culture area of Mesoamerica.

[103] SYMPOSIUM ■ SOCIO-NATURAL SYSTEMS IN PASTORAL AND AGRO-PASTORAL SOCIETIES: ARCHAEOLOGICAL INVESTIGATIONS OF PASTORAL LANDSCAPES

This symposium brings together Near Eastern and Eurasian archaeologists in order to investigate new approaches and research agendas for modeling ancient and modern agropastoral and pastoral systems. The connections between humans, domesticated plants and/or animals, and the environment or climate are of fundamental interest. Three distinct levels of investigation have been defined: (1) archaeological, ethnoarchaeological, geoarchaeological, and paleoecological field research related to adaptive strategies of animal husbandry systems; (2) construction of empirical middle-range models to interrogate specific aspects of pastoral and agropastoral socioeconomies; and (3) the integration of these middle-range models into

formalized, dynamic “system” models of socionatural change.

[104] SYMPOSIUM ■ **WARI IN MOQUEGUA-IMPERIAL PROCESSES AND MULTI-ETHNIC INTERACTIONS**

The Middle Horizon in Moquegua, Peru was a time characterized by multiple ethnic groups and diverse interactions. Both the Wari and Tiwanaku polities colonized the region and small local groups occupied the coast, middle valley, and sierra. These groups had different ways of life, in terms of political integration, ritual practices, and subsistence economies. The papers presented in this session describe preliminary results from three seasons of excavation at Cerro Mejía and other recent research in Moquegua to understand the Wari colonial occupation, as well as, the interactions and impacts Wari intrusion had on local groups, and Tiwanaku colonists.

[105] SYMPOSIUM ■ **WOMEN IN THE PAST: BIOCULTURAL SIGNATURES OF CONTRIBUTIONS TO AND SACRIFICES FOR SOCIETY**

Expanding on the exploration of women in the past and intertwining the disciplines of archaeology, biological anthropology, and ethnography the focus of this session is to develop a broader understanding of lives and roles of women in the past. Recognizing that women do carry a different biological burden in society than men as a result of their reproductive roles, it is the goal here to remember that their reproductive abilities do not disable them. To do this, the papers in this session identify and examine the various ways in which women contribute to, and sacrifice for, society.

[106] GENERAL SESSION ■ **SOCIAL AND POLITICAL IDENTITIES IN NORTHERN PERU**

[107] SYMPOSIUM ■ **EXCAVATIONS AT 40MI70, A MULTICOMPONENT PREHISTORIC SITE ON THE TENNESSEE RIVER**

This symposium will detail various aspects of data recovery excavations at Site 40MI70 in Marion County, Tennessee. The site contains stratified Late Archaic and Woodland components. Work at the site included ground-penetrating radar and traditional excavations. Paper topics include geomorphology, geophysics, lithic analysis, ceramic vessel analysis, ethnobotany, and faunal analysis, Section 106, and the experiences of the property owner and the TVA.

[108] Electronic Symposium ■ **Monumental architecture in sub-Saharan Africa: Diverse forms, purposes, and contexts**

Concepts of monumental architecture in archaeology developed alongside early explorations of states and empires in ancient Mesopotamia, Egypt, and Mesoamerica. Subsequent investigations of complex chiefdoms, and non-hierarchical forms of social complexity, revealed diverse public architectural forms in different social, economic, and environmental contexts. This is especially true in sub-Saharan Africa, where megaliths, cairns, pillar sites, walled complexes, and other architectural innovations created spaces whose purposes transcended daily domestic activities, but might not be considered “monumental” in scale. This session uses African examples to initiate a more nuanced

discussion of monumental architecture, and the contexts in which it may arise.

[109] Poster Session ■ **Archaeometry**

[110] POSTER SESSION ■ **NORTHWEST, ARCTIC, PLAINS, ROCKY MOUNTAINS**

[111] POSTER SESSION ■ **OBSIDIAN SOURCING STUDIES**

[112] POSTER SESSION ■ **OBSIDIAN STUDIES ACROSS THE AMERICAS: ALASKA TO ARGENTINA AND BEYOND (SPONSORED BY INTERNATIONAL ASSOCIATION FOR OBSIDIAN STUDIES)**

Obsidian analyses can inform on transport, trade, temporality, and transformations of the archaeological record. The assembled posters span this range of inquiry and provide a diverse set of studies representing prehistoric records in North, Central, and South America. Also included are investigations that provide productive comparisons to these New World contexts. Topics include obsidian geochemical sourcing and hydration chronometry, as well as studies of reduction technology, site formation processes, and artifact utilization.

[113] POSTER SESSION ■ **SCIENCE IN SUPPORT OF ARCHAEOLOGY: THE ANALYSTS WHO SPEAK THROUGH THE ARCHAEOLOGISTS**

(SPONSORED BY PALEORESEARCH INSTITUTE, INC.)

Where would we be without the science to support archaeological projects? Establishing a record of paleoenvironment, understanding diet and subsistence, and obtaining radiocarbon dates are critical for building the “first layer” of knowledge about people and cultures. Poster examples include: communicating with the public; an offshore environmental record; early hominid vegetation record in Tanzania; subsistence remains from a burned pueblo; chemical signatures for dairy product use; and understanding charcoal loss during AMS processing. For best results, snuggle up with your analysts and chat with the public—they can be your biggest advocates!

[114] Poster Session ■ **Sourcing Studies on Pottery, Chert & Other Artifacts**

[115] SYMPOSIUM ■ **Indiana Jones Must Die: Collecting and Looting in the Media**

(SPONSORED BY MEDIA RELATIONS COMMITTEE)

Publications advertise recent archaeological finds for sale, museums have to return artifacts to previous owners, and television, movies and video games often use tomb raiding, looting and treasure hunting. Trading in artifacts is and was rampant around the world. Legal and illegal artifact trading often appears in the news through law enforcement coverage, judicial activities or art news. How is artifact trading portrayed in the media? Does the use of the artifact trade as a central theme in movies, TV shows and video games harmful or simply an entertainment.

[116] SYMPOSIUM ■ **Mortuary Practices in the American Southwest: Patterns and Inferences from Regional Databases**

This symposium is a follow-up to a session held at the 2011 SAA meetings and will build upon the previous

year's work establishing regional mortuary databases for the American Southwest. These data sets and the participants' prior work is archived on the Digital Archaeological Record website (<http://www.tdar.org/>). Participants will offer broad summaries of mortuary practices through time for various sub-regions of the Southwest. The participants will also seek to provide synthetic interpretation and comparison of these data sets across the various sub-regions of the Southwest.

[117] SYMPOSIUM ■ THE EMERGENCE OF MODERN HUMANS: NEW EVIDENCE FROM CONTREBANDIERS CAVE (MOROCCO)

Recently, North Africa, and Morocco in particular, has contributed important evidence on the emergence of modern *H. sapiens* and modern behavior. The site of Contrebandiers, on the Atlantic coast just south of Rabat, has long been considered one of the key sites, having yielded several hominin fossils and material culture with intriguing traits such as stemmed pieces, ornamental marine shell, and bone tools. New excavations involving a strong interdisciplinary research team have now clarified the stratigraphic sequence of the site, developed a new chronological framework based on absolute dates, provided new paleoenvironmental data, and new interpretations concerning the lithic industries.

[118] SYMPOSIUM ■ WITCHCRAFT AND SORCERY IN ANCIENT AND CONTEMPORARY MESOAMERICA

Anthropologists have studied witchcraft and sorcery as an explanation for the causes of misfortune rooted in cultural beliefs concerning special practitioners who possess supernatural power that can inflict harm. Recent research suggests that maleficent magic was a significant component of the ideologies of complex Mesoamerican societies particularly at the state level. While serious caution is required in regards to approach, we endeavor to examine this behavior not as irrational and steeped in superstition but rather highly rational and rooted in significant social and cultural values. While there is a clear internal logic, could sorcery and witchcraft reveal even more?

[119] SYMPOSIUM ■ RECENT TRENDS IN ALBANIAN ARCHAEOLOGY: A DECADE IN REVIEW

Over the past decade, Albanian archaeology has attracted professionals from numerous countries and an array of disciplines. Most recent archaeological investigations conducted in Albania have sought to place its record within a larger geographical context. These efforts are elucidating the complex processes that have woven Albania and surrounding regions together, and sometimes, torn them apart. Michael Galaty, an American archaeologist who has worked in Albania for many years, will discuss results presented by Albanian and foreign archaeologists. It is hoped that this session will demonstrate the great progress made in revealing Albania's past, and the great potential for future advances.

[120] SYMPOSIUM ■ BEHAVIORAL ARCHAEOLOGY: ASSESSING THE IMPACT OF MICHAEL BRIAN SCHIFFER I

During the last 40 years the behavioral archaeology program guided by Michael B. Schiffer has been at the forefront of modern material culture studies and prehistoric archaeology as well as the subfields of

ethnoarchaeology, and experimental archaeology. Behavioral archaeology has transformed archaeological research and exemplifies the renewal of material culture studies in the social sciences since the 1970s that some have begun to call the "Material Culture Turn." In this symposium his students share their contributions in studies of technological change, ritual, religion, communication theory, artifact agency, history of science and technology, models of archaeological inference and social theory.

[121] SYMPOSIUM ■ PSYCHOACTIVE SUBSTANCES IN ANCIENT SOCIETIES

Using case studies from around the world, we examine how archaeologists study the material evidence for psychoactive substance use in ancient societies, the role that psychotropics have played in social organization, religious ideologies, and inter-personal relationships, the identification of alkaloids and residues found on artifacts, and the impact that these substances have had on modern society. Archaeological, chemical, paleoenvironmental, ethnohistorical, and ethnographic research provides a framework for understanding why humans appear to have had a social and psychological need for mind-altering substances and the technologies and objects they developed for harvesting, producing, and consuming a compendium of various drugs.

[122] SYMPOSIUM ■ RECENT RESEARCH IN THE ISTHMO-COLOMBIAN AREA

Investigations within the Isthmo-Colombian area have emphasized how various sequences were shaped by indigenous processes rather than external influences from Mesoamerica or the Central Andes. This session brings together contemporary anthropological perspectives to explore these local processes, and highlights the various factors which conditioned the expression of social continuity and change.

[123] SYMPOSIUM ■ SOCIAL COMPLEXITY AND THE BOW IN PREHISTORIC NORTH AMERICA

Dramatic changes in social complexity occurred independently across late prehistoric North America, for example, rapid fluorescence of Ancestral Pueblo or Chumash cultures. Local introduction of bow technology often correlates with radical social change. This striking pattern has enormous potential for understanding social evolution, including influences of warfare or social coercion. Extensive, rich data have been collected from diverse continental locales, allowing this symposium to examine this crucial possible relationship with the detail and rigor not previously applied. Expert participants will explore empirical and theoretical issues to illuminate a central question, the potentially dynamic relationship between weapon technology and social evolution.

[124] GENERAL SESSION ■ ARCHAIC AND WOODLAND IN EASTERN NORTH AMERICA

[125] SYMPOSIUM ■ MOVING FORWARD TOGETHER: THOUGHTS ON THE FUTURES FOR ARCHAEOLOGY AND INDIGENOUS PEOPLES

(SPONSORED BY INTEREST GROUP ON INDIGENOUS POPULATIONS)

This panel focuses on a range of topics and techniques used to study Native North America in better

collaboration and cooperation with indigenous partners. Individual papers will present both ongoing research and important considerations on how we think about doing research. An ongoing theme will be understanding the social context of these archaeological issues, linking modern social movements, new archaeological frameworks and methodologies, and the incorporation of other fields and other ways of knowing. The incorporation of multiple forms of knowledge in collaboration with indigenous partners, community stakeholders, and interdisciplinary colleagues is a growing trend that merits further examination.

[126] SYMPOSIUM ■ SITE-SPECIFIC PERSPECTIVES ON THE TRANS-HOLOCENE RECORD IN CALIFORNIA

While "big picture" perspectives are instrumental in contributing to our knowledge of prehistoric and historic California, the intricacies, and sometimes the uniqueness, of specific sites are the basis on which our perspectives are formed. It can be just one site that challenges what we know about a region or an accepted paradigm. This symposium focuses on these sites and the perspectives that they present. Drawing from a wide geographic range and long temporal span, we will present site-specific perspectives on the trans-Holocene record that demonstrate the richness and diversity of California archaeology.

[127] SYMPOSIUM ■ CHERT SOURCING: TECHNIQUES, METHODS, AND APPLICATIONS

Chert sourcing research provides data relevant to a wide range of anthropological questions. However, a number of complicating methodological, technological, and logistical factors frustrate chert provenance studies. Current research is exploring these variables through the use of new methods, analytical techniques, and sampling strategies. These studies mark a shift away from problematic typological systems and instead emphasize the quantification of inter and intra-formation variation. By studying chert variability within a framework related to regional paleo-environmental deposition and diagenesis, researchers may refine source data and in turn increase the resolution of our human behavioral models.

[128] SYMPOSIUM ■ BRUCE H. DAHLIN MEMORIAL SESSION PART 1: ANCIENT MAYA ECONOMIES

This symposium commemorates Bruce Dahlin's legacy by assembling current research on production, consumption and exchange among the ancient Maya. Contributors address several questions: What were the economic bases of ritual, political and social reproduction? To what degree did household production shape political economies and vice versa? How was long distance trade organized? What role did trade have in the circulation of broader ideas and stylistic horizons? How widespread was marketplace exchange? How did marketplace exchange affect the complexion of ancient Maya centers, and how did markets integrating such centers with their surrounding regions?

[129] SYMPOSIUM ■ VIRTUAL ARCHAEOLOGY: THE CREATION, DISSEMINATION, AND USE OF VIRTUALIZED ARTIFACTS, SITES, ASSEMBLAGES, AND ARCHIVES

Virtualization technology (technology which produces a digital representation) is increasingly being employed in basic archaeological documentation. Researchers are

using these virtualized records for increasingly complex analyses that would be difficult or impossible using traditional records or assemblages. At the same time, archaeologists and museum professionals are developing means and standards for organizing and disseminating these data. This session will draw together a wide array of professionals that create, utilize, and distribute the virtual archaeological record. Papers will address virtualization technology and techniques (3D, 2D, etc.), research applications of virtualized data, and projects focused on creating accessible virtual databases and collections.

**[130] SYMPOSIUM ■ CENTERING THE MARGINS: SOCIOPOLITICAL DEVELOPMENT IN THE ANCIENT SOUTH CAUCASUS AND ITS CONTRIBUTIONS TO GLOBAL ARCHAEOLOGY
(SPONSORED BY AMERICAN RESEARCH INSTITUTE OF THE SOUTH CAUCASUS (ARISC))**

After nearly a century of marginalization due to geopolitical rivalries, the South Caucasus has become a vital center of archaeological investigations into social and political development from the Chalcolithic period to the Iron Age. Too often dismissed as a raw material source fueling evolutionary progress in Mesopotamia, the South Caucasus underwent profound autochthonous cultural developments, making it an exceptional arena for studying long-term histories of social transformation and interaction. Papers in this session present results from ongoing fieldwork in Armenia, Georgia, and Azerbaijan, highlighting sociopolitical configurations that helped shape the wider ecumene of the Near East and Eurasia.

[131] SYMPOSIUM ■ MAYA HINTERLAND COMPLEXITY: THE VIEW FROM NORTHWESTERN BELIZE

Commoners constituted the vast majority of the Prehispanic Maya population. Recently, there has been considerable interest in the study rural complexity in the Maya area, as attested by the recent edited volumes by Ionnone and Connell (2003), Lohse and Valdez (2004), and Gonlin and Lohse (2007). Adding to this growing body of data regarding rural complexity are numerous projects in northwestern Belize. This symposium will present the research findings of some of these projects in an effort to contribute to our increasing understanding of Maya hinterland complexity.

[132] SYMPOSIUM ■ PROCESSUAL ARCHAEOLOGY BEYOND BINFORD: CURRENT AND FUTURE DIRECTIONS

Few active archaeologists remember the field before Lewis R. Binford, and few domains within archaeology have not been affected by his ideas. In the last year many have joined a conversation about the current state and future direction of processual archaeology. This symposium highlights innovative and ambitious researchers applying explicitly scientific learning strategies to a wide range of archaeological questions. Like Binford, they seek "to describe the way the world appears to be" and "to explain why it is that way." These papers reflect the state of processual archaeology and point to future directions for Archaeology as Anthropology as Science.

[133] SYMPOSIUM ■ THE INTERDISCIPLINARY ARCHAEOLOGY OF TWO VIRGINIA PLANTATIONS

This session applies the goals and methods of contextual

archaeology to explore two plantations in the Virginia piedmont. Poplar Forest and Indian Camp were linked by the shared histories of many enslaved people during the colonial and early antebellum periods. Authors in this session use historical ecology, material culture studies, landscape analysis, archaeobiology, and geoarchaeology to address the ways that these plantations' diverse residents, both enslaved and free, interacted with their landscapes, material world, and each other. Here, we preview papers to be published in Jefferson's Poplar Forest: Unearthing a Virginia Plantation, and introduce new research.

[134] GENERAL SESSION ■ **NEAR EASTERN BRONZE AND IRON AGES**

[135] SYMPOSIUM ■ **PALEOLITHIC ECODYNAMICS IN SOUTHERN IBERIA**

The southern Iberian Peninsula has a continuous record of Paleolithic human occupation from the Lower Pleistocene through the last glacial. During this period, several different cultural traditions persisted in a wide range of paleoenvironments across multiple time scales including glacial-interglacial cycles and the millennial and centennial scale climatic events recorded in deep-sea and ice core records, suggesting a high degree of inherent flexibility in human responses to climatic changes. This session emphasizes the latest research on Paleolithic human ecodynamics in southern Iberia in order to build a greater understanding of the processes that led to long-term success in human adaptations.

[136] SYMPOSIUM ■ **THE MATERIAL CULTURE OF A MULTIETHNIC COMMUNITY: NEW DISCOVERIES IN SPANISH LA FLORIDA**

Knowledge of the Spanish Mission period in the Southeast U.S. has increased dramatically over the last two decades. Research at St. Augustine has expanded our understanding of North America's oldest city as a multiethnic community where Native Americans and Spanish negotiated with one another during a period of rapid change and social upheaval. Work in Florida and Georgia has provided greater insight into the structure of Native American communities and the timing of material culture change. This symposium challenges presenters to draw on this recent ethnohistorical and archaeological research to examine the material consequences of interaction and ethnogenesis in Spanish La Florida from the 15th through 18th centuries

[137] GENERAL SESSION ■ **POSTCLASSIC-COLONIAL IV MAYA**

[138] POSTER SESSION ■ **BIOARCHAEOLOGY IN EUROPE, AFRICA, AND ASIA**

[139] POSTER SESSION ■ **BIOARCHAEOLOGY NORTH AMERICA**

[140] POSTER SESSION ■ **MOBILITY AND SETTLEMENT STRATEGIES**

[141] POSTER SESSION ■ **ZOOARCHAEOLOGY AND ANIMAL USE**

[142] GENERAL SESSION ■ **ARCHAEOLOGY OF AFRICA**

[143] SYMP SYMPOSIUM ■ **OSIUM · STONE STREET**

ANCESTRAL RECOVERY & REBURIAL PROJECT, FLINT, MI

The discovery of ancestral human remains unearthed by urban revitalization work in Flint, MI resulted in a broadly inclusive project initiated and administered by the Zibiwing Center of the Saginaw Chippewa Indian Tribe of Michigan. Collaborating with professional archaeologists, students, community members, and crews from the descendant community, the project has resulted in a valuable data base regarding populations and associated funerary objects from the Late Woodland period and a reconsideration of the potential for further cultural resources based on geophysical research. The project speaks to the success of employing the principles of the Community Based Archaeology model for research.

[144] GENERAL SESSION ■ **ZOOARCHAEOLOGICAL METHODS AND APPLICATIONS**

[145] GENERAL SESSION ■ **METHODS FOR DIETARY RECONSTRUCTION**

[146] GENERAL SESSION ■ **ARCHAEOLOGICAL THEORY AND EPISTEMOLOGY**

[147] FORUM ■ **ARCHAEOLOGY AND DESCENDANT COMMUNITIES: RIGHTS AND RESPONSIBILITIES (SPONSORED BY COMMITTEE ON ETHICS)**

Upon the fifteenth anniversary of the adoption of the SAA Principles of Ethics, it is appropriate to consider how well they address the sometimes divergent interests of descendant populations. Discussions regarding connections between present groups and past sites, assessment of ethical responsibilities towards engagement of descendant communities, and concerns regarding expectations of interested groups towards archaeologists and resource disposition all help define our roles and responsibilities towards these modern populations. This forum will reflect upon the successes and failures of the Principles of Ethics, with specific regards to rights of interested descendant communities, and responsibilities of archaeologists towards such groups.

[148] ELECTRONIC SYMPOSIUM ■ **ARCHAEOLOGY AND THE PROTECTION OF UNDERWATER CULTURAL HERITAGE**

As with terrestrial sites, underwater and inundated archaeological sites are threatened by treasure hunters, human activity, and other forms of disturbance. This session explores current issues in the protection of Underwater Cultural Heritage in the Americas by discussing current projects and research in nautical archaeology and how they contribute to our understanding of Underwater Cultural Heritage. Additionally, this session will explore how these sites are protected (or not) by legislation, how the public is informed and engaged in protecting maritime sites, and how treasure hunting is detrimental to the preservation of Underwater Cultural Heritage.

[149] FORUM ■ **THE FUTURE OF ARCHAEOLOGICAL PUBLISHING**

Archaeologists today are grappling with what digital research and publishing mean for how we disseminate

and access the results of research. This forum explores the role of publishing in our careers; the value of print vs. digital formats; the divide between people with university library privileges and those without; the costs of scholarly publishing programs and open access; the roles of professional societies and commercial presses; and the preservation of data, reports, and interpretation. The business and technological models for academic publishing are changing and we need to understand what this means for books, journals, technical reports, and data.

[150] SYMPOSIUM ■ ARCHAEOLOGY, ETHNOHISTORY AND ETHNOARCHAEOLOGY OF SPACE: CURRENT PROJECTS AND NEW DIRECTIONS

This session examines different combinations of archaeology with ethnohistory and ethnoarchaeology to examine the long-term history of uses and understandings of landscape and household space in the Americas. Special emphasis is given to how these kinds of research can be used in collaborative or community-oriented research with descendant communities. Each paper will focus on both how the use of ethnohistorical and ethnoarchaeological research influenced their specific project, and on how this builds on concepts of "landscape" or "household" that has broader implications for understanding the long-term patterns in uses of space on various geographic scales.

[151] SYMPOSIUM ■ ROUTES AND RULERS: SHIFTING NETWORKS OF POWER AND EXCHANGE AMONG THE CLASSIC MAYA

It has been proposed that Classic Maya elite power was based in part on alliance and conquest to control long distance exchange routes in lithics, jade, shell, pyrite, and other exotics necessary for instruments of ritual, power, and patronage. It is now possible to compare and correlate new excavation data, texts, and artifact analyses from El Peru/Waka, La Corona, Nachtun, Dos Pilas, Seibal, Cancuen, Calakmul, Tikal, and other lowland centers, and from highland and coastal source zones. Such plotting of intrasite and intersite patterns can generate and test more specific hypotheses on interregional exchange systems and Classic Maya political dynamics.

[152] SYMPOSIUM ■ VIRGINIA FIELDS, MUSEUMS, SCHOLARSHIP, AND HER MULTIDISCIPLINARY APPROACH TO RECOVERING THE ANCIENT AMERICAN PAST

Virginia Fields was instrumental to recovering the ancient American past. Using a multidisciplinary approach that combined archaeology, art history, epigraphy, and ethnography, Fields created symposia, exhibitions, and publications. Fields achieved her successes through her personal scholarship, exhibitions, and enormous capacity as a facilitator. Fields possessed the rare ability to bring diverse experts from around the globe together in a working relationship to produce end products that significantly advanced scholarship. Papers address the advancements in knowledge achieved by Fields' constant efforts as scholar, facilitator, and educator, as well as her interdisciplinary approach that fueled her exceptional career and legacy.

[153] SYMPOSIUM ■ A WORLD OF OBSIDIAN: SOURCING, DATING AND BEYOND

(SPONSORED BY INTERNATIONAL ASSOCIATION OF OBSIDIAN STUDIES)

One of the greatest success stories in archaeology is the ability to trace obsidian artifacts back to their original source through the use of chemistry. This was first accomplished in the mid-1960's by Colin Renfrew and colleagues who studied the trade and exchange of obsidian artifacts in Anatolia. However, the success of obsidian as an analytical archaeological material is not limited to its potential for sourcing. Other applications for obsidian include dating, technology, use-wear, ritual-symbolism, etc. In addition to sourcing studies, the obsidian researchers in this symposium will compare and contrast various aspects of their obsidian research both regionally and on a world scale.

[154] SYMPOSIUM ■ BEHAVIORAL ARCHAEOLOGY: ASSESSING THE IMPACT OF MICHAEL BRIAN SCHIFFER II

During the last 40 years the behavioral archaeology program guided by Michael B. Schiffer has been at the forefront of modern material culture studies and prehistoric archaeology as well as the subfields of ethnoarchaeology, and experimental archaeology. Behavioral archaeology has transformed archaeological research and exemplifies the renewal of material culture studies in the social sciences since the 1970s that some have begun to call the "Material Culture Turn." In this symposium his students share their contributions in studies of technological change, ritual, religion, communication theory, artifact agency, history of science and technology, models of archaeological inference and social theory.

[155] GENERAL SESSION ■ EUROPE AFTER THE NEOLITHIC

[156] SYMPOSIUM ■ BETWEEN PACHACAMAC AND PARIACACA

In 2011, the Pontifical Catholic University of Peru's "Pachacamac Valley" Project and Field School (formerly PATL) marked its twentieth year of existence. This milestone presents a propitious time for those involved to take stock of the state of research in the Lurin valley together with the participation of numerous collaborators, alumni, and members of other projects working in this basin. Some of the main topics of discussion will include coastal-highland relations during the Initial Period and Late Horizon, characteristics of Inca rule, and the concept of ceremonial centers.

[157] SYMPOSIUM ■ BEYOND DOMESTICATION: THE ARCHAEOLOGY OF THE HUMAN/DOG RELATIONSHIP

Although archaeological research continues to contribute to the understanding about the origins of the domestic dog, additional research provides insight into the relationships between humans and dogs following domestication. The papers in this session will primarily address the role of dogs in hunting, subsistence/consumption, ritualistic and artistic contexts as well as their origins and geographic diffusion. Drawing on diverse methodologies and theoretical approaches, this session incorporates evidence from burials, middens, faunal assemblages, ethnoarchaeology, and genetics to situate the role of dogs in a diachronic socio-ecological context.

[158] SYMPOSIUM ■ EARLY MAN IN SOUTH AMERICA: NEW

PARADIGMS IN LATE PLEISTOCENE / EARLY HOLOCENE ARCHAEOLOGY

On the centennial of Hrdlicka's Early Man in South America, this two-part symposium critically reviews current ideas about the processes of modern human dispersion into South America. We focus here on 1) modes of human entrance into South America from the perspective of both South and North American archaeologists; 2) subsistence strategies and mobility patterns adopted during the Early Holocene; 3) mortuary practices of the earliest South American burials; and 4) the chronology of early South American sites. A bioanthropological perspective to complement the content of this symposium was presented at the 81st AAPA meeting.

[159] SYMPOSIUM ■ RAW MATERIAL PERSPECTIVES ON TECHNOLOGICAL CHOICE AND CHANGE

Raw material has long been regarded as an essential component of human endeavors. But to truly understand technological choices and changes in the past, we need further integrative studies that investigate the dynamic contexts in which one raw material is selected over another based on functional, social, or ideological factors. This symposium will provide a venue in which to discuss raw material selection practices across multiple archaeological and ethnographic contexts. It promises to bring together a diverse group of researchers, while revealing trends across time and space that will contribute to theory-building about variation and change in technological practices.

[160] SYMPOSIUM ■ RECENT DEVELOPMENTS IN CULTURAL TRANSMISSION THEORY AND ITS APPLICATIONS

As cultural transmission theory becomes increasingly applicable to archaeological investigations, recent applications of CT are aimed at a broader range of topics pertaining to past populations. The focus of this session is on refining empirical sufficiency when measuring CT in the archaeological record as well as innovative applications of the theory to studies of material cultural. While these papers are all rooted in evaluating measurable aspects of CT, their applications range from the Paleoindian period to historic era, extend across geographic regions, and utilize multiple material culture types to investigate aspects of identity and the processes of learning and transmission.

[161] GENERAL SESSION ■ RESEARCH IN GREAT BASIN ARCHAEOLOGY**[162] SYMPOSIUM ■ PREHISTORY AND HISTORY OF INTERACTION IN THE CAROLINAS**

North and South Carolina encompass vast cultural, geographic, and environmental variability, spanning the Paleoindian period through historic times, and stretching from the Atlantic Ocean to the Blue Ridge Mountains. Beginning with the earliest inhabitants, the Carolinas have maintained a unique character, forged through both diversity and interaction. Prehistorically and historically, people created local and long-distance communities of interaction that can be understood through geochemical, stylistic, and historical methods. By taking a multi-scalar view of the region, this session broadly explores the archaeology and cultural identity of the Palmetto and Tarheel states.

[163] SYMPOSIUM ■ RECENT PROGRESS OF ARCHAEOLOGY OF ECONOMY AND SOCIAL CHANGES OF EARLY CHINA

Recent archaeological investigations have demonstrated that social and economic changes were deeply intertwined in early China. From the beginning of farming to the intensification of agriculture, from humble tool making to sophisticated crafts production, and from simple exchange to well-developed trading networks, the development of economic systems was one of the primary factors behind the process of social complexity in early China. This panel presents some of the newest research results in the study of economy and their implications for understanding the social and cultural changes in early China.

[164] SYMPOSIUM ■ NEW METHODS, NEW QUESTIONS AND NEW DATA FROM OLD COLLECTIONS

(SPONSORED BY SAA COMMITTEE ON MUSEUMS, COLLECTIONS AND CURATION)

Recent scientific advancements have propelled modern archaeological research into realms previously unimaginable. These developments have led researchers armed with fresh theoretical perspectives and novel research questions to return to, re-analyze, and re-interpret existing collections. Existing archaeological collections are an invaluable source of data for researchers interested in contributing a wide range of current issues, from climate change to technological change. This session highlights exciting new research that draws upon modern theory and methods to take a second look at the archaeological record in order to emphasize the importance of support for curation facilities and the maintenance of existing collections.

[165] SYMPOSIUM ■ NEW PERSPECTIVES ON BAHAMAS ARCHAEOLOGY: THE LUCAYANS AND THEIR WORLD

Archaeological investigations have increased greatly during the past two decades in the Bahama archipelago. In the past, archaeologists focused on studying colonization, island adaptations, and the impact of Hispaniolan cultures on the Lucayans, regarding them as recipients, not active agents in their culture making. Today's research examines inter-island social, political and cultural relationships, social inequality, trade and exchange, innovation and change in material life, early Lucayan-Spanish encounters, mortuary variability, and regional differences in material culture and political economies. These new findings and interpretations expand our understanding of the Lucayans and their interactions with one another and with neighboring Antillean peoples.

[166] SYMPOSIUM ■ BEYOND EATING: FOOD, DRINK AND MEANING IN THE NEW WORLD

Food and the practices of eating have profound cultural and social significance beyond the diets and subsistence strategies commonly reconstructed through archaeological methods. How should we, as archaeologists, approach and justify reconstructions of the sociocultural meanings of food beyond nutrition? These papers explore cultural expressions, symbolic or representational meanings and social relationships involving food and the social act of eating in the archaeology of New World societies. This session also addresses the theoretical and methodological issues in

attributing social and cultural meaning to food and cuisine in the past.

**[167] SYMPOSIUM ■ BRUCE H. DAHLIN MEMORIAL SESSION
PART 2: ADAPTATIONS AND MALADAPTATIONS TO
ENVIRONMENTAL CHANGE**

Bruce Dahlin's archaeological research reflected a passion for human ecology, focusing upon major environmental shifts and their effects upon preindustrial societies. He noted that archaeology has long been concerned with illuminating the fragile linkages between populations and the ecosystems they inhabit over the *longue durée*, and can therefore impart crucial lessons about our world today. Dahlin believed strongly in the phrase, "those who are ignorant of the past are doomed to repeat its mistakes". Papers in this session discuss how various ancient societies confronted diverse environmental problems with an eye towards the adaptations or maladaptations that followed.

**[168] GENERAL SESSION ■ BIOARCHAEOLOGY IN EASTERN
NORTH AMERICA**

**[169] POSTER SESSION ■ INVESTIGATING EARLY AMERICA:
CURRENT ARCHAEOLOGICAL RESEARCH BY THE CENTER
FOR THE STUDY OF THE FIRST AMERICANS
(SPONSORED BY CENTER FOR THE STUDY OF THE FIRST
AMERICANS)**

This session presents the results of recent research conducted by the Center for the Study of the First Americans at Texas A&M University. We include studies of Paleoindian sites spanning the North American continent, from Alaska to the American Southeast. These wide-ranging explorations provide new interpretations of early human behavior and adaptations to changing environments, from the terminal Pleistocene through the middle Holocene.

**[170] POSTER SESSION ■ RECENT INVESTIGATIONS IN
WESTERN AND CENTRAL PENNSYLVANIA**

During the past year, students from Indiana University of Pennsylvania have researched historic and pre-European archaeological sites in Western and Central Pennsylvania. This session presents the results of their investigations on a variety of archaeological projects. The topics range from ceramic, lithic, and faunal analyses to geophysical surveys and the investigation of historic roadways.

**[171] POSTER SESSION ■ ROCK ART AND LANDSCAPE
FEATURES**

**[172] POSTER SESSION ■ UNDERWATER MAYA:
INVESTIGATING SUBMERGED AND WATERLOGGED SITES IN
SOUTHERN BELIZE**

Sea-level rise since the end of the Pleistocene, together with subsidence of fragile mangrove ecosystems, resulted in the widespread occurrence of underwater sites along the coast of Belize and the Yucatan of Mexico. Excavating shallow underwater sites requires special techniques but yields exceptional preservation of organic remains. Posters in this session report excavations at the offshore islands of Moho Cay and Wild Cane Cay, as well as underwater sites in Paynes Creek National Park, where Classic Maya salt works were inundated. Preservation of wood and bone enhance

interpretations of ancient Maya wooden architecture, salt production, and trade.

**[173] GENERAL SESSION ■ GEOARCHAEOLOGY AND
GEOPHYSICS**

**[174] SYMPOSIUM ■ IN HONOR OF WILLIAM M. GARDNER:
THE INESCAPABLE SIGNIFICANCE OF CULTURAL ECOLOGY
AND ENVIRONMENTAL SCIENCES IN ARCHAEOLOGY**

The practice of archaeology in the Middle Atlantic region carries the mark of William M. Gardner (1935-2002), whose cultural ecology-based, multidisciplinary methodology pioneered the integration of physical and cultural landscapes in settlement pattern studies. Best known for his work at the Flint Run Paleoindian Complex, Gardner's thirty-five years of teaching at Catholic University and decades of private sector CRM work impressed upon a generation of students and colleagues the significance of biophysical context for understanding prehistoric and historic cultural processes. The papers in this memorial session demonstrate the legacy of Bill's approach and the vitality of environmental archaeology in the Middle Atlantic.

**[175] GENERAL SESSION ■ ENVIRONMENT AND CULTURE
WEST OF THE ANDES**

[176] GENERAL SESSION ■ BIOARCHAEOLOGY IN EUROPE

[177] GENERAL SESSION ■ ARCHAEOLOGY IN OCEANIA

**[178] GENERAL SESSION ■ ARCHITECTURE, BUILT
ENVIRONMENT, AND COMPLEX SOCIETIES IN THE ANDES**

**[179] SYMPOSIUM ■ EXPLORING MESOAMERICA'S
SUBTERRANEAN REALM, PART 1: CAVE MEANING,
SYMBOLISM AND ICONOGRAPHY**

Our understanding of the importance of caves in ancient Mesoamerican religion and cosmology has expanded greatly over the last three decades, driven principally by an unprecedented surge in archaeological investigations. These discoveries have stimulated studies in ethnoarchaeology, ethnohistory, and epigraphy that support and amplify our appreciation of the multifaceted role of subterranean features. More recently, iconography has begun to look with fresh eyes at symbols and motifs that represent underground space, as well as at materials recovered from such spaces. This session brings together specialists from across Mesoamerica who are reevaluating older ideas and presenting new interpretations of cave iconography.

**[180] GENERAL SESSION ■ PRE-CLOVIS AND THE
PEOPLING OF THE NEW WORLD**

[181] GENERAL SESSION ■ ARCHAEOLOGY IN OAXACA

**[182] SYMPOSIUM ■ LANDSCAPE ARCHAEOLOGY IN
SOUTHEAST ASIA**

The diverse landscapes of SEAsia provide a wide range of archaeological research. Landscape approaches that focus on human-environmental relationships have also been central to recent papers given at the SAAs. As more SEAsian archaeologists incorporate landscape in their research, our participation to the discussion is becoming more important. One of the goals of this

session is to evaluate the meaning of landscape for SEAsia. Thus, we call for papers devoted to Landscape Archaeology in SEAsia.

[183] GENERAL SESSION ■ **ARCHAEOLOGY OF THE SOUTHWEST**

[184] POSTER SESSION ■ **A VIEW FROM UPSTREAM: CURRENT RESEARCH AND PERSPECTIVES ON THE LATE PREHISTORIC PERIOD IN THE MID- TO LOWER OHIO RIVER VALLEY**

In the past five years, research has accelerated on Mississippian and related late prehistoric cultures in the mid to lower Ohio River Valley. This research has employed a diverse array of theoretical perspectives and analytical methods, including advanced chronological modeling, GIS and remote sensing, biomolecular archaeology, and renewed research on legacy collections excavated in the early to mid-20th century. Common themes of this research include chronology, communities, history, identity, cross-cultural interaction, and warfare. Together, the papers in this symposium will provide an up-to-date regional perspective, while identifying potential avenues for future research and intellectual exploration.

[185] POSTER SESSION ■ **EASTERN US**

[186] POSTER SESSION ■ **PLAINS VILLAGE TECHNOLOGY AND SETTLEMENTS: RECENT RESEARCH IN THE NORTHERN MIDDLE MISSOURI**

Plains archaeologists are using a wide range of new methods to study Plains Village communities on the Missouri River, including multi-modal remote sensing, microtopographic mapping, compositional analysis, attribute-based technological analysis, and experimental replication. This symposium presents a sampling of recent projects carried out in the Knife and Heart regions of central North Dakota.

[187] POSTER SESSION ■ **RECENT ARCHAEOLOGICAL INVESTIGATIONS AT THE AZTALAN SITE (47JE0001)**

During summer 2011, archaeological investigations were conducted by a UW-Milwaukee (UWM) Archaeological Field School at the Aztalan site (47JE0001), a Late Woodland-Mississippian settlement in Jefferson County, Wisconsin. Earlier UWM work at Aztalan documented a stratified midden containing primarily Late Woodland materials. The 2011 research was designed to expose similarly stratified deposits associated with the Mississippian occupation and abandonment of the site. Results of the 2011 investigations presented in this session include stratigraphic/geomorphic analysis, feature excavation, material culture studies, LIDAR visualization, and historical reconstruction of early excavations at the site.

[188] Symposium · **Latina/o Archaeology**

The ethnic studies movement manifested among North American archaeologists by the development of several fields of study, including the fields of African- and Asian-American archaeology. Missing from the list of American ethnic archaeologies, however, is that of Latinas/os. This session will explore the prospects for the development of a Latina/o archaeology by drawing together archaeologists whose projects aim to understand aspects

of the experiences of certain Latina/o subgroups. The session will challenge those scholars to frame their research over more general ethnic themes, asking them to assess the notion of Latina/o archaeology in the process.

[189] SYMPOSIUM ■ **PRECOLUMBIAN CERAMIC ART IN THE ST. FRANCIS BASIN: APPROACHES TO THE NODENA ART STYLE**

The ceramic art of the St. Francis Basin of Arkansas and Missouri enjoys worldwide renown, with examples residing in museums across the country. Portrait head vessels are the best known exemplars of the Nodena art style, but the style also includes vessels with rim effigies, whole plant, animal, and human effigies, and painted and engraved vessels. These ceramic sculptures are open to approaches beyond the usual archaeological ceramic analyses. In this symposium, we examine the Nodena art style from multiple perspectives, addressing social issues such as the identities of artists and audience, archaeological concerns such as geographic and temporal boundaries, and design matters such as design execution, motifs, iconography, and affective properties.

[190] SYMPOSIUM ■ **LEAVING LEWIS HENRY MORGAN: NEW STUDIES OF SOCIETAL VARIATION AND CHANGE**

This session reviews the flaws of the typological approach and offers alternatives for societies with varying degrees of complexity throughout the world. The flaws include both the classification problems that have been widely discussed in recent years and an underlying ethnocentric progressivism, whose roots can be traced back to Lewis Henry Morgan. Using case studies from North, Central, and South America, Europe, Africa, and Asia, this session seeks ways to move beyond classification and to replace Morgan's legacy in studies of societal variation and change.

[191] GENERAL SESSION ■ **ARCHAEOLOGY IN THE MAYA REGION**

[192] SYMPOSIUM ■ **COMMUNITIES, CORRIDORS, AND CONNECTIONS: MODELING MATERIAL CULTURE MARKERS OF CROSS-CULTURAL INTERACTION IN THE NORTHEAST AND MIDCONTINENT, 1500-1750**

Over the late prehistoric and early contact periods, important raw materials such as red stone, marine shell, and native copper/copper-base metal circulated widely through and among Native communities in the northeast and midcontinent. Symposium participants investigate their points of origin and manufacture, the variety of forms they took, and how and why they moved within and across regions. Goals are to link materials, forms, time, space, and social relations into wider patterns of distribution and movement. All consider how the introduction of European materials affected material circulation or prompted the creation of new forms and new networks.

[193] SYMPOSIUM ■ **RECENT RESEARCH IN THE PRE-COLONIAL GREATER ANTILLES**

Recent research of pre-Colonial societies in the Greater Antilles is yielding new information regarding the ancient communities that once lived there. Current studies focus on illuminating dimensions of regional social and cultural diversity, aspects of daily life and, the structural

transformation of society. This session highlights several recent studies that address these domains of inquiry through examining subsistence patterns, regional landscapes and, material culture analysis.

[194] SYMPOSIUM ■ BEYOND THE ARCHAEOLOGICAL ANALYSIS: EXPLORING THE LEGACY AND RELEVANCE OF ROCK-ART

(SPONSORED BY ROCK ART INTEREST GROUP)

Rock-art research is usually framed in the context of learning about the past. Yet, much less attention has been directed to questions surrounding the legacy and relevance of rock-art research to Indigenous communities and/or guardians of images and sites. The goal of this session is to shift researchers' focus from a purely archaeological investigation of rock-art to one which explores rock art's role in the present by focusing on the myriad ways that symbolism, meaning, and significance in rock-art is being (re)negotiated today in various geographical and cultural settings.

[195] SYMPOSIUM ■ DRESSING UP: POWER, DRESS, GENDER, AND REPRESENTATION IN THE PRE-COLUMBIAN AMERICAS

Sociopolitical power--and the ability to wield it--has always been an important element in human societies. This session examines a topic that has been explored little outside Maya and Aztec cultures: the ties connecting gender, costume, and the representation of power in the ancient Americas. Questions to be considered include how power is gendered or related to gender, and how the representation of power reinforces or transgresses gender norms. Papers might address how gendered costume elements became symbols of power, how elite gendered costume elements were appropriated by another gender as a symbol of power, and related topics.

[196] GENERAL SESSION ■ MISSISSIPPIAN ARCHAEOLOGY

[197] SYMPOSIUM ■ BIENNIAL GORDON R. WILLEY SYMPOSIUM ON THE HISTORY OF ARCHAEOLOGY: NEW DEAL ARCHAEOLOGY IN THE TENNESSEE VALLEY (SPONSORED BY HISTORY OF ARCHAEOLOGY INTEREST GROUP)

The Society for American Archaeology was founded during the Great Depression and a growing awareness for the need of improved scientific investigations. One major federal work relief program, under the auspices of the New Deal, took place in the Tennessee Valley. From 1933 to 1942 massive salvage projects focused on now-famous sites such as Eva, Dallas, Hiwassee Island, Jonathan Creek, and Shiloh. Archaeologists continue to use these excavations to aid their understanding of the past. Many of these sites are no longer available for investigation and research. Join our exploration of New Deal archaeology in the Tennessee Valley.

[198] SYMPOSIUM ■ CHACO AND CAHOKIA: HISTORIES, LANDSCAPES, AND HINTERLANDS

Chaco Canyon in New Mexico and Cahokia in Illinois are perhaps the most well-known and largest pre-Columbian centers north of Mexico. Roughly contemporaneous but with no evidence of direct interaction, these major cultural centers served as the powerhouses in the Southwest and Midwest respectively during an incredibly

dynamic period of prehistory, reaching their cultural climaxes between AD 1050 -1150. Located nearly equidistant to the Valley of Mexico, Chaco and Cahokia demonstrate ties to Mesoamerica in artifact styles, ideologies, architecture, iconography, and the importance of astronomy. This symposium evaluates the current research and theoretical advances for Chaco, Cahokia, and their respective hinterlands.

[199] SYMPOSIUM ■ THEORIES OF ENTANGLEMENTS: MOVEMENT, AGENTS, AND WORLDS-IN-TRANSFORMATION

Tim Ingold argues that humans live in a world continually brought into existence through ever-changing webs of relationships. It is the movement among these relational webs through which the world is reconstituted, reconfigured, and rewoven from one moment to the next. The goal of this symposium is to develop "theories of entanglements," which accept that shifting relationships generate worlds-in-transformation. We focus on the movements of non-human entities, places, dimensions, substances, elements, and spirits. The goal is to include other rarely-studied aspects of the world that were surely crucial constituents of these webs.

[200] SYMPOSIUM ■ FROGS CROSSING THE POND: NEW FRONTIERS IN REGIONAL ARCHAEOLOGY

This symposium brings together survey archaeologists from across the globe for a sustained conversation on differences in regional survey methodologies and potentials for interregional comparison. Rather than rehashing old arguments over survey intensity, we hope to foster a pluralistic global survey archaeology along three "frontiers": 1) the digital-spatial frontier, in which advanced methods of spatial analysis are utilized to interrogate traditional data; 2) the geographic frontier, where survey has moved to more challenging landscapes; 3) the novel methodological frontier, in which non-traditional methods are deployed to answer questions foreign to the regional tradition.

[201] SYMPOSIUM ■ HONORING DEAN E. ARNOLD ON HIS SUPPOSED "RETIREMENT"

Colleagues and friends of Dean E. Arnold gather to honor him for his numerous theoretical and substantive contributions to ceramic studies over nearly five decades of field research, notably to longitudinal ethnographic studies, ethnoarchaeology, and interpreting the archaeological record. His seminal 1985 volume *Ceramic Theory and Culture Change* quickly became a landmark reference for all serious scholars of traditional pottery manufacture and was the foundation for *Ecology and Ceramic Production in an Andean Community* (1993), *Social Change and the Evolution of Ceramic Production and Distribution in a Maya Community* (2008), and other planned volumes. He is "retiring" only from teaching but not for his continuing investigations of the interrelationships of ceramic production, distribution, social organization, and the environment.

[202] GENERAL SESSION ■ EURASIAN PALEOLITHIC AND MESOLITHIC

[203] GENERAL SESSION ■ RESEARCH ON THE MAYA IN BELIZE

[204] SYMPOSIUM ■ INLANDS TO ISLANDS: SOCIAL

NETWORKS AND THE DEVELOPMENT OF MARITIME ADAPTATIONS

In many times and places the social networks between island, coastal, and inland peoples were fundamental to the development of a specialized maritime subsistence economy. The exchange of information, ideas, and materials at different spatial scales was a source of technological and social change. These same networks served as a safety net in times of resource or social stress across the ecologically diverse Pacific and Arctic coastal regions. The aim of this session is to gain new insight into Holocene maritime adaptations by situating coastal archaeology in the context of the networks in which hunter-gatherer people were engaged.

[205] SYMPOSIUM ■ PLACES, OBJECTS, BODIES, ART: MATERIAL CONSTRUCTIONS OF ANTIQUITY

Archaeology is the past transformed through the lens of the material, a process as central to imagination and interpretation as to analysis and the construction of theory. Artistic depictions, artifact collections, commemorated localities, human remains, and other materializations represent frameworks for organizing the past that reflect specific contexts. This fabric of associations is fundamental to the history of archaeology: traditional emphasis on the intellectual motivations of archaeologists themselves must thus be reconceptualized. The papers in this session address history and materiality in archaeological thought by engaging specific bodies of information – collections/collectors, sites/contexts, art/audience – through which these complex relationships are manifest.

[206] GENERAL SESSION ■ ARCHAEOLOGY OF STATES AND CIVILIZATIONS

[207] GENERAL SESSION ■ ARCHAEOLOGY IN THE INTERIOR AND COAST OF NORTHWESTERN NORTH AMERICA

[208] SYMPOSIUM ■ EXPLORING MESOAMERICA'S SUBTERRANEAN REALM, PART 2: RECENT DISCOVERIES AND NEW INTERPRETATIONS

Our understanding of the importance of caves in ancient Mesoamerican religion and cosmology has expanded greatly over the last three decades, driven principally by an unprecedented surge in archaeological investigations. These discoveries have stimulated studies in ethnoarchaeology, ethnohistory, and epigraphy that support and amplify our appreciation of the multifaceted role of subterranean features. Of particular significance has been the development over the last two decades of regional surveys and investigations of multiple caves. Archaeological investigation continues at a brisk pace with a large number of cave field projects currently working. This session presents the most recent discoveries and interpretations.

[209] ELECTRONIC SYMPOSIUM ■ LESSONS FROM THE TRENCHES: THE PEDAGOGY OF ARCHAEOLOGY AND HERITAGE

(SPONSORED BY HERITAGE VALUES INTEREST GROUP, COMMITTEE ON ETHICS)

How do we train students in archaeology to interact and work in an interdisciplinary context where archaeological perspectives alone do not frame the questions and, indeed, are often secondary to others? The teaching of

archaeology today must address changing perspectives on archaeological stewardship and ethics, concepts of tangible and intangible heritage values, and cultural heritage management, to name a few. Participants will discuss their educational approaches through both individual courses and interdisciplinary programs. We will discuss strategies for teaching critical skills (e.g., teamwork, communication, management, community engagement) and expanding the breadth of what students need to know without losing critical educational components.

[210] SYMPOSIUM ■ LA CERÁMICA ARQUEOLÓGICA EN LOS DIFERENTES PROYECTOS DE INVESTIGACION EN EL ESTADO DE OAXACA

En los últimos años se han concretado proyectos de conservación e investigación a lo largo de las distintas regiones del estado de Oaxaca. En esta sesión se presentarán los avances y resultados que se han logrado a partir de los análisis de las distintas colecciones cerámicas derivadas de las exploraciones de estos proyectos, estos proporcionan información novedosa e importante en las discusiones sobre cronologías, tipologías y redes de intercambio de las diversas sociedades prehispánicas que se asentaron en la región.

[211] POSTER SESSION ■ ASIA AND OCEANIA

[212] POSTER SESSION ■ ASIAN POTTERY STUDIES

[213] POSTER SESSION ■ EXPERIMENTAL ARCHEOLOGY

[214] POSTER SESSION ■ MISSISSIPPIAN POTTERY STUDIES

[215] POSTER SESSION ■ PERUVIAN POTTERY STUDIES

[216] POSTER SESSION ■ SOUTHWESTERN POTTERY STUDIES

[217] SYMPOSIUM ■ POLITICAL-ECONOMIC ORGANIZATION AND INTERACTION NETWORKS OF EARLY STATES- RECENT CONTRIBUTIONS FROM THE INDUS CIVILIZATION

The Indus Civilization (2600-1900) of Pakistan and India is one of the largest and earliest urbanized archaeological cultures in the world but is not well represented in American archaeology or general political economic theories of complex societies. This session presents recent research using innovative and diverse analytical techniques that promise to create and define models of social, political and economic organization, as well as, interaction and integration networks at the intra-site, regional and inter-regional levels. These emerging datasets and perspectives from the Indus are incorporated into a cross-cultural framework of similar archaeological questions and models of complex socio-political organization.

[218] GENERAL SESSION ■ STUDIES IN CHACOAN ARCHAEOLOGY

[219] GENERAL SESSION ■ FEASTING, FOOD AND CULTURE

[220] GENERAL SESSION ■ ARCHAEOOMETRY

[221] SYMPOSIUM ■ MORE ARCHAEOLOGICAL RESEARCH ON THE B-SQUARE RANCH, FARMINGTON, NEW MEXICO

This symposium focuses on continued research undertaken by the Totah Archaeological Project, a summer field school conducted by San Juan College of Farmington, New Mexico. Excavations have been conducted at the Point Site (LA 8619), the Tommy Site (LA 126581), and the Sterling Site (LA 122652), all associated with great house communities that are located on the B-Square Ranch. Faunal, lithic, and ceramic analyses have continued to provide insights into the nature of Ancestral Puebloan society along the banks of the San Juan River during the Pueblo II and Pueblo III periods.

[222] GENERAL SESSION ■ ARCHAEOLOGY OF CENTRAL AND SOUTHERN ARIZONA

[223] SYMPOSIUM ■ STEED-KISKER: RECENT RESEARCH AND COMPARISONS

Since its identification in 1943, the Steed-Kisker culture has run through a variety of interpretation. In the last few years new research and comparative analysis is helping to define this culture in a more clear and comprehensive way

[224] SYMPOSIUM ■ NEW PERSPECTIVES ON BAHAMIAN ARCHAEOLOGY: PLANTATION ARCHAEOLOGY AND BEYOND

Papers in this session present recent substantive and methodological research in Plantation/African sites archaeology, maritime archaeology, site formation processes, and heritage management from several islands in the Bahamas archipelago. In addition to offering new approaches and findings, the papers reflect the the archaeologists' commitment to a socially responsible archaeology.

[225] SYMPOSIUM ■ EMERGING PATTERNS IN THE AMERICAS IN THE ARCHAEOLOGICAL RECORD BEFORE CLOVIS

Numerous sites in the western hemisphere demonstrate a significant and diverse human presence predating Clovis in North and Central America (10,800 – 11,500 rcybp) and Fishtail points in South and Central America (10,200- 10,800 rcybp). This seminar makes a preliminary assessment of data from many of these sites toward identifying patterns over time and across space and evaluates how the emerging patterns may contribute to the answering of whence, whom, how, and by whom the earliest parts of the archaeological record in the Americas derived and were produced.

[226] ELECTRONIC SYMPOSIUM ■ KITE AERIAL PHOTOGRAPHY 1912-2012: 90 YEARS OF STAGNATION AND 10 YEARS OF INNOVATION IN AERIAL ARCHAEOLOGY (SPONSORED BY WWW.SHOVELBUMS.ORG)

Kite Aerial Photography (KAP) was first used by archaeologists in 1912 at the Jebel Moya site in Sudan. KAP was largely ignored as a platform to document sites until the late 1990's when ultra light-weight kites and digital cameras became affordable. Now, detailed 3D models of large landscapes and individual features are being recreated with the help of this very affordable and accessible technology. Reflections on the first century of KAP in archaeology, the latest innovations, and how you can easily incorporate KAP into your own research will be discussed in this forum.

[227] SYMPOSIUM ■ PROYECTO COSTA ESCONDIDA: RECENT INTERDISCIPLINARY RESEARCH AT THE ANCIENT MAYA PORT OF VISTA ALEGRE

Located on the north coast of Quintana Roo, Mexico, the ancient Maya port site of Vista Alegre has been the focus of recent interdisciplinary research by members of the Proyecto Costa Escondida. This long-term project has brought together researchers from the fields of coastal ecology, geoarchaeology, hydrogeology, and archaeology in an attempt to understand the challenges and opportunities that this dynamic coastal landscape presented to pre-Columbian and historical peoples. Papers will address the results of our most recent program of sediment coring, hydrogeochemical sampling, ecological survey, and archaeological excavation at Vista Alegre and along the coast.

[228] SYMPOSIUM ■ NEOLITHIC STEREOTYPES: HAS SOUTHWEST ASIAN ARCHAEOLOGY OUTLIVED THE NEOLITHIC?

From a system designed to sort museum collections, to a period in European prehistory characterized by the influx of a new people carrying with them a well-developed complex of social organization, ideologies, and domesticated plants and animals, the concept of the Neolithic is largely derived from theoretical notions based in European prehistory, and then was imported wholesale into southwest Asia by archaeologists during the early 20th century. This session will explore the ontogeny of the concept of the Neolithic, explore how frameworks are currently conceptualized, re-assess the currency of theoretical concepts associated with the 'Neolithic', and explore various new models.

[229] SYMPOSIUM ■ HOLY HOUSES

This symposium takes a global look at the processes by which some houses are sanctified—often by encapsulating a particular vision of the cosmos—and the diachronic changes such structures undergo with regard to function and use. To interrogate how these processes inform or create social hierarchies participants address one of the following questions: 1) what were the practices and materials used to sanctify a house(s), and how did these processes shape social relations between house occupants/affiliates and others, and 2) how did individuals and/or corporate groups use and interact with sanctified houses, and how did those uses change through time?

[230] SYMPOSIUM ■ MEMORY SITS IN PLACES: MEMORY, SPACE, AND POWER

Material culture plays an essential role in practices of memorialization, where archaeological sites in particular can constitute points of reference for the creation of collective identities. Depending on what is remembered, how it is remembered, and by whom, memory sites can produce powerful narratives and truth regimes, thus often becoming focal points in the context of political struggles and social conflict in the present. By way of traveling through particular landscapes of memory, this symposium analyzes the political significance of social processes of remembering and forgetting, thereby foregrounding those who remember as political subjects in the present.

[231] SYMPOSIUM ■ EARLY LITHIC TECHNOLOGIES IN

SOUTH AMERICA: BEYOND REGIONAL PROJECTILE POINT TYPOLOGIES

Early South American lithic research has long been devoted to the establishment of projectile point typologies. However, these studies are geographically scattered and currently, there are no consistent discussions of the reliability of specific types as temporal or cultural markers. Relative to North America, South America's early archaeological record is apparently more regionally variable, possibly reflecting a more diversified settlement process. We will discuss new research on the spatial distribution and chronological associations of early lithic industries, raw materials, reduction sequences, possible relationships between bifacial and other designs, and the roles of early lithic technologies in subsistence and settlement patterns.

[232] GENERAL SESSION ■ LATE PREHISTORIC AND CONTACT PERIOD IN EASTERN NORTH AMERICA**[233] SYMPOSIUM ■ HOUSEHOLDS AND AUTONOMY IN PRE-HISPANIC TIMES**

Social, political, and economic units, households often have complex and mutable relationships to larger institutions and networks. In Pre-Hispanic times, households ranged from agrarian small-holders to urban palace groups, reflecting a large degree of variation in size, composition, organization, and most importantly, interaction. The degree to which households were autonomous, self-sufficient units has been questioned through investigations of the relationships between households and larger social units like polities, exchange networks, and kin-based networks. This session will explore the ways in which households achieved and maintained autonomy in Pre-Hispanic times, or conversely, where household were constrained or reorganized by sociopolitical forces.

[234] SYMPOSIUM ■ WORLDWIDE LARGE-SCALE TRAPPING AND HUNTING OF UNGULATES IN PAST SOCIETIES

Continuous and intensive exploitation of wildlife resources during the Upper Pleistocene and Holocene brought major ecological consequences to ancient environments worldwide. In particular, mass hunting strategies with sophisticated and well-planned constructed installations enabled the trapping of multiple animals in one event. These features reflect the familiarity of past human hunters with their landscape, environment and the ecological behavior of targeted prey. The session aims to highlight the archaeological evidence of human knowledge regarding managing and modifying landscapes in order to increase hunting success. The focus is directed at the methods and techniques of planning and constructing large game traps.

[235] SYMPOSIUM ■ CONTEMPORARY RESEARCH IN ECUADORIAN ARCHAEOLOGY

In 1951 Geoffrey Bushnell published *The Archaeology of the Santa Elena Peninsula in South-West Ecuador* followed soon after by Emilio Estrada's (1956) work *Valdivia, Un Sitio Arqueologico Formativo en la Provincia del Guayas, Ecuador*. These works marked a turning point in Ecuadorian archaeology by shining a light, and stimulating research, on the coast in particular and other regions in general. Since then, and despite sixty years of

outstanding research on all time periods, there have been few broad syntheses on Ecuadorian archaeology. This session will present current research spanning the temporal and spatial extent of the archaeological record of Ecuador.

[236] SYMPOSIUM ■ FOUR DECADES OF BELIZE ARCHAEOLOGY: HONORING THE WORK OF NORMAN HAMMOND

In 1972 Norman Hammond received his PhD from the University of Cambridge focused on his research at the site of Lubaantun, thus beginning four decades of fieldwork in Belize. In the 1970's he pioneered a series of large-scale regional projects (The Corozal Projects) including the earliest work at Nim Li Punit and Colha. Much of his subsequent research occurred at the Preclassic community of Cuello (1975-1993), and the large sites of Nohmul (1973-1986) and La Milpa (1992-2002). This session honors his pioneering research, which has inspired many next-generation scholars, and has had lasting impacts on archaeology in Belize today.

[237] SYMPOSIUM ■ POWER AT THE LIMITS OF AUTHORITY IN PRE-MODERN POLITIES

Practice-oriented approaches have come to dominate the recent discourse on the archaeology of pre-modern complex polities. Although intellectually more satisfying than earlier static models, contemporary analysts grapple with how to tease truly dynamic reconstructions of power and authority from the material record. One possibility is to focus not on the political center royal courts and polity capitals but on the ragged edges of the authority. Participants will consider the construction of political and territorial borders, and more critically the opportunities and threats inherent in the struggle to extend and maintain authority at the limits of the central power.

[238] SYMPOSIUM ■ 2012 FRYXELL SYMPOSIUM: PAPERS IN HONOR OF CHRISTINE A. HASTORF (SPONSORED BY FRYXELL AWARD COMMITTEE)

Christine A. Hastorf's career exemplifies how interdisciplinary approaches to the archaeological record can advance theoretical topics in anthropology and archaeology. Through her own research, productive collaborations and excellent mentoring, Dr. Hastorf has championed the integration of paleoethnobotanical research into mainstream archaeological method and theory. This symposium celebrates her contributions to anthropology by highlighting current research projects developed by her students and colleagues, on topics such as plant domestication and foodways, household economies, and gender and identity. While her work has been particularly influential in Andean South America, these papers reflect her impact on diverse regions worldwide.

[239] SYMPOSIUM ■ A VIEW FROM UPSTREAM: CURRENT RESEARCH AND PERSPECTIVES ON THE LATE PREHISTORIC PERIOD IN THE MID- TO LOWER OHIO RIVER VALLEY

In the past five years, research has accelerated on Mississippian and related late prehistoric cultures in the mid to lower Ohio River Valley. This research has employed a diverse array of theoretical perspectives and analytical methods, including advanced chronological modeling, GIS and remote sensing, biomolecular archaeology, and renewed research on legacy

collections excavated in the early to mid-20th century. Common themes of this research include chronology, communities, history, identity, cross-cultural interaction, and warfare. Together, the papers in this symposium will provide an up-to-date regional perspective, while identifying potential avenues for future research and intellectual exploration.

[240] GENERAL SESSION ■ HISTORICAL ARCHAEOLOGY OF EASTERN NORTH AMERICA

[241] SYMPOSIUM ■ ARCHAEOLOGY AS SCIENCE: A MEMORIAL VIEW OF DUNNELL'S VISION

Over his long career, Robert C. Dunnell developed and honed his vision of a science of archaeology. His interests and contributions spanned method and theory, analytic issues and the current practice of archaeology. Dunnell's legacy, though, is not only what he personally contributed to the discipline, but also what he inspired others to explore. This symposium, in his memory, brings together researchers who assess the current state of archaeology and build upon the theoretical and methodological foundation he provided.

[242] SYMPOSIUM ■ MESOAMERICAN CERAMICS (SESSION IN HONOR OF JUSTIN AND BARBARA KERR)

The scientific study of Mesoamerican ceramics, including type-variety classification and chemical make-up, porosity and durability testing, has produced impressive results. This research has established site specific and regional chronologies and compiled important visual and textual corpora. Nevertheless, key issues in visual culture remain under-examined. Informed by a variety of methodological, temporal, and regional vantage points, the papers in this session provide a more holistic approach to the study of the social and artistic role of ceramics in Mesoamerica. Papers cover such topics as the interrelationship between artistic media, iconography and epigraphy, interregional interaction, and ceramics as political currency, among others.

[243] POSTER SESSION ■ POLITICS, CONFLICT, AND WARFARE IN THE ANDES

[244] POSTER SESSION ■ COASTAL LANDSCAPE OF THE WESTERN IRISH COAST: MULTI-SCALAR ARCHAEOLOGY, DYNAMIC COMMUNITIES, AND CHANGING LIFE

The Cultural Landscapes of the Irish coast project seeks to develop a multi-faceted understanding of the changing social and economic contexts of life in western Connemara, Co. Galway, Ireland. Using archaeological data, oral histories and historical records, researchers utilize comparative perspectives in understanding changing lifeways. From prehistoric through historical periods, researchers shed new light upon the dynamics of cyclical abandonment and habitation of the western Irish coastal region. This research demonstrates the potential for developing nuanced interpretations for changing concepts about space, place and social/geographic landscapes in coastal Ireland.

[245] POSTER SESSION ■ CRM, LAWS & REGULATIONS

[246] POSTER SESSION ■ EARTH OVEN RESEARCH IN THE LOWER PECOS CANYONLANDS OF SOUTHWEST TEXAS

The Lower Pecos Canyonlands region is renowned for its

evocative rock art and perishable remains, yet the archaeological record is dominated by fire-cracked rock. From "vertical" middens to towering ring middens to myriad "hearth" fields, the LPC is paved with plant baking stations. Ongoing survey, photogrammetry, excavation, and experimentation is evaluating the prevailing hypothesis that as population increased and climatic conditions deteriorated during the Holocene, foragers increasingly relied on labor-intensive, energetically costly technology to exploit desert plants. If valid, this may help explain posited changes in settlement and ritual patterns and appraise the region's fit with continental-wide intensification models.

[247] POSTER SESSION ■ EXPLORING THE UPPER GILA: CENTER FOR DESERT ARCHAEOLOGY RESEARCH IN MULE CREEK AND BEYOND

The Center for Desert Archaeology's ongoing work in the Upper Gila region of the southwestern U.S. combines collections based research with four seasons of field work in Mule Creek, New Mexico. Mule Creek's abundant obsidian and intact Tularosa and Cliff Phase sites make it an ideal vantage point from which to understand migration and interaction in the 13th through 15th century Upper Gila region. The posters in this session include regional approaches to ceramic and obsidian circulation, as well as locally focused studies of material culture and subsistence.

[248] POSTER SESSION ■ GREAT BASIN AND CALIFORNIA

[249] POSTER SESSION ■ SETTLEMENT AND MOBILITY IN FOCUS: THE ARCHAEOLOGY OF HUMMINGBIRD PUEBLO, NM

Hummingbird Pueblo, NM, was occupied during the tumultuous 13th and 14th centuries AD, a period of relocation, reorganization and reconfiguration of settlement, social organization and belief systems in the Southwest. This poster session presents the results of ten years of research at the site and investigates interregional interaction and pathways of ancestral puebloan migrations through architectural styles, lithics, mortuary analysis and ceramic exchange. The spatial and temporal contexts of the archaeological research at Hummingbird Pueblo, enhanced by the contemporary Puebloan oral tradition, serve as the basis for further exploration into patterns of mobility and questions of cultural identity.

[250] POSTER SESSION ■ TEACHING ARCHAEOLOGY & PUBLIC OUTREACH

[251] SYMPOSIUM ■ "NO (HU)MAN IS AN ISLAND": RELATIONAL ONTOLOGIES IN THE ARCHAEOLOGICAL PAST

Recent advances in archaeology have shed light on the perils of applying an atomistic ontology to the pre- or non-Modern belief systems of past peoples. Through scholarly conversation with researchers in other disciplines, archaeologists increasingly recognize the extent to which some groups saw themselves within a relational frame—as part of a continuum of being which included humans but also nonhumans (e.g., animals, plants, landscape features and other worldly phenomena). By considering material remains and associated depositional practices within such a light, participants in this session highlight the entanglement of

human/nonhuman forms within various networks or 'meshworks' of engagement.

[252] SYMPOSIUM ■ THE CARDEN BOTTOMS PROJECT: INDIANS AND ARCHEOLOGISTS STUDYING THE PROTOHISTORIC PAST

This symposium summarizes an NEH-funded study to preserve and investigate protohistoric sites in the Carden Bottoms locality of Arkansas, involving the Caddo, Osage, and Quapaw nations, the Arkansas Archeological Survey, and the Natural Resources Conservation Service. The Carden Bottoms gained notoriety when early 20th century looters removed thousands of elaborately decorated vessels and other artifacts from graves. Our collaborative study of museum collections and excavation of village areas discovered through archaeogeophysical prospecting is producing a wealth of new information on community organization, social interaction, and the transformation of cultural identities on the eve of first encounters with Europeans.

[253] FORUM ■ ARCHAEOLOGY AT A DISTANCE: REWARDS & CHALLENGES OF ON-LINE ARCHAEOLOGY COURSES (SPONSORED BY TASK FORCE ON PROFESSIONAL DEVELOPMENT INITIATIVES)

The popularity of on-line courses is increasing rapidly because of the flexibility it affords to both traditional and non-traditional students. Given the huge demand for distance education, it is imperative for archaeologists to adapt archaeology to the on-line environment and make a diverse selection of high quality courses available on-line. Successful on-line archaeology classes are vital to increasing both education about the field and interest in archaeology from the student population, some of whom are potential future archaeologists/anthropologists. This forum brings together the educational expertise of on-line instructors, who share their experiences for effective on-line teaching.

[254] GENERAL SESSION ■ PAPERS ON THE AFRICAN LATE STONE AGE

[255] GENERAL SESSION ■ ROCK ART RESEARCH

[256] GENERAL SESSION ■ EAST AND SOUTHEAST ASIAN ARCHAEOLOGY

[257] FORUM ■ USING THE DIGITAL ARCHAEOLOGICAL RECORD (tDAR) FOR MANAGEMENT, RESEARCH, AND EDUCATION

Digital data present opportunities for data search and discovery, examination, synthesis, and integration not available with documents or data that only exist on paper. Those resources also present challenges that must be overcome to ensure effective access and preservation. The Digital Archaeological Record (tDAR) is a powerful tool extending the utility of and encouraging the long-term preservation of digital data, documents, and images. This forum will discuss several cases that employ tDAR for resource management, research, teaching, and other kinds of public outreach.

[258] ELECTRONIC SYMPOSIUM ■ WHAT ARCHAEOLOGY NEEDS FROM TECHNOLOGY: ADAPTING TO AND OVERCOMING PROBLEMS WITH GIS AND REMOTE SENSING
As computer aided technologies such as Total Stations,

remote sensing data and Geographic Information Systems, become more pervasive in Archaeology, problems of data standards and incompatibility directly impact the results of excavations and analysis. This session explores real world examples where GIS, remote sensing, survey and other technologies have created challenges for Archaeology and how these problems were resolved. These case studies act as a foundation for the discussion of how data should be standardized and what Archaeology needs as a discipline to properly benefit from the diverse and rapidly changing modern tools which are available.

[259] SYMPOSIUM ■ ARCHAEOLOGY IN THE HEART OF THE AMERICAN ISTHMUS

Nicaragua is the largest country in Central America, and it straddles a key portion of the American Isthmus. Despite its size and its critical geographic position, less archaeological research has been carried out in Nicaragua, and less is known about its prehistory, than any other Central American nation. However, we know that it still preserves critical information about many historical problems and cultural processes, such as migration, diffusion, trade, and social evolution. In this symposium, the participants report on the results of extensive and significant new archaeological research in Nicaragua that clarifies the complex role Nicaragua played in the region.

[260] SYMPOSIUM ■ NETWORKING THE PAST: APPLICATIONS OF SOCIAL NETWORK ANALYSIS TO SOUTHWESTERN ARCHAEOLOGY

Archaeology is replete with references to social networks, but relatively untapped is the application of social network analysis (SNA) to archaeological data. The Greater Southwest is an ideal area to explore the applicability of network approaches to archaeology with its large-scale regional databases, fine chronological resolution, and well-documented material culture variability. Specifically, participants in this session apply basic concepts used in social network analysis (SNA) to investigate how these analyses aid in the interpretation of regional interaction in the Southwest. Concepts that are applied include centrality, embeddedness, structural holes, cliques, and the strength of weak ties.

[261] SYMPOSIUM ■ THE FOUR SIDES OF A UNIFACE: THE DESIGN AND USE OF SIMPLE HAFTED STONE TOOLS

This symposium addresses a key relationship in the organization of all technological systems—the link between tool design and actual utility. Whereas the majority of the attention in this area has been focused on biface technology, this session examines the design, depletion, salvage, and recycling of the “other hafted tool” in many lithic-based technologies—end scrapers. The session will focus on the late Pleistocene/early Holocene transition in eastern North America, with comparative material assembled from other archaeological and ethnographic contexts.

[262] SYMPOSIUM ■ IS EMPIRICISM THE OPPOSITE OF THEORY? ANDEAN ARCHAEOLOGY IN GLOBAL PERSPECTIVE

The Andes has not had the same impact upon theory in archaeology as have, say, the British Neolithic or Mesoamerica. Partly, this seems to stem from concerns

that global (read: Euro-American) theory threatens to dissolve Andean distinctiveness through a theoretical vocabulary that makes all times and places commensurable with universalized categories. Whether chiefdoms or sacred landscapes, archaeological theory can be seen to deny past alterity by rendering every difference yet another case-study of the universal. This seems an apposite moment for Andeanists to consider if they should participate more in global archaeological debate, and what form should that participation take?

[263] SYMPOSIUM ■ NORTH ATLANTIC ISLAND ECODYNAMICS: A GLOBAL HUMAN ECODYNAMICS ALLIANCE PROGRAM

This session presents new findings of the North Atlantic Biocultural Organization research cooperative gathered during the International Polar Year effort 2007-11. Settled during the Viking Age from Scandinavia, the Orkneys, Shetlands, Faeroes, Iceland, and Greenland experienced very different socio-environmental trajectories during medieval and Early Modern periods, offering valuable comparative resources for studying the path divergence and both long term sustainability and extinction. Papers present new data and fresh perspectives on regional patterns of diet and migration, local and regional economy, and impacts of climate change and early world system connections and an overview of current research in this active region.

[264] SYMPOSIUM ■ ARCHAEOLOGY IN THE NILE DELTA: PAST, PRESENT, AND FUTURE AT TELL TIMAI

From the end of the New Kingdom to the coming of Islam, the Nile Delta was one of the most important cultural and economic centers of the Ancient World. Unfortunately, development and degradation have outpaced archaeological study in the region. The future of cultural resources in the Nile Delta depends on new energy and initiatives by Egyptian authorities and the community of researchers dedicated to studying and exploring these sites. In this symposium we consider the latest discoveries illustrating the contributions to our knowledge of Late Antiquity Egypt and strategies for development of Delta archaeological resources.

[265] SYMPOSIUM ■ EVERYWHERE AND NOWHERE: TAKING THE PULSE OF MARXIST ARCHAEOLOGY

Throughout the 20th Century, Marx's ideas have been ignored, appropriated, debated, rejected, and misunderstood in archaeology. While distinct Marxist archaeologies do exist, the end of the processual-postprocessual debate has resulted in forms of theoretical collage building that often borrow Marxian concepts, but only after they have been decontextualized from Marxism's holistic vision. This session brings together speakers with an interest in Marxism to assess the status and potential of Marx's thought in archaeology. We consider the value of Marx's holism, the integration of scientific research and political action, and the operationalization of Marxian concepts for archaeological settings.

[266] SYMPOSIUM ■ PUSHING THE COGNITIVE AND ICONOGRAPHIC ENVELOPE OF THE MISSISSIPPIAN PERIOD EASTERN WOODLANDS

Structural examination of Mississippian objects reveals iconographic compositions that are not only narrative

vignettes but cosmological models. The papers in this symposium will expand these observations by putting forward new hypotheses that will interpret the art of the ancient Native Americans of the Eastern Woodlands with the same interpretive format currently used to interpret art of the Maya, Aztec and the various peoples of the Amazon. In other words Native Americans of the Mississippian period used art in an effort to create, in a two-dimensional medium, three or four-dimensional models describing the relationship of time with a physical cosmos.

[267] SYMPOSIUM ■ THE MATERIALITY OF EVERYDAY LIFE

In recent years anthropological archaeologists have begun to recognize the theoretical power of the concepts of materiality, defined here as the mutually constitutive relationships between people and things, and of everyday life, conceived of as the ordinary practices that comprise much of human existence. This session considers the analytical productivity of the convergence of these two themes. Papers explore quotidian material practices in the past and their significance for shaping and being shaped by social life. Rather than being mundane, everyday materiality is profoundly implicated in all aspects of past societies from the interpersonal and local to regional and global.

[268] SYMPOSIUM ■ RECENT ADVANCES IN PALEOINDIAN RESEARCH OF THE NORTHEAST AND MARITIMES

The pace of research on Paleoindian sites in New England and adjacent states and provinces has continued to accelerate over the last few years. The purpose of this symposium is to present findings from recently discovered sites from New Brunswick to Pennsylvania plus new data from previously documented and well known Paleoindian sites.

[269] SYMPOSIUM ■ COSMOLOGY, CALENDARS, AND HORIZON-BASED ASTRONOMY IN ANCIENT MESOAMERICA: PAPERS IN HONOR OF ANTHONY F. AVENI (SPONSORED BY ARCHAEOLOGIC USA, LLC)

Mesoamerican codices, monumental inscriptions, and horizon-based astronomy embody principles of time and space. Architecture designed for marking the passage of the sun along the horizon has a long history in Mesoamerica, traced back to Pre-Classic E-Group constructions aligned to the equinoxes and the solstices. Mesoamerican calendar records incorporate "real-time" observations of natural events, some keyed to marking important astronomical dates. Other records use repeating cycles of time to project to mythical events in the distant past or to events far in the future. In his recent work, Anthony F. Aveni has explained the Maya Baktun completion at 13.0.0.0.0 or 12.21.2012.

[270] SYMPOSIUM ■ PETROGRAPHY'S CONTINUED ROLE IN CERAMIC STUDIES: NEW ADVANCES AND DEBATES (SPONSORED BY THE SOCIETY FOR ARCHAEOLOGICAL SCIENCES)

Although the popularity of petrographic analyses of ceramics waned with the adoption of chemical compositional methods, recent research demonstrates a renewed interest in ceramic petrography. In particular, petrographic data contributes substantially to the sensitivity of provenance analyses and is vital for understanding chemical compositional data. This session

explores recent applications of petrographic techniques to archaeological questions. The focus is on new advances in the use of ceramic petrography, particularly in understanding pottery technology. The collected papers will provide a fresh look at current issues in the field and the development of new trajectories for ceramic petrographic analyses in archaeology.

[271] SYMPOSIUM ■ KOSTER AT THE CROSSROADS: ARCHAIC PERIOD LIFEWAYS AS DEPICTED BY NEW APPROACHES TO OLD COLLECTIONS

Many of North America's prehistoric socio-cultural and technological developments began during the Archaic Period. Understanding the foundation upon which these processes emerged and the trajectories they transversed are therefore critical to our archaeological pursuit of the past. This symposium highlights ongoing work with the Koster collections and the fact that this important site continues to provide new data into Archaic Period lifeways. Topics include multi-proxy examinations of diet, the evolution and utilization of stone-tool technology, and virtual renderings of spatial relationships between artifacts. These analyses provide a new, more robust contribution our archaeological understanding of North American prehistory.

[272] SYMPOSIUM ■ SOCIONATURAL SYSTEMS IN THE NORTHERN U.S. SOUTHWEST: A VILLAGE ECODYNAMICS PROJECT II PROGRESS REPORT

For the past eight years, the Village Ecodynamics Project has been investigating coupled human and natural systems in the northern U.S. Southwest through a combination of archaeological studies and computer modeling. This symposium provides an update on the latest research and findings of this project. The topics to be considered include paleodemography, settlement patterns, resource supply and use, exchange and specialization, migration, and economic systems. These studies either extend previous analyses to larger or new study areas, or present new studies that connect or compare the two primary study areas in the Mesa Verde and Northern Rio Grande regions.

[273] SYMPOSIUM ■ ARID ZONE INTENSIFICATION

While initially cast as static, archaeological evidence shows that foraging cultures occupying arid zones throughout the world adapted dynamically over time. Frequently referred to as broad-spectrum revolutions, archaeologists see these changes as examples of intensification, whereby economies shifted to resources requiring higher handling costs. These changes have been attributed to resource overexploitation, demographic pressure, climate change or some combinations thereof. In some places, intensive foraging economies persisted until the historic period; in others, they gave way to agricultural adaptations. Papers in this symposium examine these processes in arid regions of Argentina, Australia, China and North America.

**[274] SYMPOSIUM ■ GEOARCHAEOLOGY OF RITUAL BEHAVIOR AND SACRED PLACES
(SPONSORED BY SOCIETY FOR ARCHAEOLOGICAL SCIENCES)**

Archaeologists typically approach the study of ritual and religion through the analysis of artifacts, iconography, and architecture that are linked with known ceremonial

practices. Recently, archaeologists have begun to recognize that sacred places and objects have life histories that entail singular behaviors in establishment, use, maintenance, and abandonment that cannot be inferred from artifacts or architecture alone. Geoarchaeologists have a unique role to play in the interpretation of ritual behavior and sacred places through the analysis of sediments and soils that have been physically and chemically altered by human behavior even in the absence of artifacts in primary contexts.

[275] Symposium · What's Up, Chak? New Research at Chichen Itza, Yucatan, Mexico

This session offers new interpretations for the visual culture of Chichen Itza. Recent excavations of Chichen and nearby sites, advances in epigraphy, and a refined understanding of the Epiclassic period offer the opportunity to analyze the art and architecture of this complex and enigmatic late Maya site on more nuanced levels than ever before. Papers address a range of topics, including social interaction and the creation of art styles, women in murals, and the cosmic and social symbolism of architecture, collectively offering a picture of innovative strategies during a time of dynamic transitions.

[276] GENERAL SESSION ■ CARIBBEAN ARCHAEOLOGY

[277] GENERAL SESSION ■ ARCHAEOLOGY OF EASTERN SOUTH AMERICA

[278] GENERAL SESSION ■ RESEARCH IN CALIFORNIA ARCHAEOLOGY

[279] GENERAL SESSION ■ TOOLKIT STRATEGIES AND LITHIC RESOURCES

[280] SYMPOSIUM ■ BATTLEFIELD AND CAMPSITE ARCHAEOLOGY

This session will look at the methods, theory and ethnohistory involved in researching battlefield and campsite archaeology. The session brings together a number of scholars who have examined Revolutionary War sites as well as Indian battlefield sites in the Northeast.

ABSTRACTS OF INDIVIDUAL PRESENTATIONS

Abbott, David (Arizona State University) and Christopher Watkins (Arizona State University)

[270] *The Advantages of Dual Petrographic and Electron Microprobe Analyses in Ceramic Provenance Studies*
A combination of bulk chemical assays and petrographic analyses of the pottery's temper has proven to be an effective research strategy for ceramic provenance investigations. Typically, the petrography plays a supporting role for understanding the bulk chemical data. In contrast, when chemical assays of the clay fraction with an electron microprobe are used to test the source sensitivity of the tempering materials, petrography can take the leading role for an accurate, precise, and particularly cost-effective strategy for provenance studies. To demonstrate, we present a cases study focused on the exchange of plain ware pots in central Arizona.

Abell, Natalie [155] *see Gorogianni, Eugenia*

Aben, Kathrina [69] *see Montez, Karina*

Abraham, Sarah (University of California, Santa Barbara)

[26] *Reconstructing Early Colonial Ritual Practice at Pucará, Peru: An Architectural Approach*
While conversion was central to Spanish colonial rule in Peru, initial missionary work often resulted in a complex religious reality where Christianity was added to but did not necessarily replace local beliefs. This fusion can be seen at La Quinta, an early colonial chapel at Pucará, Peru. Built on top of the Pukara ruins, La Quinta features a mix of European and Andean architectural traditions. Examining the use and reuse of the built environment, this paper demonstrates how architecture can help identify past ritual behavior and discusses how hybrid architectural styles may be indicative of novel forms of worship.

Abrams, Elliot [102] *see Freter-Abrams, AnnCorinne*

Acabado, Stephen (University of Guam)

[182] *The Ifugao landscape: complementary agriculture and the intensification debate*
Cultural landscapes often provide information on human-environment relationship. This ethnographic and archeological analysis of the Ifugao landscape (northern Philippines) contributes to the increasing body of research that provides evidence for the disjunctive relationship between swiddening and intensive cultivation in Southeast Asia. Landscape information obtained from the Ifugao of the northern Philippines provides further indication on the complementary relationship between the two systems, rather than an evolutionary one.

Acosta Alejandro, Manuel [58] *see Gallegos Gomora, Miriam Judith*

Adair, Mary (University of Kansas) and Gina Powell
[223] *Steed-Kisker Archaeobotany: New Data, Old Data, and their Regional Context*

Archaeobotanical assemblages from Steed-Kisker sites are limited when compared to other Central Plains tradition occupations. Systematically recovered data from recently investigated Steed-Kisker sites in northwest Missouri and northeast Kansas provide updated information on the importance and selection of crop plants, wild plants, and wood resources. When combined with curated materials gathered over the past 40 years, these data provide a more comprehensive view of the plant use by Steed-Kisker populations. In this paper, the authors gather together the old and new data, compare the datasets among the Central Plains tradition sites, and indicate where future research would be fruitful.

[223] *First Chair*

Adams, Brian (University of Illinois Urbana-Champaign)

[202] *Messenger Bones: The Scapula and European Upper Palaeolithic Rituals*

While much about the subsistence and settlement systems of Upper Palaeolithic hunter-gatherers has been reconstructed on the basis of faunal, lithic and location data, the belief systems of such groups remain elusive. Cave paintings are the most common source of insight into Palaeolithic belief systems. Portable art objects are more commonly used for insights into social interactions during the Palaeolithic. In this paper, the occurrence of non-human scapula bones in Upper Palaeolithic sites as ritual objects is investigated.

Adams, Dean [96] *see Otárola-Castillo, Erik*

Adams, E. (University of Arizona), Richard Lange (University of Arizona), Vincent LaMotta (University of Illinois, Chicago) and Elisabeth Cutright-Smith (University of Arizona)

[171] *Survey and Excavations by the University of Arizona Fieldschool at Rock Art Ranch*

The University of Arizona Fieldschool at Rock Art Ranch (RAR) concluded its initial field season in 2011. Fifteen new sites were recorded in a 1200-acre survey area and, in collaboration with researchers from the University of Illinois, Chicago, excavations were conducted at two small, ca. 1200 CE pueblos. RAR was selected as a new field station due to its location on the boundary between Pueblo, Sinagua and Mogollon cultural traditions and the presence of a major petroglyph site adjacent to the survey area. The surveyed sites match the petroglyphs in age ranging from Middle Archaic to Pueblo III.

[274] *Discussant*

Adams, Jacob [248] *see Adams, Jesse W.*

Adams, Jesse (SWCA) and Jacob Adams (Washington State University)

[248] *Middle Archaic Lithic Technological Organization in the Little Boulder Basin.*

Lithic debitage assemblages from excavated sites in North Central Nevada show a reliance on locally available Tosawihi chert. Previously excavated sites and extensive site recordation in the Little Boulder Basin

(LBB) have resulted in an archaeology largely biased toward the Late Prehistoric period and Eagle Rock phase. Here we present results from the analysis of lithic assemblages and their implications on lithic technological organization and land use patterns of Middle Archaic hunter-gatherers.

Adams, Karen [35] *see Rainey, Katharine D.*

Adler, Michael (Southern Methodist University)
[249] *Ancestral Pueblo Settlement Landscapes Along the Lower Rio Puerco, New Mexico, A.D. 1250-1450*
 This presentation reviews the place of Hummingbird Pueblo (LA 578) in the settlement and subsequent dispersal of ancestral Pueblo peoples along the lower Rio Puerco drainage during the 13th-15th centuries. Hummingbird and Pottery Mound Pueblos may have served as "beachhead" settlements formed by migrants populating an otherwise underutilized stretch of the Rio Puerco during this time. Questions of where these populations originated, as well as where they may have eventually moved to, are addressed.
[249] *First Chair*

Adovasio, J. M. [79] *see Illingworth, Jeff*

Adovasio, James (Mercyhurst Archaeological Institute) and Olga Soffer (Professor Emeritus, University of Illinois)
[202] *The Appearance of Plant Fiber Artifacts: An Upper Paleolithic Event Horizon*
 Recent research has conclusively demonstrated that diverse plant-fiber-derived technologies are present in various parts of the Old World by no later than 25,000–27,000 BP. Moreover, these technologies (including basketry, cordage, and textiles) are sufficiently complex and sophisticated that they cannot be considered to be primary essays in their respective crafts. The appearance of this interrelated suite of non-durable technologies is a significant event horizon that marks the beginning of the Upper Paleolithic; it also provides a graphic signal of that definitionally elusive phenomenon called "behavioral modernity."

Adriano-Morán, Carmen Cristina [62] *see McClung De Tapia, Emily S.*

Aevarsson, Uggi [263] *see Woollett, Jim M.*

Agarwal, Sabrina (UC Berkeley)
[105] *Thinking Outside of the Biological Female in the Box*
 Traces of health and disease on the skeleton are first viewed within the lens of biological sex, casting observations to reside within normative interpretations of identity. For example, the frequent observation of bone loss (or osteoporosis) in the bioarchaeological record is typically regarded as the inevitable outcome of the female skeleton bound by reproductive hormones. Drawing on empirical studies of bone maintenance in the bioarchaeological record I have conducted using a life course perspective, I demonstrate how patterns of bone loss are not only directed by reproductive biology but uniquely crafted by individual and population-specific gender-related choice and roles.

Agenbroad, Larry (Mammoth Site of Hot Springs, SD)
[55] *Discussant*

Agolli, Esmeralda (Cotsen Institute of Archaeology UCLA)
[119] *Pottery from the Tumulus of Kamenicë Southeast Albania Toward a Conceptual and Functional Classification System*
 This paper takes a theoretical and methodological focus on the material classification using as a case study the pottery of Kamenicë tumulus. Two are the basic issues: first an evaluation of the current system of classification in the Albanian studies heavily inspired by the static notion of culture broadly applying subconsciously the type-variety system, and second the introduction of an innovative agenda which designs a conceptual synchronic and diachronic system of classification reflecting the mental and physical choices of the maker. Such system explores qualitatively and quantitatively the degree of material homogeneity for each significant group. The paper concludes a functional classification scheme which depending on the scientific query is open for multiple considerations.

Agostini, Mark (University of Vermont) and Scott Van Keuren (University of Vermont)
[216] *Cibola White Ware Pigment Recipes in the Late Pre-Hispanic Period Southwest*

This poster presents preliminary the results of a chemical characterization analysis of pigment and slips on Cibola White Ware sherds (AD 1050 – 1325) from sites in east-central Arizona. Time of flight-laser ablation-inductively coupled plasma-mass spectrometry (TOF-LA-ICP-MS) analysis is used to first establish viability for measuring chemical compositions of pigments and slips, and second to infer specific "recipes" used by ancient potters. These analyses contribute to our understanding of long-term changes in the social organization of white ware production in the Western Pueblo region.

Aguilar, Woody [25] *see Preucel, Robert W.*

Aguilar Bonilla, Mónica (Professor), Silvia Salgado (Universidad de Costa Rica) and John Hoopes (University of Kansas)
[122] *Cambio Sociocultural en un asentamiento del Caribe costarricense*

El sitio arqueológico Nuevo Corinto es uno de los más extensos y arquitectónicamente complejos del Caribe Central costarricense. Investigación desde 2007 a la fecha muestra que fue habitado desde el 1500 a.n.e. hasta el siglo XVI. A partir del 700 n.e. se dieron manifestaciones arquitectónicas típicas de centros regionales. Discutimos los datos obtenidos en prospección, mapeo topográfico y excavación, que indican cambios importantes en diversos aspectos de la vida social de sus habitantes y del medio en el que desarrollaron durante un lapso prolongado de tiempo que se extiende al menos desde el 1500 a.n.e hasta el siglo XVI aproximadamente.

Aguilar Diaz, Miguel (Universidad de los Andes)
[166] *Ancient traditions and the use of feasts to legitimize elite status at a kancha residential structure of the Peruvian Cordillera Blanca*
 I present the case of Keushu, a site located at the central

Andes of Peru during AD 600 to 1100, for a discussion about status, the use of the social memory, and the appropriation of the social space through food-use patterns. A combination of feasting, beverage consumption, and ritual ceremonies in pachamancas associated with kancha structures were used as a way to legitimize elite privilege and reinforce sacred elements of the landscape through reference to the Huascan Mountain and the Keushu lagoon, which according to local oral histories and ethnohistorical writings were sacred places of mythical origins.

Ahlman, Todd (Historical Research Associates, Inc.), Brian Herbel (Historical Research Associates, Inc.), Eric Carlson (Historical Research Associates, Inc.), T. Weber Greiser (Historical Research Associates, Inc.) and Sunshine R. Clark Schmidt (Bonneville Power Administration)
[110] *Contrasting Occupations along the Kootenai River in Northwestern Montana: An Examination of Site 24LN2210*

Recent archaeological investigations at 24LN2210 in northwestern Montana revealed a multiple occupation site near the Kootenai River. Site 24LN2210 is situated on a recent alluvial terrace and includes three occupations dating from 320-5150 B.P. The faunal and lithic assemblage is indicative of a resource processing campsite. Among the interesting finds at 24LN2210 is a possible pithouse that appears to have been used during the site's second occupation period. Interpretation of the site was aided by the collaboration of archaeologists from Historical Research Associates, Inc., Bonneville Power Administration, Kootenai National Forest, and Tribal members of the Confederated Salish and Kootenai Tribes.

Aimers, Jim (SUNY Geneseo)

[61] *X-Ray Fluorescence Analysis of Postclassic Pottery From the sites of Tipu and San Pedro, Belize.*

In May of 2011 I began an X-Ray Fluorescence (XRF) analysis of red-slipped pottery from the sites of Tipu and San Pedro in Belize. In this paper I will report on the results of this analysis, which focused mainly on Red Payil Group pottery of the Postclassic period. The research goals, analytical processes, and statistical treatment of the results will be described, with emphasis on the strengths and weaknesses of XRF for the identification of production groupings and trade patterns. Future directions for this research will also be described.

Aimers, Jim [61] see Simmons, Scott E.

Aiuvalasit, Michael (Southern Methodist University), Tim E. Riley (Texas A&M University), Joseph Schuldenrein (Geoarchaeology Research Associates) and James C. Pritchard (Brockington and Associates)

[37] *Geoarchaeological and Palynological Evidence of Late Mississippian (Nodena Phase) Landscape Alternation along the Wapanocca Bayou, Arkansas, USA*
 Geoarchaeological investigations of an infilling oxbow were undertaken in the Central Mississippi Valley, Arkansas. Wapanocca Bayou is near levees that supported Late Mississippian (Nodena Phase) sites. Three 10+ m cores probed the oxbow and flanking slopes. Our sampling program included palynology,

radiocarbon assays, and detailed sedimentology. Objectives targeted Late Pleistocene to Holocene paleo-environmental reconstructions and an assessment of prehistoric anthropogenic impacts. A landscape evolution model documents broad drainage changes over 30,000 years, Early to Middle Holocene erosion, and oxbow formation by 2150 B.P. Significant, late Mississippian shifts in local vegetation may be attributable to agricultural intensification.

Akins, Nancy (Office of Archaeological Studies, Museum of NM)

[116] *Developmental and Coalition Period Mortuary Practices in the Northern Rio Grande*

Much of the published data on Northern Rio Grande mortuary practices consists of summaries without regards to the age or sex distribution or their placement within the site. Recent Office of Archaeological Studies excavations at sites in the Peña Blanca area and the Tewa and Galisteo Basins of Northern New Mexico have recovered small to significant numbers of human burials. These, combined with smaller samples from the same areas, provide a basis for comparing Northern Rio Grande mortuary practices with those from throughout the Southwest.

[72] *Discussant [72] Third Organizer*

Akoshima, Kaoru (Tohoku University)

[89] *From microblade to arrowhead: function and technological organization through the end of the Palaeolithic in Northeastern Japan*

The paper examines functional evidence from Late Palaeolithic to Incipient Jomon industries in Northeastern Japan in terms of technological organizations. Projectile technology is discussed with organizational viewpoints such as assemblage composition, reduction complexes and functional variability. Case studies of the Kamino-A site, the Araya site, and other Tohoku District sites elucidate the role of projectiles as an integral part of technology. Characteristics of sequential assemblages which accompany knife blades, microblades, tanged points, large bifaces and arrowheads respectively, are discussed with reference to subsistence and settlement pattern transition and emergence of pottery through chronological climatic fluctuations.

Alaica, Aleksa (University of Toronto)

[106] *Craft Production, Identity and Place-Making in the Jequetepeque Valley of Peru*

Recent survey conducted on the south bank of the Jequetepeque Valley points to the close association of specialized mortuary constructions and the production of ceramics and copper during the Moche and Late Intermediate Periods (650-1350AD). The data suggest that local craft production was embedded in a particular religious cosmology and relational ontology specific to pre-Columbian Jequetepeque communities. The association between destruction and regeneration of materials in craft production actively correlates with the material patterns found. This paper will argue that the ideological forging of social identities was intimately linked to the making of places and valued things in ancient Jequetepeque.

Albarracin-Jordan, Juan [231] see Capriles, José M.

Alberti, Benjamin (Framingham State University)

[262] *What are bodies in first millennium AD northwest Argentina? Theoretical bodies and empirical frameworks*
In pre-Inca northwest Argentina human-like bodies exist in a variety of media and forms. I take a critical cue from Aparecida Vilaça and the critique of the embodiment paradigm from the perspective of Amazonian ethnography, and my methodological cue from Marilyn Strathern, who would rather sidle up on "the body" than approach it directly. Does the general paradigm of embodiment survive the encounter with the material from northwest Argentina, or indeed need survive it? The more pertinent question, perhaps, is whether a general concept of body ought to be made to change concretely when faced with these particular, empirical bodies.

[262] First Chair [262] Second Organizer

Alcock, Susan (Brown University) [12] Discussant

Alconini, Sonia (University of Texas At San Antonio)
[237] *Testing power in the Inka frontiers: elite frontier competition and the empire*

In this presentation I will discuss the ways in which the Inka representatives, or border lords, maintained power in frontier regions on behalf of the empire. Despite the Inka frontier variability, ranging from open to militarized perimeters, these emissaries were central in the maintenance of power on such distant, and often contested territories. In addition, complex relations were established between the empire, the frontier elite and the locals. By using the Southeastern Inka frontier as a case study, I will discuss the evolution of distinct elite frontier strategies, their power base and its effects on the local sociopolitical dynamics.

Alconini, Sonia [52] see Warren, Matthew D.

Aldeias, Vera (University of Pennsylvania) and Paul Goldberg (Boston University)

[117] *Stratigraphy and Site Formation Processes at Contrebandiers Cave, Morocco*

Site formation processes at Contrebandiers Cave have not been investigated during previous excavations. Recent (2006-2011) geoarchaeological-oriented studies combined detailed lithostratigraphic observations, clasts orientation, and soil micromorphology techniques to understand the formation processes and diagenetic alterations of the deposits. Locally reworked marine deposits at the base of the stratigraphy at Contrebandiers are overlain by Middle Paleolithic layers showing continual interaction of disaggregation of the cave walls/roof and incorporation of allochthonous sands, with an upward increase of anthropogenic inputs (e.g., ashes and charcoal). Here, we discuss the implication of these various depositional and post-depositional processes on the integrity of the archaeological record.

[117] First Chair [117] Second Organizer

Aldenderfer, Mark (University of California)

[95] *Beadwork: The Asia-Pacific Bead Trade and Upper Mustang, Nepal*

The discovery of a significant quantity of glass beads in a mortuary context in far northern Upper Mustang, Nepal at the site of Samdzong (just south of the border with Tibet) raises a number of questions about trade, exchange, and contact between this remote area and the possible

centers of bead production in the first millennium A.D. The results of an archaeometric analysis of these beads is presented with the goal of identifying the likely locus (or loci) of bead production: China, southern India, and SE Asia.

[149] Discussant

Alex, Bridget (Harvard University), Dušan Mihailovic (University of Belgrade), Stefan Milošević (University of Belgrade), Mike W. Morley (Oxford Brookes University) and Mirjana Roksandic (University of Winnipeg)

[202] *Radiocarbon Sampling of a Middle to Upper Paleolithic Palimpsest in the Balkans*

To generate archaeologically meaningful radiocarbon dates, consideration must be given to micro and macro context, taphonomy, and preservation. We present the sampling strategy and implications of radiocarbon dates from Pešturina Cave, a Late Pleistocene site in Serbia. Samples with good contexts and hominin modifications were prioritized. Bones were prescreened for preservation and taphonomy. Preservation in selected samples was further evaluated by percent insoluble fraction and FT-IR analysis. The dates are considered along with sediment analysis to evaluate stratigraphic mixing and to address wider implications concerning the timing of the Middle to Upper Paleolithic Transition in the Balkans.

Alexander, Rani (New Mexico State University)

[150] *The Archaeology of Place in Ebtun, Yucatan, Mexico*

In this paper, I examine how changes in household structure relate to archaeological variation in the life histories of towns, ranchos, haciendas, and land parcels around Ebtun in the 19th and 20th centuries. Ebtun is famed for its corpus of Maya-language documents that describes how descendent communities retained ownership of land from 1600-1833. Ethnographers relied on these documents to fashion an immutable ethnographic past which explained the 20th-century persistence of traditional Maya lifeways. Yet, my analysis of archaeological evidence and census records calls into question assertions of deep continuities in the uses and understandings of the landscape in Ebtun.

Alexandrino Ocaña, Grace (Pontificia Universidad Católica del Perú - PATL) and Krzysztof Makowski (Pontificia Universidad Católica del Perú - Programa Arqueológico Valle de Pachacamac)

[156] *Luxury objects, rank and status of the inhabitants of Pueblo Viejo- Pucará (Lurin Valley)*

The analysis of the residential architecture of Pueblo Viejo - Pucará, a settlement of mitmaqunas of Huarochiri near Pachacamac has allowed distinguished between palatial residences of chiefs, elite residences and common residences, clearly differentiated among others by the number and extent of environments. This paper compares the findings of considered luxury artifacts in order to assess the different access to this kind of property. The results demonstrated a clear difference between the Palace of the curaca and other residences. But such differentiation is not clear in other cases.

Alexandrino Ocaña, Grace [156] see Hernandez Garavito, Carla C.

Alix, Claire [204] *see* Mason, Owen K.

Allard, Francis (Indiana University of Pennsylvania)
[95] *The Nanyue kingdom: Assimilation, acculturation, and inter-regional interaction*

Established in 204 BCE, the Nanyue kingdom occupied much of present-day Guangdong and Guangxi until its final defeat at the hands of the Han dynasty in 111 BCE. As revealed by research carried out over the past decades, Nanyue's artifacts and architecture reveal a complex blend of elements of local and distant origins, including metropolitan Han China (to Nanyue's north) and southeast Asia and beyond. This paper considers the nature and impact of these many instances of interaction, and in so doing comments on the different forms that interaction may take in the emergence and development of complex polities.

Allen, Kathleen (University of Pittsburgh) and Samantha Sanft (University of Pittsburgh)

[40] *Alternative economic activities at two sixteenth century Iroquoian sites: an analysis of lithic tools*

Two neighboring Iroquoian sites in central New York State have been interpreted as sequential villages, however, recent studies have suggested alternative settlement strategies at these sites. In this research, analysis of lithic tools is employed to better understand the types of economic activities present. Results show significant differences in the proportions of points, bifaces, types of retouched tools, and cores, which reinforce the interpretation that the sites served different purposes in the local political economy due to seasonal occupation, gendered activities, or changing political landscapes. These alternatives are discussed and implications for understanding Iroquoian settlement strategies are explored.

Allen, Susan (University of Cincinnati) and Ilirjan Gjipali (Institute of Archaeology, Centre for Albanological Studies, Tirana)

[119] *Wetlands and the Transition to Agriculture in Europe: The 2010 and 2011 Excavations of the Southern Albania Neolithic Archaeological Project (SANAP) at Vashtëmi, Albania*

The Southern Albania Neolithic Archaeological Project's (SANAP) 2010 and 2011 excavations at the site of Vashtëmi, Albania shed light on the transition to agriculture in southern Europe. In particular, this research contributes toward understanding the important role of wetlands in this transition and providing a chronological framework for linking the Albanian Neolithic in time and space with other known sequences in Europe. Radiocarbon dates from the site place its earliest occupation in the mid-seventh millennium B.C., contemporary with EN sites in Greece, to its south, and make it one of the earliest farming sites in Europe.

Allentuck, Adam (University of Toronto)

[134] *Reconciling social and economic strategies of animal consumption at an Early Bronze Age village in the southern Levant*

Social and economic strategies of animal consumption are conventionally represented as mutually incompatible. The former is typically conceptualized as expressive practice, with the latter rooted in practical reason. In

many respects, the zooarchaeological data from Early Bronze Age Horvat 'Illin Tahtit in the southern Levant conforms to an economizing model of livestock exploitation. However, the faunal evidence viewed through a different lens urges inferences of social strategies that are not necessarily antithetical to economic strategies. This leads to the conclusion that these two categories have analytical values, but may not bear a reality in the Early Bronze Age.

Allison, James (Brigham Young University)

[51] *Low-Frequency Temperature Variability and Native American Horticulture in the Northern Southwest and Eastern Great Basin*

Recent paleoclimatic studies reconstruct low-frequency variability in temperature that may have affected the success of Native American horticulture. Potential effects of this temperature variability include shifts in the range of elevations within which horticulture was viable, and changes in the northern limits of horticulture-based economies. This paper examines radiocarbon dates and other chronological data from Fremont and Puebloan sites in Utah, eastern Nevada, and northwestern Arizona, comparing the low-frequency temperature reconstructions with the timing of expansion and contraction in the northern frontier of maize horticulture and temporal shifts in the elevations of farming settlements.

Allison, James [85] *see* Wilshusen, Richard H.

Alonso Lopez, Elisa [270] *see* Whitbread, Ian K.

Alonzi, Elise (University of Notre Dame)

[139] *Dietary Variation on the Edge of History: Human Stable Isotopes and Maize Consumption at Protohistoric Caborn-Welborn Villages and the Angel Site in Southern Indiana*

The Caborn-Welborn phase was a protohistoric culture in southwestern Indiana composed of large villages, small villages, hamlets and farmsteads. In contrast, the neighboring Angel Site, which collapsed around A.D. 1400, was a heavily maize-dependent Middle Mississippian civic-ceremonial center. Comparisons between these two phases are used to determine the possibility of migration from Angel into the Caborn-Welborn sites during this transitional period. Using stable carbon-isotope ratios from human burials at the large village of Hovey Lake and the small village of Mann, inter-community and inter-individual dietary variations are compared to the patterns of dietary variation investigated at the Angel Site.

Alonzi, Elise [244] *see* Lash, Ryan P. **[85]** *see* Reese, Kelsey

Alt, Susan (Indiana University Bloomington)

[198] *The Invisible War: Structural Violence and Fear in the Cahokian World*

We usually consider violence as overt acts of physical harm, but violence persists in less visible ways. We are familiar with structural violence in the modern world, expressed as inequality, racism, sexism, hunger and poverty. S. Lekson has suggested that people in the Southwest were being socialized for fear. In this paper I review evidence of inequality, violent death, captive

taking, and violence at Cahokia and in the Cahokian peripheries to explore the possibilities of structural violence and a socialization for fear in the Cahokian world.

Alt, Susan M. [239] *see Watts, Elizabeth*

Altaha, Mark [67] *see Laluk, Nicholas C.*

Altaweel, Mark (University College London)

[103] *Integrating Social-Ecological Theory within Complex System Modeling in Archaeology: Recent Advances and Future Direction of Research*

Recent projects spanning different regions have applied complex system approaches incorporating bottom-up and top-down modeling techniques. Advancements made include facilitating computational methods for researchers, visualization, and the application of high performance computing to research. In addition, the emphasis on integrating current social and social-ecological theory within research has helped to ground many technical approaches with theory, making complex system modeling appropriate for a variety of archaeological problems. Given these developments, this paper reviews the state of the art, significant challenges facing researchers, and assesses the future direction in which research advancements are likely to be made.

Altes, Christopher (University of Florida and SEARCH, Inc.)

[193] *Blood from stone: ballcourts as an integrative dominating set and the implications for social organization in south central Puerto Rico*

Taking approaches from set theory and graph theory, this paper outlines the creation of a speculative network of bateys, or ballcourts, in south central Puerto Rico during the early Ostionoid time period. The bateys present an almost perfect dominating set at one link of all settlements within the network, providing access to these constructed landscape features without traveling through a third settlement. This is taken to suggest bateys are not centers from which political power radiates outward, but instead dynamic social places in which people engage and integrate at multiple scales within a broader network.

Altman, Heidi (Georgia Southern University) and Tanya Peres (Middle Tennessee State University)

[144] *Daksi: An Ethnozoarchaeology of the Eastern Box Turtle (*Terrapene carolina*)*

The development of connections between archaeologically known populations and contemporary peoples is a crucial missing piece in understanding the story of southeastern native peoples. Ethnoecological models demonstrate the persistence of practices in durable environmental contexts as opposed to the interpretation of signs, symbols and structures left behind. We developed a protocol for extending the anthropological interpretation of late precontact archaeological sites by combining zooarchaeological analysis of Eastern box turtles from Mississippian sites with the Native American ethnohistorical, ethnographic and linguistic record. This protocol allows for greater insights into subsistence, medicinal, technological, and ecological practices prior to the arrival of Europeans.

Altschul, Jeffrey (Statistical Research, Inc./SRI Foundation) [81] *Discussant* **[12]** *Discussant*

Alvarez, Jose [67] *see Laluk, Nicholas C.*

Alvarez, Maria [96] *see Gutierrez, Maria A.*

Álvarez, María Clara [8] *see González, Mariela E.*

Alvarez-Calderon, Rosabella

[156] *Spaces for few, spaces for many: using privacy to understand site function and complexity in an Inca period site in the middle Lurín valley, Peru*

This paper focuses on the architectural and spatial analysis of the Inca period site of Huaycan de Cieneguilla, middle Lurín valley, Peru, using the concept of privacy. This work reveals architecture was actively used to control movement, emphasizing which areas were more open and which areas were accessible only to limited groups of people. Physical boundaries, access, surveillance, and mobility patterns all contributed to diversity of possible uses and activities, relationships and connections between rooms, and how the site changed over time through interplays involving regional manipulations of power, architecture, and space in the Late Horizon central coast of Peru.

Álvarez-Fernandez, Esteban (University of Salamanca) and Teresa E. Steele (University of California, Davis)

[117] *Exploitation of coastal resources during the Late Pleistocene at Grotte des Contrebandiers (Temara, Morocco)*

Investigations into modern human origins have incorporated information about the exploitation of coastal resources into many of the prevailing models. However, until recently, data were only available from the Middle Stone Age of coastal South Africa. Here, we present data on the exploitation of coastal resources during the Late Pleistocene at Grotte des Contrebandiers (Temara, Morocco). With patterns similar to South Africa, during the Mousterian, Aterian and Iberomaurusian, inhabitants exploited the nearby rocky coast, gathering mainly limpets, mussels and marine snails. They also collected different tick-shell species (mostly *Nassarius*) from the beaches, some of which were used as beads.

Amadio, Ayla (Southern Illinois University-Carbondale)

[181] *Intra-site Variation in Non-Obsidian Lithics from Formative Tayata, Oaxaca, Mexico*

A systematic study of ubiquitous non-obsidian lithics is largely absent from the Mixteca region. The presence and variety of lithic artifacts from several contexts were classified to understand the spatial relationships of lithic technology and craft production at the site of Tayata. Analysis focused on production sequence, form, raw material, and tool type. Evidence presented on intra-site variation in lithics indicates differences in civic, domestic, midden, and ritual contexts. Discussion focuses on the ways these artifacts relate to wider spheres of multicrafting at Tayata during a time of emergent social inequality.

Amador, Fabio Esteban [41] *see Rissolo, Dominique*

Ambrose, Stanley (U. Illinois, Urbana-Champaign), Jeffrey Ferguson (University of Missouri, Columbia), Michael Glascock (University of Missouri, Columbia) and Philip Slater (University of Illinois, Urbana)
[254] *Chemical fingerprinting of Kenyan obsidian sources and Late Quaternary artifacts with NAA and XRF*
 Pioneering research by Merrick and Brown (1984-1994) identified 30 obsidian chemical source groups by XRF and microprobe. We resampled many previously known sources and collected new sources in the Kenya Rift Valley in 2008-2010 for neutron activation and XRF analysis. We identified 16 new chemical source groups. Obsidian artifacts were analyzed from three Middle Stone Age and three early Later Stone Age assemblages (N=1290) ranging in age from >110 to 16 ka at four archaeological sites in the central Rift. They provide insights into changes in mobility and interaction during the last stages of the evolution of modern human behavior.

Ambrose, Stanley [60] see Dong, Yu [61] see Freiwald, Carolyn [37] see Wreschnig, Andrew

Ambrose, Stanley H. [5] see Madden, Gwyn D. [254] see Slater, Philip

Ames, Kenneth (Portland State University)
[123] *Socioeconomic change, darts and arrows on the Intermontane Plateau of North America*
 The bow and arrow may have been present on the Intermontane Plateau by 8500 BP; but was ubiquitous by 4500 BP, probably undergoing technological changes after 2300 BP. The atl-atl was not completely replaced and fluoresced ca 3500 BP. Around 8500 BP, mobility patterns became increasingly residential. After 6000 BP, houses are present and mobility was increasingly tethered to fixed locations. Logistical mobility, visible evidence for storage and bison exploitation appeared ca. 3500. Post 2300, wealth and social differentiation increased, along with episodic large aggregations and warfare. In Canada, the large aggregations dissipate sometime after ca. 1000 - 800 AD.

Amore, Maria-Grazia [119] see Deskaj, Sylvia

Amrhein, Laura (University of Arkansas-Little Rock)
[275] *Processional Narrative and Ritual at Chichén Itzá: An Analysis of Six Bench-Altars*
 Six bench-altars decorated with reliefs of processional warriors, priests, and captives help to tell the story of ancient Maya warfare, ritual and social status at Chichén Itzá. Five benches, located in the northern portion of the site, are identical in form and share similar but distinct iconographic programs. A sixth bench re-consolidated in 2007 in the southern portion of the site relates stylistically and iconographically to previously known examples. An iconographic and contextual analysis of these benches reveals they served a symbolic, ritual, and narrative function at the site.

Ana Paula, Alcaráz [273] see Stoessel, Luciana
Anderson, David (Tulane University) and Jeb J. Card (Miami University)
[56] *The Varieties of Pseudoarchaeology*
 Professional archeologists have long lumped pseudoarchaeological theories into a single category of

unsubstantiated "bunk," yet a closer examination reveals that there is tremendous variety in these theories and in the people that hold them. Building upon a recent survey of American beliefs in the paranormal, we examine the relationship between the content and structure of pseudoarchaeological beliefs, and the intensity that they are believed in or practiced. These factors are critical to guiding archaeologists to better understanding and interacting (or not interacting) with creators or promoters of pseudoarchaeology, and more importantly, a general public looking for answers.

Anderson, David (University of Tennessee) [268]
Discussant [231] Discussant [3] First Chair

Anderson, David [19] see Peniche May, Nancy

Anderson, David G. [84] see Yerka, Stephen J.

Anderson, Derek (Mississippi State University)
[100] *Invisible hearths: refitting as a means of identifying activity areas at the Topper site*
 The Topper site is an extensive chert quarry near Allendale, South Carolina and represents one of the largest Clovis and Early Archaic sites in North America. Debitage analysis, including refitting, has identified individual knapping events surrounding a hearth feature on the lower terrace that was unapparent to excavators, and which is associated either with a Taylor or Clovis occupation. Preliminary analyses of upland deposits hundreds of meters away show similar patterns and indicate that the entire site may be relatively undisturbed, providing a unique look at Paleoindian and Early Archaic social interactions in the Southeast.

Anderson, Doug [7] see Urban, Thomas M.

Anderson, Gretchen [185] see McConaughy, Mark A.

Anderson, J. Heath (College of Wooster)
[62] *Collapse and Regeneration in the Tula Area: What Do We Know? What Would We Like to Know? How Do We Find Out?*
 Scholars are revisiting research questions involving the processes and patterns related to the collapse and regeneration of complex societies in Central Mexico. Formerly, research only rarely ventured beyond questions of cultural continuity and population migration, diffusion, etc. This is especially true of the Tula area, where complex society reconstituted in the form of the Toltec state after the decline of Teotihuacan. This paper is a summary and synthesis of what we know about the processes of collapse and regeneration in the Tula area and a prospective consideration of relevant questions going forward, and the data we need to address them.
[253] *Discussant*

Anderson, Jason [90] see Quick, Russell S.

Anderson, Karen
[243] *Developments in Tiwanaku Chronology: New radiocarbon dates from Piñami, Cochabamba*
 While Cochabamba is a key peripheral region for the Tiwanaku state, a lack of radiocarbon dates for the Middle Horizon has left us with an approximate chronology and limited our ability to correlate Tiwanaku

expansion in Cochabamba with the highland Tiwanaku chronology. This poster presents new Middle Horizon radiocarbon dates from Piñami, Cochabamba, resulting in a refined chronology for the Cochabamba Central Valley. Based on this chronology I compare major changes in material culture at Piñami with those at Tiwanaku and other peripheries and address how the chronology impacts our understanding of Tiwanaku expansion.

Anderson, Lars (University of Michigan)

[16] *Modeling "Modernity" in the Middle Stone Age*
Still Bay and Howiesons Poort industries of the MSA have recently entered the debate regarding early archaeological manifestations of "behavioural modernity". Models proposed heretofore have been unable to account for the temporal disconnect between the appearance of AMH and trait list definitions of modernity, or the disappearance of presumably adaptive traits in post-Howiesons Poort industries. A model will be proposed which examines demographic arguments in light of cultural transmission theory and the maintenance of biologically viable populations through formalized social networks. Evidence supporting this model will be examined and new directions in the study of "behavioural modernity" will be proposed.

Anderson, N. John [51] *see D'Andrea, William J*

Anderson, Shelby (Portland State University)

[204] *Social Networks and Ceramic Circulation in Northwest Alaska, ca. 1000-200 BP*
Social networks are considered essential to human occupation of Arctic environments. Access to non-local goods through networks is also linked to the development of more complex social organization in northern hunter-gatherers groups. Ceramic geochemical and formal data are used to test hypotheses about the nature and extent of networks over the last 1000 years in Northwest Alaska, a period characterized by significant social and environmental change. Results suggest ceramics were circulating more widely than expected and hint at changes in raw material procurement strategies during the study period that may be related to shifts in mobility or networking strategies.
[204] *First Chair*

Andrefsky, William (Washington State University) and Jennifer Ferris (Cardno ENTRIX)

[127] *Chert Formation Process and Geochemical Characterization for Archaeological Interpretation*
Determining the source location of archaeological toolstone can be a very powerful way to identify aboriginal migration, trade, and land-use. Igneous rock, such as obsidian, has been effectively characterized by geochemical assays and has aided understanding of human movements. However, chert toolstone has not been as successfully characterized. In this paper, we present some information on chert formation processes and how such processes influence the geochemical fingerprinting of source locations. Our analysis reveals that differential processes of chert genesis should be considered before conducting geochemical characterizations and that some cherts are extremely geochemically diagnostic to discrete locations.

Andrefsky, Jr., William [160] *see Ferris, Jennifer M.*

Andrews, Anthony (New College of Florida) [128]
Discussant

Andrews, Courtney [250] *see Jones, Sharyn R.*

Andrews, E. Wyllis (Tulane University) [236]
Discussant

Andrieu, Chloé (CNRS Université Paris I La Sorbonne)

[151] *The unstable geography of the jade and obsidian Classic Maya lowland trading routes*
Obsidian and jade were both regularly imported from the highlands. Whereas they probably correspond to very different distribution systems, their acquisition required numerous alliances between cities from the highlands towards the major lowlands sites. This paper proposes an understanding the unstable frontiers of the lowlands trading routes through a comparison of the mode of importations and the quantities of each material imported through time in sites such as Cancuen, Naachtun, Calakmul and Tikal correlated with the available epigraphic data.

Andrus, C. Fred T. [220] *see Collins, Joe D.*

Angel, Alicia [87] *see Gasco, Janine L.*

Angelo, Dante (Universidad de Tarapacá)

[26] *Ritual Practice as an Overwhelming Burden of Everyday Life*
Ritual has been commonly identified within a dualistic schema in which everyday activities are set against and apart from other practices bearing special significance. The latter is often thought to belong to the realm of the ritual in which the mysterious, the symbolically significant and the uncommon becomes institutionalized. In this paper, I use recent approaches to ritual that emphasizing its role as part of social performance attempt to bridge this divide and, through an exploration of contemporary archaeological contexts of ritual in Andean northwestern Argentina, further the political dimensions of ritual.

Anselmi, Lisa (Buffalo State College)

[192] *Northern Iroquoian Use of Copper-base Metal in the Early and Middle Contact Periods*
During the Early and Middle Contact Periods, Native peoples throughout Northeastern North America used European-introduced metal trade goods as sources of raw material for the production of forms such as projectile points and pendants. A set of manufacturing techniques used on these materials has been identified and is discussed here along with an analysis of some of the crafted forms in an effort to delineate possible patterns of trade and/or interaction occurring in the Northeast with special emphasis on hollow tubing, "corrugated" metal and expedient forms. Illustrative examples are drawn from N. Iroquoian sites in the Northeast.

Anthony, David (Hartwick College)

[91] *Persistent Borders in European Prehistory*
Persistent frontiers or borders, places where cultural and ethnic oppositions have been maintained and reproduced for centuries or even millennia, are places invested with

extraordinary meaning. Most studies of stable borders are associated with states, because in non-state contexts, long-term, stable cultural borders have been dismissed since Eric Wolf as functionally improbable. Yet prehistoric European archaeology provides many examples of such long-term cultural borders in non-state contexts, sometimes correlated with ecological borders. Recent ethnicity theory suggests that they should not have existed, but data suggests that they were salient landscape features even if people moved regularly across them.

Antonelli, Caroline [62] *see* *Rosenswig, Robert M.*

Antonelli, Caroline (University at Albany - SUNY) and Cuauhtémoc Vidal Guzmán

[70] *Iguana Management at Mayapan*

Iguana consumption is well-documented at the Late Postclassic Maya city of Mayapán. This poster presents evidence for intensive iguana management at the site. We combine ethnohistoric, ethnoarchaeological, and archaeological data recovered from the last ten years of excavations at Mayapán. Both quantitative and qualitative evidence is used to support the conclusion that iguana was an important resource for consumption and possibly ritual activity. Data is presented and discussed from elite and commoner residences, and ceremonial structures at the site.

Antonites, Annemari (Yale University)

[164] *Excavating a Museum Storeroom: A Collections-based Case Study from South Africa*

Material remains from Schroda, a 10th century AD regional centre associated with the development of complex societies in Southern Africa, form part of a dissertation project that centres on the re-analysis of an 'old' collection. Access to the data proved challenging as various components of the excavation documentation are now missing and years of selecting samples for specialist analyses has left the collection disorganized. In this paper, I hope to illustrate the rewards of investing time and effort in careful "excavation" and rehabilitation of the Schroda museum collection and present preliminary research results.

Applegate, Darlene (Western Kentucky University)

[44] *Estimating Time Since Looting: Preliminary Results of a Forensic Archaeology Experiment*

Unauthorized excavations in rockshelters occur frequently and profoundly damage cultural resources. Archaeologists need a reliable set of criteria for estimating time since looting, so a forensic archaeology experiment was implemented to collect such data. Two simulated looter pits with associated backdirt piles were created under the dripline and along the backwall of a rockshelter. They were monitored for over one year on a daily or weekly basis for changes in soils, slope, tool marks, footprints, insect and animal activity, plant growth, and other alterations. The resulting data were used to generate laws relating stage of weathering with time since looting.

[44] *First Chair*

Aquino, Valorie (University of New Mexico), Victor Polyak (University of New Mexico) and Yemane Asmerom (University of New Mexico)

[208] *Uranium-series Dating of Speleothems for Paleoclimate Reconstructions Applicable to Archaeological Studies*

Speleothems are being used globally for continental paleoclimate reconstructions over various time scales that aid in archaeological interpretations of culture-climate dynamics. This paper provides an overview of the methodology related to the precise and accurate dating of cave samples used to establish high-resolution stable isotope records of past climate. Data presented on two southern Belize speleothems exemplify how U-series analyses are used to anchor the chronology needed to carefully compare climate and cultural history.

Arakawa, Fumiyasu (New Mexico State University), Nathan Goodale (Hamilton College) and Douglas Harro (Applied EarthWorks, Inc.)

[272] *The Village Ecodynamics Project II Lithic Research*

As part of a long-term study of resource material use in the American Southwest, this study seeks to expound on previous lithic studies in the central Mesa Verde and northern Rio Grande regions during the Pueblo III-IV periods. This research begins by discussing our ongoing studies of toolstone procurement patterns of obsidian, Pedernal chert, and basalt discovered from the Tsama and Ponsipa sites in the northern Rio Grande region. Second, we investigate whether morphological variations of obsidian projectile points recovered in the northern Rio and central Mesa Verde regions reveal modes of cultural transmission during the Pueblo III period.

Araujo, Astolfo (Museum of Archaeology and Ethnology - USP)

[160] *On Vastness and Variability: Some Thoughts about Paleindian Cultural Transmission in Eastern South America.*

Eastern South America poses interesting problems about the early human occupation of the continent. Three totally distinct and contemporaneous lithic technologies, dated between 11,000 and 10,000 14C BP are present in different portions of Brazil: Umbu Tradition, with its formal bifacial industry, including stemmed points; Itaparica Tradition, whose only formal artifacts are limaces; and the "Lagoa Santa" industry, lacking any formal artifact. Such diversity in material culture seems at odds with a simple model of Clovis technology as the origin of these three cultural traditions, given the time elapsed since the first Clovis ages and the expected population structure.

Araujo, Astolfo [158] *see* *Okumura, Mercedes*

Arbuckle, Benjamin (Baylor University)

[228] *Is there such a thing as a "Neolithic Animal Economy"?*

The Neolithic of southwestern Asia is often associated with the development and spread of a distinctive agro-pastoral "package". However, significant variation existed in the ways in which Neolithic peoples structured both their animal and plant exploitation systems. In this paper I focus on animal exploitation and explore significant variations within Neolithic herding and hunting systems which perhaps make it reasonable to ask if it is even possible to talk about a generalized "Neolithic animal economy".

Arco, Lee [2] *see* *Ortmann, Anthony*

Arco, Lee J. [2] see Jeter, Marvin D.

Ardelean, Ciprian (University of Exeter, United Kingdom)

[100] *New Archaeological Investigations on the Younger Dryas Event and the Transition between Pleistocene and Holocene in Northern Zacatecas, Mexico*

Early prehistory and the Peopling of America remain as underdeveloped topics in Mexican archaeology. I lead a systematic search for the earliest human occupation in the Northern Highlands, focusing on an endorreic basin near Concepcion del Oro, Zacatecas. A first exploration season allowed us to discover more than 30 new archaeological sites, hunter-gatherer campsites acknowledging a massive human occupation around the extinct lake, spanning over long periods of time. We conducted excavations in order to obtain first-hand data on the environmental and cultural spectrum around the Younger Dryas and the Transition between the Late Pleistocene and Early Holocene.

Ardren, Traci (University of Miami)

[128] *Inland/Coastal Circulations and Classic Maya Trade*

Archaeological studies of ancient Maya trade have long acknowledged the movement of products between different environmental zones as a cornerstone of Classic period economies. In addition to the transportation of long distance trade goods, inland/coastal traders moved savannah products, foodstuffs and ideas. Bruce Dahlin addressed the importance of "phantom artifacts," and this paper explores the importance of savannah commodities such as palm thatch within economies of the Classic northern lowlands. Plant fibers were essential components at the household, market and cosmological level. The circulations performed by traders from coast to inland city and back likewise comprised a core component of cultural reproduction.

[128] *Second Organizer*

Ardren, Traci [58] see Stockton, Trent

Arendt, Nicole (National Park Service)

[38] *Climate Friendly Archaeology: Sustainability and Archaeology at Sunset Crater Volcano, Walnut Canyon, and Wupatki National Monuments, Arizona*

As part of the process of becoming a "Climate Friendly Park", Sunset Crater Volcano, Walnut Canyon, and Wupatki National Monuments are developing an Environmental Management System with contributions from all divisions. Within the cultural resources division, this led to evaluating the ways in which climate change and sustainability intersect with archaeology and the preservation of archaeological sites. This includes making daily activities and projects more sustainable in our use of resources and impact on the environment, assessing the effects of climate change on cultural resources, and interacting with the public in discussing sustainability in the past, present, and future.

Areshian, Gregory (University of California) and Pavel Avetisyan (Institute of Archaeology and Ethnography of the National Academy of Sciences of Armenia, Yerevan, Republic of Armenia)

[130] *The Rise of Social Complexity in the Chalcolithic of the Near Eastern Highlands: A View from South Caucasus*

Previous researches had demonstrated that the expansion of the Uruk civilization from Southern Mesopotamia into the Near Eastern highlands occurred within a context of blossoming indigenous Chalcolithic societies. Most recent discoveries at Anarak (Iran), Kyamil'-Tepe (Azerbaijan), and especially at Areni-1 and Godezdor (Armenia) allow us to conclude that the distinctive rise of social complexity in the Chalcolithic of the Near Eastern highlands was characterized by a differentiation of specialized sites (economic, ritual) and by the establishment of inter-regional networks of trade and other cultural exchanges within the highlands. Most likely, the Uruk expansion used those earlier long-distance networks.

Arias, Veronica (University of New Mexico)

[183] *Spatial Modeling of Site Locations within the Fort Wingate Complex in Western New Mexico*

New tools within commercial GIS are facilitating the application of complex spatial statistical techniques to archaeological datasets. Such functionality not only leads to enhanced site prediction modeling but can also serve for knowledge discovery purposes. In this paper, Bayesian statistical methods are used within a GIS environment to explore spatial patterns within the Fort Wingate region of western NM, a former military installation with a well-documented sequence of past human occupation. Influential cultural and environmental variables in site prediction are identified, and then decision rules are established between different combinations of influential variables.

Arikan, Bulent (Koç University-TURKEY)

[173] *Evolving Landscapes: The Effects of Climate Change and the Anthropogenic Impacts on the Environment of the Wadi el-Hasa, West-Central Jordan*

There has been growing interest in the study of past human-environment relations. As part of such reconstructive research designs, archaeologists combine data from various fields and explore spatio-temporal patterns of settlement and land use with the help of GIS. This research report focuses on the results of such analyses in the Wadi el-Hasa between the 5th and 1st millennia BC. Using the results of Macrophysical Climate Modeling, land cover data, and geology of the Wadi, it is possible to model the cumulative impacts of both natural and anthropogenic (i.e., agropastoral) impacts on the semi-desert Hasa landscape on the GIS platform.

Arkush, Elizabeth (University of Pittsburgh)

[243] *Households at Machu Llaqta: A Late Pre-Columbian Hillfort Town in Southern Peru*

Preliminary results are presented from excavations at Machu Llaqta (Ayawiri), a hillfort of the Late Intermediate Period (AD 1100 – 1450) in Peru's Titicaca Basin. The residential area at this 11 ha. site includes 93 walled compounds, each with several houses. Excavations in 2011 targeted two compounds that may have differed in rank or resources. Exposures of living floors and other contexts revealed a range of domestic and ritual activities. Separate domestic structures within a compound had distinct uses. While there are differences between the two compounds, they do not correspond

neatly to "elite" and "nonelite" statuses.

Armelagos, George [105] *see* Zuckerman, Molly K.

Armijo Torres, Ricardo [58] *see* Gallegos Gomora, Miriam Judith

Armitage, Ruth Ann [101] *see* Ruuska, Alex K.

Armstrong, Matthew (Applied Earthworks)

[126] *The Value of the Wide View*

Close examination of an individual site often yields important data that can shed light on regional trends and patterns. However, over-reliance on one site, or a small set of sites, can lead to misunderstandings of the same regional trends and patterns. This paper examines the value and use of the Medea Creek Cemetery site in Ventura County. The importance of Linda King's initial work will be discussed, as will the issues inherent on this being among the most-cited work on the Inland Chumash.

Armstrong-Fumero, Fernando (Smith College) and Julio Hoil Gutierrez (CIESAS Peninsular)

[150] *Landscape, Heritage, and the Ontology of Settlement Patterns*

This paper focuses on an important intersection between the archaeological notion of settlement patterns, uses and perceptions of space among living communities, and the legal and political context of cultural heritage. Is a settlement pattern a simple heuristic used in modeling the distribution of structures, a reference to the actual distribution of structures in space, or patterned behavior that is reproduced across space and through time? Using examples from our recent research in Yucatán, we explore how different answers to these questions have important political and ethical implications for current understandings of landscape use among descendant communities.

[150] *First Chair*

Arneborg, Jette [86] *see* Dugmore, Andrew J.

Arnett, Judith (Durham University and East Carolina University)

[94] *Piecing together juvenile health from the ossuaries of Coastal North Carolina*

This study examines juvenile health from eight ossuaries located on the northern coastal plain of North Carolina, radiocarbon dated to the Late Woodland Period (800 A.D – European Contact) and affiliated with the Algonkian linguistic group. It is hypothesized that the Algonkian children were primarily healthy but did suffer from periods of nutritional and environmental stress. The data suggests that the children were not healthy. It is also hypothesized that the juvenile populations suffered from a form of pre-contact treponematoses. Data suggests that Columbus did not bring treponemal disease to the Americas nor did the indigenous populations introduce them to Europe.

Arnold, Dean (Wheaton College (IL)) [201] *Discussant*

Arnold, Elizabeth R. [5] *see* Madden, Gwyn D.

Arnold, Philip (Loyola University Chicago)

[201] *The Reluctant Ethnoarchaeology of Dean E. Arnold*

For over forty years Dean Arnold has published extensively on contemporary pottery making and its potential to inform studies of ancient ceramic production. These contributions have garnered Arnold international acclaim as a leading figure within the field of Ceramic Ethnoarchaeology. Ironically, Arnold rarely calls his work ethnoarchaeology, preferring instead to frame his research as ecological, processual, and comparative. This paper considers Arnold's reluctant form of ethnoarchaeology, exploring his long-term contribution to ancient pottery studies and examining the intersection of his ecologically oriented approach with the tenets of Ceramic Ethnoarchaeology.

Arroyo, Barbara (Museo Popol Vuh UFM Guate), Lorena Paiz (Universidad del Valle de Guatemala), Adriana Linares (University of Texas - Austin) and Margarita Cossich (Universidad Nacional Autonoma de Mexico)

[30] *Recent Results From The Preclassic: The Naranjo And Kaminaljuyu Projects*

Recent research carried out at Naranjo and Kaminaljuyu, has provided important data on the Middle Preclassic. We have learned about connections with Kaminaljuyu and other sites from the highlands and Pacific Coast. Excavations at Naranjo have contributed with solid data to understand the cultural practices of the Middle Preclassic Maya highland sites. Some of these include the practice of setting plain monuments, a well identified ceramic and figurine complex, and a special site arrangement that is linked to the sacred geography. This paper presents the research results as well as comparisons to other contemporaneous sites on the Pacific Coast and Maya Highlands.

Arroyo, Bárbara [30] *see* Paiz Aragon, Lorena

Arsenault, Daniel (CELAT-UQAM, Montreal, Quebec)

[101] *Old stories, ancient maps... and a few rock painting sites: towards the interpretation of a new kind of "rock art" in the Eastern Canadian Shield!*

The North Shore of the St. Lawrence river, Québec, has yielded a few rock painting sites, but just two of them can be identified as real "rock art sites" thanks to their graphic contents. The other sites are rock outcrops with some smudges of red ochre. What can be said about such sites without visual symbols? Indeed some clues are found in Innu traditions as well as in XVIIIth century's old maps, but the results of the 2011 summer fieldwork offer additional answers and some insights for the better interpretation of what appears to be rock art sites without graphic.

Arterberry, Jimmy [23] *see* Fowles, Severin [199] *see* Montgomery, Lindsay M.

Arthur, Dr. Kathryn (USF St. Petersburg)

[261] *Ethnoarchaeology Explores the Edge: The Influence of Age, Skill, and Gender on Scraper Use and Reuse*

Ethnographic and experimental hideworking studies demonstrate that knappers often rework the edge of a stone scraper during use, which changes the tool's morphology. However, questions remain concerning the relationship between scraper variation and lithic design,

depletion, salvage, and recycling. In this paper, I will offer explanations for stone scraper transformations through my ethnographic studies among the Zada-Gamo, Borada-Gamo, and Konso hideworkers of southern Ethiopia. In particular, I will inquire whether an individual's age, skill, and gender affects tool-size, working-edge, and breakage rates during use, resharpening, and recycling.

[159] *Discussant*

Artz, Joe [67] *see Doershuk, John F.*

Asch, David (New York State Museum) and Nancy Asch Sidell (Center for American Archeology)
[271] *Radiocarbon dating Early Archaic occupation of the Koster site, Illinois: Horizons 11/12*

Between 1973–1988, seven samples of dispersed wood charcoal from Koster Horizons 11/12 were dated radiometrically at Illinois State Geological Survey. Age estimates with 1-sigma errors of 75–100 years centered on 8450 RCYBP (calendrical age ca. 9400 BP). Horizon 11/12 hearths were rebuilt several times on accreting surfaces, but former dating techniques were too crude to estimate occupational timespan. New AMS dates have improved measurement precision of 0.2%. Single seeds or twigs were selected to date, as one assumes that carbonization typically soon followed growth. Stratigraphically superimposed samples were selected to aid investigation of the calendrical span of occupation.

Asch, David L. [271] *see Asch Sidell, Nancy*

Asch Sidell, Nancy (Center for American Archeology Research Associate) and David L. Asch (New York State Museum)

[271] *Early Archaic Archeobotany of the Koster Site, Illinois: The Horizon 11/12 Occupation*

From the lower Illinois Valley and Koster site, carbonized plant remains have been recovered systematically from components spanning nine millennia. The oldest well-documented assemblage from Koster Horizon 11/12 contrasts with younger Archaic/Woodland components in that it has (1) no cucurbits; (2) little nutshell, though several kinds are present; and (3) few starchy/oily seeds of the annual species that subsequently compose the pre-maize Eastern Agricultural Complex. Chenopod seeds and giant ragweed kernels were recovered, permitting morphological comparisons with more recent counterparts. Wood and nutshell spectra differences with respect to later assemblages may reflect economically important forest changes.

Ashcraft, Scott (Pisgah National Forest), Chris Espenshade (New South Associates, Inc) And J. Loubser (Stratum Unlimited)

[101] *The Hiwassee Petroglyphs Riverscape*

Twelve petroglyph groups and three fish weirs on a 3-mile stretch of the Hiwassee River in Western North Carolina represent an impressive riverscape. Situated 2.4 miles upriver of the Peachtree mound and village site, this area was within the historic Cherokee Valley Towns region. Numerous ethnographic references describe a prominent cultural and spiritual setting. Stylistic attributes indicate the petroglyphs may date from the Middle Woodland through Late Mississippian, yet all could be elements of a single Mississippian complex.

The position of these petroglyphs along the Hiwassee River may represent a portion of a spiritual or ritual pilgrimage route to Peachtree.

Ashcraft, Scott [97] *see Wettstaed, James*

Ashkanani, Hasan (University of South Florida), Robert Tykot (University of South Florida) and Tatsuya Murakami (University of South Florida)
[134] *A Provenance Study of Pottery from Dilmun Sites in Kuwait and Bahrain Using Non-Destructive XRF Analysis*

Studies have been carried out to reconstruct cultural affiliation and chronological schematics of Bronze Age pottery in Kuwait and Bahrain. Fifty-eight sherds, ranging in date from the early second millennium BC to the mid eighteenth century BC, were analyzed using a non-destructive, portable X-ray fluorescence spectrometer (pXRF), the first such scientific study in the Persian-Arabian Gulf. The analysis data of potsherds coming from three Dilmun sites from Kuwait (F3, F6 and al-Khidr) and Bahrain (Barbar) are subjected to multivariate classification procedures to examine their provenance and address trade and exchange in the Gulf's Bronze Age.

Ashley, Gail [127] *see Malyk-Selivanova, Natalia*

Ashley, Keith (University of North Florida), Robert Thunen (University of North Florida) and Vicki Rolland (University of North Florida)

[136] *Santa Cruz de Guadalquini: A Mission in Transition (1684-1696)*

Mission San Buenaventura de Guadalquini occupied three different locations along the Atlantic coast during its 95-year history (1607-1702). Between 1684-1696 the mission community had relocated to the south end of Black Hammock Island, Florida, where it was known as Santa Cruz. Excavations by the University of North Florida have uncovered artifactual, ecofactual, and structural evidence of this short-lived mission at the Cedar Point site, including unexpected items such as gunflints and tobacco pipes. This paper examines the site's late mission period material assemblage against a turbulent backdrop marked by threats of French piracy and British-backed slave raiding.

Ashmore, Wendy (University of California, Riverside)
[236] *A Prosopography of Maya Archaeology, 1972-2012*

Borrowing learned prose for the title from Norman Hammond, this paper considers his place in the changing terrain of Maya archaeology over the last four decades. Whereas other session contributors focus insightfully on particular aspects of his Belize research programs, writings, and their impacts, I take a step back to look at how the development of Hammond's research aims, their attainment, and the resulting dissemination of his thinking has articulated with and influenced the archaeological world in which we work, in Belize and beyond.

Asmerom, Yemane [208] *see Aquino, Valorie V.*

Asouti, Eleni

[228] *Concepts of subsistence economy in the Neolithic archaeology of Southwest Asia: a critical overview*

The investigation of the origin of food production has

been a major incentive for fieldwork in Southwest Asia that, as a result, contains some of the best known archaeological sequences of early food producing societies worldwide. However, little critical attention has been devoted to the history and development of the theoretical concepts used for describing and interpreting early plant management practices. This paper will contribute such a critical overview of the history of research on early food production in this world region.

Atalay, Sonja [56] see *Feder, Kenneth L.*

Atalay, Sonya (Indiana University) and Shannon Martin (Ziibiwing Cultural Center - Saginaw Chippewa Indian Tribe of Michigan)

[194] *Ezhibiigaadek asin/Knowledge Written on Stone*
The Ezhibiigaadek asin/Knowledge Written on Stone project, funded by the Intellectual Property in Cultural Heritage initiative, is a community based participatory research project aimed at understanding intellectual property concerns related to the Sanilac Petroglyph site in Michigan. Application of Ojibwe cultural practices have already led to new forms of curation and care at the site. Our project is now examining how to share knowledge about the petroglyphs while ensuring they remain safe from exploitation. We will discuss ways that the project has inspired new areas of inquiry in intellectual property law, archaeological ethics, conservation, and sacred site management.

Atalay, Sonya [143] see *Martin, Shannon [238]* see *Ketchum, Sheena A.*

Atherton, Heather (Columbia University) and Severin Fowles (Barnard College)
[25] *Comanche Archaeology and the Making of 18th-Century New Mexico*

The Comanche were a major concern for both Spanish and Pueblo communities during the eighteenth century. Transformed by their adoption of the horse and their migration onto the southern Plains, the Comanche emerged as potent warriors, strategic traders, and savvy politicians whose reach extended from Canada to Mexico and from the Southwest to Louisiana. At their height, the Comanche were arguably the dominant political players in North America. And yet, the archaeology of the Comanche—particularly in the Southwest—is nearly non-existent. We remedy this situation, drawing upon research at both Comanche and Spanish sites in the northern Rio Grande.

Atherton, Heather [85] see *Santiago, Emilio A.*

Atici, Levent (University of Nevada, Las Vegas)

[94] *Commingle Bone Assemblages: Contributions from the world of Zooarchaeology*

Zooarchaeologists commonly sort out, record, quantify, analyze, and interpret extremely fragmented animal bone assemblages. This paper presents a multivariate and stepwise taphonomic approach and a comprehensive quantitative matrix. This methodological framework can be applied to both animal and human bone assemblages, can reveal assemblage formation processes, and can identify natural and cultural agents of bone accumulation, modification, and destruction. It is anticipated that the zooarchaeological approach presented here will also aid

those who encounter commingled and fragmented human bone assemblages. This paper ultimately seeks to initiate a dialogue between forensic anthropologists and zooarchaeologists and to explore a shared methodological framework.

Atici, Levent [134] see *Bobik, Aaron M.*

Aubry, B. Scott [239] see *Cook, Robert*

Aubry, Scott (The Ohio State University)

[21] *Interregional interaction in Mesoamerica: a morphometric analysis*

Since archaeological correlates of contact may not correlate with the movement of people, biological data provide a unique way to investigate inter- and intraregional migration. Studies have looked into potential population movements, but these studies cannot be synthesized due to numerous methodological issues. This study examines the relationship between central Mexico and the Maya during the Epiclassic-Postclassic period area, by analyzing 17 samples from throughout the region. Estimates of biological distance between sites and of regional levels of genetic heterozygosity support some of the most common archaeological models for migration within and between these two regions during this time period.

Aucoin, Taylor (Louisiana State University) and Heather McKillop (Louisiana State University)

[172] *Defining Activities Areas by Transect Excavations at the Eleanor Betty Underwater Maya Site, Paynes Creek National Park, Belize*

A transect was excavated at the underwater salt work, Eleanor Betty, to investigate ancient Maya activities. The transect was associated with wooden architecture preserved in a peat bog in Paynes Creek National Park, Belize. The seafloor was densely packed with artifacts and one transect was excavated to determine if the artifacts were associated with saltmaking or settlement. We present our findings regarding the relation of artifacts to the outside and inside of a wooden structure as well as an unexpected discovery of a shell midden.

Aura, J. Emili [135] see *Barton, C. Michael*

Ausel, Erica (Indiana University Bloomington, Glenn A. Black Lab)

[184] *On the Edge: Life and Death at the Angel Site*

Although excavated over 80 years ago, the Work Progress Administration legacy collection of human skeletal remains from Mississippian site Angel Mounds (12VG1) has never been fully examined for its pathology. Holding a unique location on the western extent of the Ohio River Valley, Angel has much to contribute to our knowledge of the area. After a midcentury lag, interest in the skeletal collection was renewed in the late 1980s and continues in the form of a more detailed inventory and paleopathological analysis by the author. Presented here are the preliminary results of this work.

Authier, Martin (Southern Methodist University)

[178] *Monument, Memory, and Exchange at Huaricanga, Peru*

This paper presents data from Huaricanga on the north-central coast of Peru spanning three millennia

demonstrating complex interrelationships between the construction of monumental architecture and participation in exchange systems. Between 3000 B.C. and 200 A.D. the architecture that defined the social conception of place at Huaricanga changed several times as did the social memory invoked by the monument and its associated activities. These changes coincide with fluctuations in exchange relationships both local and nonlocal. I propose that the social meaning of the built environment was intentionally altered to attract foreign exchange partners while maintaining important access to local subsistence exchange.

Aveni, Anthony (Colgate University) [269] Discussant

Aveni, Anthony [73] see Carballo, David M.

Avetisyan, Pavel [130] see Areshian, Gregory E.

Avila, Florencia and Axel Nielsen (CONICET, Argentina)

[26] *Ritual as Inter-Action with Non Humans: Mountain Pass Shrines along South Andean Caravan Routes*

It follows from the premise of our title that, if the archaeological traces of interaction among humans afford the possibility of studying their social relations, the material contexts structured by ritual offer an opportunity for learning about non-human agents that inhabited the social world of past peoples. To illustrate this general idea we combine archaeological data from mountain pass sites documented along late Pre-hispanic caravan routes in the South Andes with ethnographic information in order to identify some of the non-human agents ancient travelers interacted with, exploring the frameworks of meaning and power that were mobilized in their relationship.

Avner, Uzi [234] see Nadel, Dani

Awe, Jaime (Institute of Archaeology)

[236] *"Ex Oriente Lux": Norman Hammond and the Archaeology of Belize.*

During the last four decades, few archaeologists impacted Belizean archaeology more than Norman Hammond. His investigations at Lubaantun in the 1970's, and subsequently in northern Belize, were the first to apply modern analytical approaches to the study of Toledo prehistory, and one of the first projects in Belize to examine ancient Maya political organization at the regional level. Unquestionably, however, Norman's greatest contribution is the vast amount of knowledge he produced on the Preclassic Maya of Belize. The purpose of this paper is to highlight Norman's outstanding scholarship, and to publicly recognize the many significant contributions he has made to the archaeology of Belize.

[15] Discussant [179] Second Organizer

Awe, Jaime [208] see Moyes, Holley [70] see Guerra, Rafael A.

Aylesworth, Grant (Mount Allison University)

[131] *Ancient Maya Social Networks: Application of the Science of Networks in Archaeological Interpretation*

Introducing new concepts from other disciplines can inform and invigorate debate. It will not surprise

archaeologists that researchers in many disciplines borrow ideas related to expertise beyond the borrower's purview. Bearing this caveat in mind, the research potential of complexity theory (social network analysis) to the concepts of "elites" and "commoners" is worth considering. Concepts like centralized, decentralized, hierarchy, and heterarchy, embraced by Mayanists, relate to complexity theory and network theory. Social network analysis offers an analytical framework that is useful to informing our understanding of ancient Maya socio-political models and the concepts of "commoner" and "elite".

Ayres, William [211] see Levin, Maureece J.

Baca Marroquin, Ancira Emily (University of Illinois at Chicago)

[104] *Building Wari and Inka Imperial Monumental Architecture: a comparative study in Moquegua and Asia Valleys*

In Andean Empires with no written records, monumental architecture constituted an important media to communicate elite ideologies and to validate power among the local population. At provincial areas, proximity and resemblance with core monumental architecture became an important avenue to foster relationships and to associate provincial elites with Imperial administrators. Thus, Empire-Local relationships could be inferred by the quality and amount of labor invested in the construction of monumental architecture. I analyze Wari and Inka construction techniques at two archaeological sites in the Moquegua and Asia valleys to explore strategies employed by provincial elites to establish relationships with their imperial core.

Backhouse, Paul (Seminole Tribe of Florida) [3] Discussant

Badalyan, Ruben (Institute of Archaeology and Ethnography, NAS RA)

[130] *The Kura-Araxes Complex: On Questions Surrounding the Status of the Cultural Phenomenon*
Interpretations of the Kura-Araxes archaeological phenomenon have passed through several stages: the initial picture of a unified culture was first replaced by investigations of local and chronological variation. This latter framework has itself recently given way to reconstructions of several closely related traditions unified by cultural-historical commonality. In this paper, we argue that the Kura-Araxes was a relatively homogeneous complex in its first stage as it spread from the Kura River to the upper Euphrates around 3500/3350-2900 BC. However, around 2900 BC this unified complex disintegrated into a mosaic of local ceramic styles that prevailed until ca. 2500 BC.

Badilla, Adrian [122] see Corrales-Ulloa, Francisco

Badillo, Alex Elvis [181] see Konwest, Elizabeth R.

Bailey, Amanda (University of Wisconsin La Crosse Alumni)

[35] *Floral Analysis of an Oneota feature and its implications*

The Pammel Creek site (47Lc61) is located at the south end of the city of La Crosse, WI. Pammel Creek is an

Oneota site and was occupied during the 15th century. Excavations were done at this site in 1983 and the 1988-89-field seasons. Feature 167 is a hearth that was excavated in 1989. Floral analysis has been done on the different zones within the hearth and compared to one another. This type of research shows the different usage of the hearth and the seasonality of this particular feature vs. comparing features to features in order to determine seasonality and usage.

Bailey, Anne (Ripon College) and Renne DeBruin (Ripon College)

[114] *The effects on trace elemental signatures in ceramics after salt treatment and desalinification*
The removal of salts from ceramics is critical to the process of curating and long term storage of ceramics, especially from highly saline environments. An experimental technique to embed and remove a variety of salts found in the soils from the San Pedro de Atacama desert will be presented. The test ceramics are characterized using a variety of analytical techniques (pXRF, FITR, Raman, and AA). The embedding and removal process will be monitored to investigate the effects on trace element signatures that are native to the clay and how it changes during the desalting process.

Bailey, David [244] *see Gunter, Madeleine*

Bailey, David G. [114] *see Prescott, Catherine*

Bailey, Ralph (Brockington and Associates)

[162] *Mississippian Adaptation of Late Archaic Shell Rings in Coastal South Carolina*
The Bulls Bay estuary along South Carolina's coast holds one of the region's richest collections of shell laden sites. It is the northern reach of the shell rings of the Late Archaic, and it is the southern reach of the clam midden sites of the Mississippian period. I will explore the relationship of people with this special place and with their predecessors. I will explore how shell rings were revered by Indians who lived hundreds of years after they were built, how these views are reflected in the archaeological record.

Baine, Keelin (University of Iowa)

[83] *Animals, Mortuary Ritual, and Social Change in Neolithic and Bronze Age Ireland*
The Neolithic-Bronze Age transition in Ireland is a time when societies with communal-based power systems transformed into societies ruled by small groups of elite individuals. This project explores how animals used in burials were used to mark social identities in order to better understand this socio-economic change. Faunal data from fifteen burial sites will be used to illustrate the relationship between animals in mortuary contexts and socio-economic change and how changes in the use of animals can help define the social function of feasting and the relationship amongst the participants.

Baker, Steve [183] *see Towner, Ronald*

Baker, Steven [183] *see Rosenstein, Dana Drake*

Baker, Suzanne (Archaeological/Historical Consultants)

[259] *Rock Art as an Untapped Data Source for*

Nicaraguan Archaeology

Archaeologists have often avoided rock art analysis, because of difficulties with dating and interpretation. Rock art, ubiquitous in Nicaragua, is an important data set that should not be ignored. To be useful, however, classification, a building block of science, is necessary. In archaeology, construction of descriptive typologies to elucidate cultural-historical patterns and temporal-spatial units has been contentious, but few have argued that ordering data through empirical classification is unnecessary. Traditional archaeological methods applied to rock art, such as motif description, classification, and quantification, while often difficult, can yield important data and hypotheses regarding contemporary theoretical questions about Nicaragua's archaeology.

Balay, Anne (Indiana University Northwest)

[230] *Steel Closets: Gay Steelworkers' Allegiance to a Hostile Workplace*

Steel mills as loci around which regional and personal identity coalesce. The mills are often closed, and the towns to which they are attached are empty, impoverished, violent shells. That they are wrecked or no longer in use doesn't mean they don't still define us, with pride and a certain suborn honor. This paper quotes from and analyzes accounts of current and retired steelworkers (drawn from interviews with the presenter) to understand how identity can be shaped. Focus is on GLBT steelworkers, who are often brutally harassed, but still proud of their jobs, and our region.

Balco, William (University of Wisconsin-Milwaukee)

[155] *Social Entanglement and Mixed-Style Artifacts in Western Sicily*

The theory of cultural hybridity has frequently been applied to studies of the relationships between colonizer and colonized in the western Mediterranean, using material culture to differentiate between indigenous, foreign, and hybrid cultural practices. Unlike other material culture studies which have examined social changes within polarized colonial entanglements, this paper examines the development of hybrid cultures resulting from prolonged indigenous interaction with both Phoenicians and Greeks in Iron Age western Sicily. Employing the theory of cultural hybridity, a model of cultural interaction is presented, accounting for changes in 7th to 4th century BC Elymian ceramic assemblages, social dynamics, and economy.

Baldwin, Lisa

[67] *Tracing a Monument's History: Incorporating Historic Inscriptions into the Ruins Preservation Program at Walnut Canyon National Monument*

This poster presents the results of a project conducted at Walnut Canyon National Monument, Flagstaff, Arizona. Beginning in the 1880s, Walnut Canyon became a point of national and local interest. Early park visitors documented visits by writing their names within the cliff dwellings. The goals of the project included recording inscriptions and tracing authors to find primary documents, such as photographs and diaries pertaining to Walnut Canyon. Historic inscriptions provide a window into the past that allow us to view how visitors related to the monument and impacted the condition of the ruins.

Ball, Dave (BOEM)

[148] *New Impacts to Old Sites: A Look at Renewable Energy Development and Historic Preservation on the Outer Continental Shelf*

Acquisition of offshore energy and mineral resources has occurred on the U.S. Outer Continental Shelf (OCS) for over sixty years. For most of that time, the focus has been primarily on exploration and development of hydrocarbon resources (e.g., oil and gas). With the passage of the Energy Policy Act of 2005, the Bureau of Ocean Energy Management (BOEM) is now responsible for leasing and permitting renewable energy in federal waters as well. This paper will provide an overview of BOEM's offshore renewable energy program and the regulatory framework protecting underwater cultural heritage on the OCS.

Ballard, Graydon [268] *see* Lothrop, Jonathan C.

Ballenger, Jesse (Statistical Research), M. Nieves Zedeno (University of Arizona) and D. Shane Miller (University of Arizona)

[43] *Horizontal Monumentality: The Architectural and Cultural Emplacement of Late Prehistoric Bison Drive Systems in the Northwestern Plains*

We document the intricate organization of bison hunting in Montana's Two Medicine River based on a systematic survey of the valley. We argue that Late Prehistoric bison hunters planned, built, used, and maintained multiple drive line systems along this major avenue of herd movement between AD 1000-1700. Emplacement of these facilities, which were not only conceived under overarching architectural and cultural principles but also uniquely adapted to the local topography, reveals monumental modification of the regional landscape to maximize bison kills and demonstrates previously unreported scales of social investment in the hunt.

[43] *First Chair*

Ballin, Torben [46] *see* Cooney, Gabriel

Baltali Tirpan, Sevil (Istanbul Technical University)
[230] *Archaeology, Memory and Place-Making: A Case Study from Central Turkey*

This paper discusses how the presence of a 'foreign' archaeological project provokes local people to produce memories about the past and present of the place and themselves. The site Kerkenes is located on a natural mountain top. From the perspective of the local people the mountain's significance as an archaeological 'site' constitutes only one of the layers of its total meaning. The place is simultaneously religious, ancestral and historical, and evokes medicinal and therapeutic qualities. The presence of an archaeological project has triggered the reflexive re-evaluation of the significance of the place and engagement with memory production and place-making.

Baltus, Melissa (University of Illinois Urbana-Champaign)

[199] *Unraveling Entanglements: Reverberations of Cahokia's Big Bang*

The spread of Cahokian Mississippian ways of life during the mid-11th through mid-12th centuries was a negotiated and heterogeneous process that was simultaneously political and religious, practical and material. The spread of the "Mississippian Message"

from Cahokia included the mobilization of certain objects and buildings as material "messengers". However, sometime after the mid-12th century these material, spatial, and human agents with which Mississippian identities were entangled appear to have become targets of opposition. This paper explores the uneven acceptance of Mississippianism and the historical break with early Mississippian tradition which may represent a revitalization stemming from this earlier opposition.

Bamforth, Douglas (University of Colorado) and Mark D. Mitchell (Paleocultural Research Group)

[51] *Variable Horticultural Responses To Long-Term Temperature Change On The Great Plains*

Two Plains cases highlight the complexity of horticultural interactions with climatic change. In southwestern Colorado and northeastern New Mexico, maize production tracks the rise and fall of temperatures from AD 1000 to 1200, possibly ending in local depopulation and violence. In the Middle Missouri, settled horticulturalists relying on indigenous maize horticulture reached their maximum northern extent between AD 1200 and 1300 and remained in place into the 1800's. These differences may reflect the availability of alternative resources, social changes within horticultural communities, and/or relations with neighboring groups, particularly (in the Northern Plains case) hunting groups.

Banks, Kimball M. [245] *see* Hull-Walski, Deborah A

Barber, Sarah (University of Central Florida) and Arthur Joyce (University of Colorado at Boulder)

[19] *Negotiating Political Centralization in Terminal Formative Coastal Oaxaca*

In Oaxaca, Mexico, the Terminal Formative period was marked by the initial development of regional polities, characterized by urban centers and ruling elites whose authority extended over large geographic areas. We examine the terms by which this expanded authority was defined and legitimized, with a focus on the lower Río Verde valley on Oaxaca's Pacific coast. We assert that early regional authority in Oaxaca was the outcome of negotiations among the diverse social groups that constituted the polities. Rulership was shaped by traditional notions of collective action that both enabled and constrained the expansion of centralized authority.

Barberi, Maira [277] *see* Silva, Rosicler T.

Bárcena, Joaquín (INCIHUSA-CONICET, FFyL-UNCuyo, UNLaR)

[52] *Archaeology and ethnohistory of local populations and their relationship with Inka domination, along the extreme southeastern frontier of the Tawantinsuyu*

Inka expansion advancing along northeast and central-east Argentina met with populations, who given their socio-political-economic organization, proved difficult to subjugate. This was the case with the Huarpe ethnic group of San Juan and Mendoza, the region of the furthest Inka enclaves in Argentine territory. More labile and particular was the situation in relation with the most southern populations, hunter-gatherers – later equestrian bands – with wide territorial movement, such as the Puelche and Pehuenches ethnic groups, in respect to the Tawantinsuyu frontier along the Río Diamante. This situation led to the Inka establishing what seems a

particular type of frontier relationship.

Barker, Alex (University of Missouri)

[266] *The Curious Case of the Gorget That Wasn't There*
Engraved shell art from the trans-Mississippi south includes a range of figural depictions with remarkably detailed representations of dress and regalia. Almost all elements of ceremonial dress are depicted in exceptional detail. But despite this consistent richness of detail, one of the most ubiquitous elements—engraved shell gorgets—are conspicuously absent. What are assumed to be gorgets are often depicted, but invariably by a simple circle or circle with a dot at the center. Given the richness and detail with which other elements are regularly depicted, why are shell gorgets—if these are gorgets—consistently represented in this manner?

Barker, Claire (University of Arizona) and Lisa Young (University of Michigan)

[216] *Ceramics and Exchange Networks: Exploring Social and Economic Interactions at Pueblos and Out of Phase Pithouses*

Generally, scholars treat the pithouse-to-pueblo transition as a sequential change. However, in some areas, such as Homol'ovi in northeastern Arizona, pithouses were used until the early 1200s, just prior to the period of Pueblo aggregation. This research compares the ceramic assemblages from a pithouse village and a roughly contemporaneous neighboring pueblo to examine the exchange networks used by the residents of these two settlements. This comparison provides insights into the complex relationships that residents of pithouse and pueblo communities had with their neighbors of northeastern Arizona, revealing the exchange networks used by residents of both sites to acquire ceramic vessels.

Barker, Claire [120] see Young, Lisa C.

Barket, Theresa (U.C. Riverside)

[63] *Recycling Behavior in the Flaked-Stone Assemblage of Neolithic 'Ain Ghazal*

Previous analyses of Neolithic flaked-stone assemblages from multi-period sites in the southern Levant have recognized the indicators of scavenging and recycling of tools in the Pre-Pottery Neolithic C and Yarmoukian periods, but there has been little explicit discussion of recycling in the Middle Pre-Pottery Neolithic B and Late Pre-Pottery Neolithic B. Preliminary results from a sample of debitage and tools from PPNB loci at 'Ain Ghazal, indicate that recycling was fairly common. This paper addresses the patterns and intensity of recycling at 'Ain Ghazal during the PPNB periods and how they compare to the patterns of the PPNC and Yarmoukian.

Barkwill Love, Lori (University of Texas at San Antonio) and Steve A. Tomka (UTSA-CAR)

[33] *Who Made These Pots? Searching for the Origins of Goliad Ware from South Texas Missions*

Goliad is a common native-made pottery found in South Texas missions during the Spanish Colonial period. Ethnohistoric records indicate that a single group living at Mission Espiritu Santo manufactured the wares; yet given its abundance, this is unlikely. Furthermore, some suggest that Goliad represents a continuation of the South-Central Texas Late Prehistoric Leon Plain pottery;

however, no ethnohistoric evidence exists at present, linking these prehistoric groups to the missions. Petrographic analysis was used to document technological continuity and changes between and within the prehistoric and Colonial period ceramics and explore the social identity of the prehistoric and historic potters.

Barkwill Love, Lori [183] see Hard, Robert J.

Barnes, Monica (Andean Past)

[178] *Storage in Huánuco Pampa: A Re-evaluation*

In the mid-1960s, John Murra directed research centered on the Inca site of Huánuco Pampa. Murra and his team work recorded a field of aligned stone foundations in Muyuwaynin, on the western edge of the site. I suggest these are the remains of storehouses not included by Craig Morris in his landmark dissertation, *Storage in Tawantinsuyu*, and publications derived from it. These storehouses resemble those found in the Cochabamba Valleys of Bolivia later studied by Morris and David Pereira There, circular foundations of large stones enclose gravel floors and served as bases for earthen walls and thatched roofs.

Barnett, Kay E. [85] see Reese, Kelsey

Barnett, Kristen [132] see Prentiss, Anna Marie

Barnhart, Terry [56] see Feder, Kenneth L.

Baron, Joanne (University of Pennsylvania)

[19] *Community Gods and Community Conflicts: Patron Deities at La Corona, Guatemala*

Although much is currently known about Classic Maya religion, the veneration of patron deities—gods of local importance at particular sites—has been under-explored. Hieroglyphic inscriptions indicate that Maya rulers emphasized this veneration and claimed close, personal relationships with these deities. This paper will explore archaeological evidence for patron deity veneration at the site of La Corona, Guatemala. I will discuss the ways in which different social sectors participated in this veneration and the ways in which the local elite used these religious practices to foster a sense of community while simultaneously enhancing their own authority over rival elites.

[19] *First Chair [19] Second Organizer*

Baron, Joanne [151] see Canuto, Marcello A.

Bar-Oz, Guy (University of Haifa) [234] *First Chair*

Bar-Oz, Guy [234] see nachmias, amnon **[234]** see Nadel, Dani **[234]** see Zeder, Melinda A.

Barr, W. Andrew [117] see Reed, Denne N.

Barrett, Thomas (Cultural Resource Analysts, Inc. (CRA)) and Stephen Brighton (University of Maryland)

[132] *Understanding Patterns and Processes in the Past and Making Archaeology Relevant In The Present: Applying Processual Principles to Prehistoric and Contemporary Archaeologies*

Binford's conceptualization of cultural transformation through various processual levels changed the

landscape of archaeology. It also spawned an opposing school of thought (post-processualism) reacting to social patterns and meta-narratives. The latter, focusing on local site-specific context, is where historical archaeology finds itself theoretically. The divisiveness between the two camps creates a rift in archaeology. This paper attempts to bridge that gap by employing our understanding of Binford's intentions for future archaeology in which temporal and spatial analytic frameworks in unlikely contexts such as Teotihuacan and Manhattan can be considered together to form a relevant discourse on the human condition.

Barrientos, Tomas (Universidad del Valle de Guatemala), Arthur Demarest (Vanderbilt University), Marcello Canuto (Tulane University) and Liliana Padilla (La Corona Regional Archaeological Project)

[151] *Political Strategies of the Kan Kings: The Role of Palaces along the Calakmul-Cancuen Royal Road*
During the VII century AD, the Maya center of Calakmul carried out a major expansionist program that resulted in the control of important cities such as Sak Nikte', Waka', Hix Witz', Dos Pilas, and Cancuen. This allowed Calakmul to create a "royal road" that facilitated commerce and political interaction among its allies. To achieve such unprecedented territorial control, the rulers of Calakmul used military force, but also relied on other political strategies such as marriage alliance. This paper will explore the role of palaces at the sites of La Corona and Cancuén as material evidence of these political strategies.

Barrionuevo Alba, Monika (Universidad Inca Garcilaso de la Vega)

[104] *Las actividades diarias a nivel de la unidad doméstica: el caso de la Unidad 17 en Cerro Mejía*
Las excavaciones y el análisis de los materiales de una unidad doméstica del Horizonte Medio en Cerro Mejía, Moquegua, Perú han dado luces sobre las actividades diarias realizadas a nivel familiar. Estas actividades estarían relacionadas a la producción de cerámica en un nivel de tratamiento de materiales como arcillas y desgrasantes. Ésto, cruzado con los datos sobre el origen foráneo de sus habitantes nos ayudaría a entender las relaciones interétnicas que se dieron en esta región durante el Horizonte Medio.

Barros, María [159] see Messineo, Pablo G.

Barse, William (Smithsonian Institution)

[277] *The Orinoco in Prehistory*
The Orinoco in Prehistory This paper outlines the preceramic to ceramic cultural sequence in the Orinoco River area based on 27 years of stratigraphic excavations and research into extant museum collections. Small single-component, radiocarbon-dated preceramic sites encapsulated in buried paleosols reflect early Holocene occupation of the Orinoco region. Ceramic components from Barrancas, Ronquin and Arauquin traditions are found in sequent paleosol contexts and reflect a lengthy Formative tradition that was eclipsed at European Contact. Key sites, related assemblages and their dates are reviewed. Sequence implications for the greater tropical lowlands are discussed.

[277] *First Chair*

Bartlett, Shelbie (University of Oklahoma)

[216] *Death Rituals in Their Social Contexts: The Relationship of "Kill Holes" to Images on Mimbres Ceramics and the Ideology behind Them*
In this study, I examine "kill holes" found in Classic Mimbres black-on-white ceramic bowls from the Mimbres Valley in southwest New Mexico. I especially look at those bowls with "kill holes" that were found in burial contexts and compare my findings with similar burial goods and rituals in other archaeological and ethnological settings. I hypothesize that there is a connection between "kill holes" and the images found on those vessels which have been "killed" and placed in burial contexts.

Bartlett, Shelbie A. [140] see Gilman, Patricia A.

Barton, C. Michael (Arizona State University), Valentin Villaverde (Universidad de Valencia), Joao Zilhao (Universidad de Barcelona), J. Emili Aura (Universidad de Valencia) and Oreto Garcia (Universidad de Valencia)

[135] *In glacial environments beyond glacial terrains: human adaptation in Mediterranean Iberia 22,000 – 12,000 cal-BP*

The Iberian peninsula south of the Ebro River enjoyed one of the mildest climates of Pleistocene Europe, but still experienced significant and rapid environmental shifts caused by global climate regimes. We combine information from sites across eastern and southeastern Spain with systematic survey data from an intensive study area within this larger region to examine behavioral adaptations to the extreme environmental shifts of the last two Pleistocene stadials (GS2 and GS1). We focus on the interplay between technological, social, and land-use dynamics as culturally mediated responses to extreme climate change outside the periglacial zone.

[103] *Discussant*

Barton, C. Michael [103] see Bergin, Sean M.

Barton, Kevin [9] see Davis, Stephen R.

Barton, Loukas (University of Pittsburgh)

[273] *Plague or promotion? Pastoralism comes to arid East Asia.*

Arid lands adaptive strategies are often modified through the intensification of labor. Pastoralism however provides an alternative solution, and both the origin and expansion of it have been linked to heightened aridity and volatility in already marginal areas. The same may be true in northern China where extensive pastoralist economies appear to replace intensive agricultural ones in the face of mounting mid-Holocene aridity. This tenuous pattern is evaluated here with stable isotope biochemistry. Intensification and adaptation are further evaluated by considering the economic trade-offs between agriculture and pastoralism in arid environments and the potential for evaluating them with archaeological data.

Barton, Loukas [141] see Chisholm, Linda C.

Bartone, Robert (Northaest Archaeology Research Center), Ellen Cowie (Northeast Archaeology Research Center), Michael Brigham (Northeast

Archaeology Research Center) and Arthur Spiess (Maine Historic Preservation Commission)
[268] *Four Newly Identified Paleoindian Sites: New Insights into the Early Paleoindian Period of Central Maine*

Recent research conducted in Auburn, Maine has identified four newly recorded Paleoindian sites within the Androscoggin and Royal River drainages. The Taxiway, Beacon Hill, Lamontagne and Keogh sites are within 2.0 km of each other, and in close proximity to three other known Paleoindian sites, notably including the Michaud site. This site cluster spans approximately 500 years based on discernible projectile point forms. The four sites exhibit similarities and distinct differences in setting, lithic raw material use and the general suite of artifacts, suggesting temporal differences as well as variation in lithic procurement strategies and site function.

Bartone, Robert [268] *see Cowie, Ellen R.*

Bartosiewicz, Łászló [75] *see Bonsall, Clive*

Bar-Yosef, Ofer (Harvard University)

[163] *Late Pleistocene foragers' subsistence in south China*

Foraging strategies during the Late Glacial Maximum and Terminal Pleistocene in south China are best recorded in cave excavations. Animal bones are abundant but much less is known about plant remains. The scanty evidence is presented with additional comments concerning seasonality, mobility, and indications for semi-sedentism. Stone tools, pottery, bone tools as well as experiments with the use of bamboo are taken into account in reviewing life ways of late hunter-gatherers in this region.

Bar-Yosef Mayer, Daniella (Tel Aviv University)

[63] *Mollusc shell research at Çatalhöyük, Turkey*
 Shells in Neolithic Çatalhöyük in Anatolia include local freshwater sources from lakes and rivers, and shells from the Taurus mountains and the Mediterranean coast. Species used as ornaments and artifacts form about 10% of the assemblage throughout the site and species selection reflects a Palaeolithic tradition. Freshwater shells are dominated by *Unio* that served as a food source, especially in the lowermost level of the site, and as a raw material for various artifacts. Brick, mortar and plaster include numerous micro freshwater snails that reflect lentic and lotic environments.

[63] *First Chair*

Barzilai, Rebecca (Indiana University, Bloomington)

[184] *Painting walls in the Lower Ohio River Valley: Investigating the perceived landscape of the Angel Site (12Vg1) and beyond*

Patterns painted on daub walls or on clay floors are seen archaeologically in the prehistory of the Lower Ohio River Valley, but are critically under reported. In his 1967 publication of the excavations at the Angel Site (12Vg1), Glenn A. Black mentions the presence of painted daub found during excavation, but does not expand on its significance or associated features. This poster attempts to trace the ideological implications of this practice through ethnohistoric and archaeological sources from the American Southeast as well as through mineralogical and component analysis of the painted daub at the Angel Site.

Basgall, Mark (CSU Sacramento), Peter Veth (Australian National University) and David Zeanah (CSU Sacramento)

[273] *Understanding Economic Intensification in Arid North America and Australia*

North America and Australia offer venues for comparing the intensification of foraging economies in arid environments. archaeological research in the southwestern Great Basin reveals a punctuated sequence that challenges simple predictions of foraging models, appearing to result from the interplay of mobility and technological organization within complex resource landscapes. While arid Australia has not been documented in the same detail, the broad framework of technological change is commonly ascribed to intensification and organizational responses to climatic stochasticity. We consider implications for Australia based on our understanding of how intensification played out in the Great Basin.

Bassie, Karen [4] *see Hopkins, Nicholas A.*

Bastakoti, Dinesh [111] *see Nelson, Aimee M.*

Bate, Emma (Indiana University)

[165] *Of Abaco Redware and Crooked Island Ware: Lucayan Ceramic Technology at the Long Bay Site, San Salvador Island*

Ceramics constitute more than 90% of the artifacts from prehistoric sites in the Bahamas, yet the ceramics used by the prehistoric Lucayans of the Bahamas are incompletely understood. To address this issue, a methodology that included thirty-two different attributes was used to examine the ceramics from the Long Bay Site, San Salvador Island. The analysis indicated that the traditional division of Lucayan ceramics is oversimplified. Slipped ware types, though underreported in the literature, constitute a significant portion of the Long Bay assemblage. This approach illustrates the need to reexamine preconceived ideas about the variability of Lucayan ceramics.

Bates, Brian (Longwood University)

[124] *Mortuary Practices at 44CH62 – The Randy K. Wade Site*

Archaeological investigations at the Wade Site have resulted in the examination of a number of intact human burials. This paper will discuss the research protocol that is in place to deal with human remains in a manner that is respectful of the concerns of both the native and scientific communities. The paper will then turn to the variety of evidence of mortuary variability at the Wade site and what that may indicate about social stratification, among other cultural phenomena.

Bates, Brian [6] *see Garcia, Joseph E.*

Bates, Lennon (University of Central Arkansas), Carolyn E. Boyd (Shumla School) and Karen L. Steelman (University of Central Arkansas)

[255] *How old is the Pecos River Style? Radiocarbon dating a pictograph from Black Cave*

A Pecos River Style image from Black Cave (41VV76) was radiocarbon dated using plasma oxidation and accelerator mass spectrometry. We collected a 2 cm²

paint sample from an image of a black deer impaled by a red spear. We obtained an age of 1465 ± 40 years BP, corresponding to a 2s range of 535 - 660 calAD. Although many radiocarbon dates have been obtained for rock art in the Lower Pecos River Region of southwest Texas, detailed stylistic information for these dates is unknown. This younger result for the Pecos River Style suggests that additional dating studies are needed.

Batten, David [218] *see Durand Gore, Kathy*

Battillo, Jenna (Washington State University)

[88] *Re-examination of Quantitative Mortuary Data from Hawikku Cemetery*

A mortuary dataset from the Zuni site of Hawikku was quantitatively examined. Temporal change in mortuary practices and factors dictating burial richness were of particular interest; analyses were aimed toward elucidating such patterns. Associations were found between time period and richness, burial type, and flexure. Certain age groupings were also significantly correlated with these variables. Individual cemeteries demonstrated associations with burial richness, but potentially as a result of differences in time period representation (over 300 years occupation) and relative sample size. Increasing burial richness over time may be demonstrative of changes in social stratification and leadership during post-contact periods.

Bauer, Alexander [212] *see Casson, Aksel*

Bauer, Andrew (DePauw University)

[91] *The Nature of Place: An Historical Ecology of South India's Iron Age Landscapes*

In this paper I detail how the human modification of landscape features (e.g., rock pools, weathering pits, and erosional check dams) produced both an historical ecology and a symbolic spatial field that constrained and enabled socio-political actions during the South Indian Iron Age. I make the point, however, that the meaningful landscape was not solely a product of cultural activities, political actions, and symbolic forms, but also a product of other dynamic environmental constituents (e.g., soils, stones, and animals) that contributed to the historical uses, maintenance, and social histories of the places that comprised it.

Baumann, Timothy (Glenn A. Black Laboratory, Indiana University) and G. William Monaghan (Glenn A. Black Laboratory of Archaeology, Indiana University)

[164] *New Research with Old Data at the Glenn A. Black Laboratory of Archaeology*

The Glenn A. Black Laboratory of Archaeology (GBL) was established in 1965 at Indiana University as an independent research center to promote the study, preservation, and education of Indiana's rich archaeological heritage. The core of the GBL's archaeological collection was transferred from the Indiana Historical Society, who began sponsored research in the 1930s, including WPA excavations at Angel Mounds, a large Mississippian site near Evansville. The GBL collection now contains nearly 12,000 archaeological collections, representing millions of artifacts, from Indiana and the Midwest. Contemporary

research is reanalyzing these older collections with advanced multidisciplinary methods and new research questions/paradigms.

[48] *Discussant*

Baumann, Timothy [114] *see Herrmann, Edward [239]*
see Schilling, Timothy M. [184] *see Krus, Anthony M.*

Baustian, Kathryn (University of Nevada, Las Vegas) [94] *Third Organizer*

Baustian, Kathryn [94] *see Osterholtz, Anna J. [116]*
see Martin, Debra L. [105] *see Roth, Barbara J.*

Bautista, Stefanie (Stanford University) and Jessica Kaplan (University of California, Santa Barbara)

[26] *Seeing the Sacred: Investigating Early Andean Ritual Practice Using Visibility Analysis*

Archaeological theories about pre-Inca ritual practice are strongly influenced by modern day ethnographic accounts of mountain worship and historical accounts of Inca (1400-1532 A.D.) religion. Andean archeologists have commonly considered Cerro Blanco, a white sand dune located in the Tierras Blancas Valley, Peru, to be an apu or sacred mountain for the Nasca people (1-700 A.D.). Using GIS viewshed analysis, this paper will test whether Cerro Blanco is visible from known Early Horizon (800 B.C. – A.D. 1), Early Intermediate Period (1-700 A.D.) and Middle Horizon (550 - 900 A.D.) sites in the Southern Nasca Region.

Baxter, Carey [9] *see Hargrave, Michael L.*

Baxter, Jane (DePaul University)

[224] *Investigating Absence: Assessing the Cumulative Effects of Casual Collecting at a 19th Century Bahamian Plantation*

Recent investigations at Prospect Hill Plantation, San Salvador, The Bahamas, showed the quantity and quality of artifacts in the residential areas associated with the planter family and the enslaved population were inverted, and suggested significant alterations had occurred after the site's abandonment. The site of Prospect Hill has been a destination for tourists and students since the mid-20th century, and the areas of the site accessible to these visitors are those with surprisingly low artifact counts. The possibility that this consistent visitation involved casual collecting was investigated historically, and also tested using artifact assemblages from archaeological work at Prospect Hill.

[149] *Discussant*

Baxter-Stolztfus, Amelia [59] *see Lozada, Maria Cecilia*

Bazaliiskii, Vladimir (Irkutsk State University), Robert Losey (University of Alberta), Mietje Geronpre (Royal Belgian Institute of Natural Sciences), Mikhail Sablin (Zoological Institute of the Russian Academy of Sciences) and Sandra Garvie-Lok (University of Alberta)

[157] *New Data on and Interpretation of Dog Burials in Siberia's Cis-Baikal*

The Lake Baikal region of Eastern Siberia is well known for its large hunter-gatherer cemeteries, many of which have been intensively studied through the Baikal Archaeological Project. This same area also has

produced several elaborate dog burials, almost always within human cemeteries. This paper examines these practices through a suite of new data, including that from osteological analyses, radiocarbon assays, and stable isotope analyses. These data indicate substantial variability in dog diets, some being dominated by terrestrial mammals, others by fish. Further, dogs only appear to have been buried during time periods during which human burials also were made.

Bazaliiskii, Vladimir [251] *see* Losey, Robert J.

Beach, Tim [66] *see* Flood, Jonathan M.

Beach, Timothy (Georgetown University), Sheryl Luzzadder-Beach (George Mason University), Richard Terry (Brigham Young University) and David Hixon (Tulane University)
[167] *Bruce Dahlin and Subsistence in Maya Soil Research*

Bruce Dahlin contributed to our understanding of Maya subsistence from his work on ancient Maya Wetlands, to the Petén Bajos, and to what he called the "depauperate" Northern Coastal Plains of Yucatán. We consider the meaning, role, and limits of subsistence in soil archaeology at Pakbeh and the northern Belize wetlands. These two regions provide different ranges of possibilities and limits, from perennial wetlands to the driest part of the Maya world; yet the drier region had a higher population density. We consider evidence for whether these regions played contrary roles: one of an importer and one of a breadbasket.

[167] *First Chair*

Beach, Timothy [167] *see* Luzzadder-Beach, Sheryl
[167] *see* Dunning, Nicholas P.

Beahm, Emily (University of Georgia) and Kevin Smith (Middle Tennessee State University)
[266] *Hero Twins and The Old Woman Who Never Dies: Mythic Themes in Middle Cumberland Iconography*
Scholars recognize that the Mississippian world can be divided into "style regions" based on differential expression of certain iconographic motifs and themes. Simply put, Mississippian people drew from a shared corpus of mythic story cycles, but in geographic areas they emphasized different themes to create distinct sets of objects accentuating regional identity. Peoples of the Middle Cumberland region emphasized (at least) two significant themes -- "Hero Twins" and the "Old Woman Who Never Dies" -- that link many iconographic object types. The notion of mythic themes makes the sometimes enigmatic nature of individual iconographic objects more transparent and interpretable.

Beardmore, Rebecca (University College London)
[103] *Perspectives on Iron Age agropastoralist landscape use in Semirech'ye from phytolith and geoarchaeological analysis: a comparison of two different ecological zones*

This paper will present comparative data from Iron Age sites in the Semirech'ye region: the high-mountain 'temporary camp' of Turgen II, and sites located on the Talgar alluvial fan. Results of phytolith analysis will be presented together with conclusions drawn from geoarchaeological investigations to consider

agropastoralist landscape use in these two different ecological zones. The contribution of these analyses to the interpretation of pastoralist landscapes will be explored with reference to other archaeological research methods. The aim is to illustrate how these 'spotlights' on past activity contribute to wider interpretations of pastoralist choices relating to economic activity and landscape use.

Beatty, Katherine [59] *see* O'Donnabhain, Barra

Beaule, Christine (Univ of Hawaii at Manoa)
[219] *Ceremonial Drinking and Feasting in Cross-Cultural Perspective*

Andean indigenous leaders used maize beer as part of reciprocal exchanges that affirmed their authority and the solidarity of ayllu (kinship group or community) members at the time of Spanish contact. The drinking vessels used for chicha consumption are found in contexts from the Middle Horizon to the present. This study employs a set of keros, queros and aquillas from museum collections and archival data from several Prehispanic and Colonial Period cultures to explore long-term patterns in ritual drinking and feasting. In the process, I build a model of cross-cultural contact, colonialism, and material styles for application to other regions.

[219] *First Chair*

Beauregard, Esther (Trent University) and Gyles Iannone (Trent University)
[61] *Explaining Middle Level Settlement Variability in the Ancient Maya World*

The middle level of the ancient Maya settlement continuum consists of a diverse array of settlement units exhibiting varying size, organizational complexity, function, and proximity to city-state capitals. Traditionally referred to as "minor centers," these sites are both smaller, and more specialized, than the city-state capitals, and larger, and more complex, than the myriad of lower level settlement units inhabited, and/or used, by the majority of commoners. Three competing models have been offered to explain the variability inherent in this level of the settlement continuum. This presentation will critically evaluate these models using a variety of archaeological data sets.

Beauregard, Esther [61] *see* Schwake, Sonja A.

Beck, Charlotte (Hamilton College) and George T. Jones (Hamilton College)

[241] *Dunnell's Selectionist Vision: Why did it not have more of an Impact on the Discipline?*
Robert Dunnell was first and foremost a theoretician, and while some of his ideas like paradigmatic classification have seen relatively wide use, others, like his evolutionary program, have not. One of the primary problems with the selectionist approach has been the difficulty in applying it archaeologically. It is telling that the majority of selectionist publications are theoretical rather than substantive. When the latter is the goal, most archaeologists favor transmission, within the behavioral ecology paradigm. Why has this been the case? Here we explore possible reasons why the archaeological community gave Dunnell's evolutionary program such a lukewarm reception.

Beck, Charlotte [84] *see Bennett, Kathryn A.*

Beck, Del [268] *see Stewart, R Michael*

Beck, Jess (University of Michigan - Museum of Anthropology)

[141] *Diachronic Change in Avifaunal Exploitation at Four Late Pueblo Village Sites in Southeastern New Mexico*

This poster explores diachronic change in the exploitation of avifauna at four late prehistoric pueblo village sites in southeastern New Mexico—Fox Place, Rocky Arroyo, Henderson, and Bloom Mound. A variety of artifactual and faunal evidence indicates that between AD 1250-1450 these villages underwent significant changes in economy and organization, as they became increasingly involved in long-distance bison hunting and Plains-Pueblo exchange. By analyzing the species composition, skeletal part representation and proportion of avifauna relative to bison and other taxa, the impact of subsistence practices, environmental change, and ritual selection on avian assemblages at these sites is investigated.

Beck, R (University of Utah) and Douglas J. Kennett (The Pennsylvania State University)

[141] *Inferring Prey Population Histories with Ancient DNA: A Case Study in Molecular Zooarchaeology*

Zooarchaeologists interested in the complex relationships between prehistoric hunters and their prey routinely work to develop population histories of exploited taxa. Animals maintain a molecular record of their histories and ancient DNA methods provide access to this record. This poster summarizes research that uses the genetic record of Guadalupe fur seals (*Arctocephalus townsendi*) from Middle and Late Holocene assemblages at four sites on California's Northern Channel Islands to develop a long term history of these populations. These data are then used to evaluate a longstanding debate in California archaeology about the effect of prehistoric hunting of these animals.

Beck, Robin (University of Michigan)

[190] *Typology and the Great Divide: Bridging Mississippian and Colonial Worlds in the American Southeast.*

The problem with most social typologies is not that they are generalizable but that they are profoundly ahistorical. Traditional typologies pose difficulties for scholars in the American Southeast studying the rise of myriad Indian nations—Cherokees, Creeks, Catawbans, and others—after the collapse of the Mississippian world. Can we combine social history with a critically informed use of types? Using examples from this Mississippian-Colonial divide, I argue that we can, but only if our types are embedded in analysis of specific historical trajectories. They may, indeed, be more useful for understanding change within such trajectories than distinctions between unrelated cases.

Becker, Sara (University of North Carolina, Chapel Hill)

[105] *Labor, Gender, and Identity: Bioarchaeological Activity Patterns in Individuals from the Tiwanaku State (AD 500-1100)*

Organized labor is a known key component to the

development of state-level societies. However concepts of labor in prehistoric societies can sometimes overshadow the actual individuals involved in activity and production. I provide a comparative framework of specific skeletal evidence to the archaeological record using biological markers to infer how habitual activity varies within Tiwanaku state formation both in the Titicaca Basin, Bolivia and the Moquegua Valley, Peru. These bioarchaeological activity data add specific insight into the routine of individuals and their contributions to the social groups, revealing divisions of labor such as status and gender differences.

Beckwith, Sue (University of Toronto)

[88] *The Scene from the Corn Grinding Rooms of Pot Creek Pueblo, New Mexico*

The ways in which people structure their social relationships are related to how they organize their architectural space. Visibility graph analysis was used to quantify the spatial layout of Pot Creek, New Mexico, identifying areas of behavioural affordances, privacy and social interaction. From enclosed grinding rooms, to jacal structures, to open ramadas, the patterns of visibility into and out of these areas reflected transforming social relationships for both the grinders and other members of the community. Gender relations, economic control of labour and material, and the experiential use of space were all affected by modifications to the built environment.

Beddows, Patricia

[227] *Exploring the Hydrogeology and Hydrogeochemistry of the Holbox Lagoon*

The north coast of the Yucatan Peninsula is intersected by the extensive Holbox Fracture Zone that includes N-S seasonally flooded depressions. The potential for significant fresh water discharge from the regional fresh water aquifer exists notably at fracture intersections in this karst system, yet the water sources necessary to the inhabitants of Vista Alegre over 3 millennia remain unknown, and may have been blocked by rising Holocene sea levels. The possible residual sources of fresh water around Vista Alegre are explored using hydrogeochemistry, and evidence for obscure paleo sources sought in geochemical analysis of a series of sediment cores.

Beddows, Patricia [227] *see Goodman Tchernov, Beverly N.*

Beekman, Christopher (University of Colorado Denver)

[21] *El Grillo and Epilogue. The Reestablishment of Community and Identity in Far Western Mexico*

Far western highland Mexico may provide the earliest evidence for the disruptions that emerged elsewhere during the Epiclassic. The distinctive Teuchitlán culture of the Late Formative and Early Classic was replaced with strikingly different architectural traditions, burial patterns, and ceramics (the El Grillo complex) with apparent origins to the east. I reconsider this material in light of recent proposals as to how community and identity are reestablished or reorganized after migration. Unlike central Mexico, the area remained politically fragmented at the time of the Conquest and no language ever became associated with greater prestige.

[237] Discussant

Beeton, Tyler (Colorado State University), Anna Trainer (Colorado State University), Michelle Glantz (Colorado State University) and Sayat Temirbekov (Natural Resource Ecology Laboratory)

[202] *Reconstructing hominin water access in Pleistocene Central Asia*

Although the Paleolithic occupation of Central Asia is well documented, explanatory models that rely on multiple lines of evidence to characterize hominin land use is currently lacking. The present study applies GIS analytical tools and spatial statistical modeling to better understand the relationship between occupational intensity, water access, climate and range size. The working hypotheses are two-fold; 1. occupational intensity and proximity to water are inversely related and, 2. range size changes as a function of climatic oscillations. Results indicate that occupational intensity does not predict proximity to water. Additionally, hominin range size contracts in response to climate deterioration.

Begley, Christopher (Transylvania University)

[56] *The White City of the Mosquito Coast: What the Legend Says about Ancient and Modern Honduras*
A persistent legend of a lost city in the jungles of the Mosquito Coast of Honduras provides an important means by which to explore the relationship of the present and past. An examination of various versions of this legend, from 16th century Spanish accounts to modern versions told by indigenous peoples like the Pech and Tawahka, reveals significant differences in the content, origin, meaning, and utility of the myth in its various iterations. These differences can be related to specific prehistoric, historic and modern contexts and help explain how the legend endures and remains compelling.

Begley, Christopher [41] see Crane, Eli R.

Begun, Erica (University of Iowa)

[98] *Exploring the Michoacan Presence at Teotihuacan*
A presentation of my dissertation research looking for evidence for the construction and maintenance of a distinctly West Mexican ethnic identity at the N1W5:E19 apartment compound at the site of Teotihuacan (Mexico). Analysis of household material, along with the burials from the compound, was done in order to identify markers that may indicate an ongoing or ethnically unified presence of people from Michoacan during the Classic period occupation of the site.

Behrensmeyer, Anna K. [96] see Du, Andrew

Beier, Zachary (Syracuse University)

[276] *The Materialization of Military and Black Identity at the Cabrits Garrison, Dominica (1765-1854)*

The West India Regiments, raised by the British in 1795 and composed of recently imported African slaves, began their tenure at the Cabrits Garrison shortly thereafter. Archival research along with shovel test data and intra-site comparisons have provided unique insights into the lives of Afro-Caribbean soldiers in this British outpost, which, due to a variety of factors, earned its reputation as a "black garrison." The following paper situates this case study within global systems of distribution to demonstrate the materializations of these

regiments, as well as their crucial role in testing the boundaries of colonial identities in the Atlantic World.

Bejko, Lorenc [119] see Deskaj, Sylvia

Belardi, Juan Bautista [132] see Goni, Rafael

Belisle, Veronique (Trent University)

[92] *When the State Meets the Community: Rethinking Wari Impact in Cusco, Peru (AD 600-1000)*

During the Middle Horizon (AD 600-1000) Wari polychrome pottery started to appear at villages throughout Peru, leading many scholars to believe that the Wari state conquered widely and established control over several provinces across Peru. My research documents how families living outside the Wari heartland experienced Wari state expansion into their area. In the Cusco region (southern highlands of Peru), excavations at Ak'awillay show that local families were little affected by Wari presence; they continued to practice the same kinds of domestic and ritual activities as they had before and continued to procure pottery and stone through regional exchange networks.

Bell, Alison (Washington and Lee University), Donald Gaylord (Monticello) and Erika Vaughn (Washington and Lee University)

[214] *Site Dating and Ceramic Use Wear: Variability in Socio-Spatial Mobility and Consumer Strategy*
Archaeological excavations at domestic sites occupied by enslaved and free residents of central Virginia plantations suggest variability in the degree to which mean ceramic dates coincide with site occupation periods documented in historic sources. We explore this issue focusing on the late 18th and early to mid 19th centuries through archival sources, ceramic use wear analysis, and artifact data in the Digital Archaeological Archive of Comparative Slavery. We hypothesize that discrepancies between site dates derived from archaeological and archival data stem largely from varied consumer strategies linked to prospects for socio-economic and physical mobility.

Bell, Colleen (University of Tulsa)

[63] *Hafting Techniques in Southern Jordan: An Analysis of Natufian Lunates*

This paper will investigate the hafting techniques and lunate types of Southern Natufian sites in Jordan. Particular attention is paid to the co-variation between the retouch varieties of lunates and hafting mechanisms. Additionally, contact areas will be examined for residues through chemical analysis. Sites representing both early and late settlements are examined to explore these potential changes over time. Previous research has been conducted on Northern Natufian sites (Yaroshevich et al, Journal of Archaeological Science 37, 2010). This current project will build on that research and examine those findings with the results from Natufian settlements in the south.

Bell, Colleen [232] see Odell, George H.

Bell, Matthew J. [226] see Morrison, Alex E.

Bello, Charles (Federal Emergency Management Agency (FEMA-DHS)) and Brooke Persons (U.S.

Virgin Islands State Historic Preservation Office)

[276] *Fort Frederik, A U.S. National Historic Landmark, St. Croix, US Virgin Islands: A Case Study in Effective Cultural Resource Management*

The impact of weather events on cultural resources is a well-known phenomenon throughout the Caribbean, and local governments are often challenged in their ability to address such concerns. Accordingly, this presentation will focus on a recent collaboration between Federal Emergency Management Agency, the Virgin Islands State Historic Preservation Office, and the Government of the US Virgin Islands, to analyze cultural resources and repair historic properties that were damaged during flash flooding events in the fall of 2010 in Frederiksted, St. Croix.

[162] *Discussant*

Bellorado, Benjamin (Winston Hurst Inc., Abajo Archaeology)

[255] *Leave Only Footprints: The Dating and Context of Pueblo III Sandal Imagery in the Comb Ridge and Cedar Mesa Areas*

Sandals and depictions of sandals or sandal tracks held special meanings to ancestral Puebloan peoples. Analyses of Comb Ridge area survey data and tree-ring dating of intact kiva roofs on Cedar Mesa suggest that a tradition of rock art and kiva murals depicting sandals or sandal tracks was pervasive in southeastern Utah between A.D. 1200-1250. Many of these sandal images show a repertoire of distinct tread design layouts and construction techniques that may identify individuals and group identities across the landscape. This presentation discusses the dating and context of sandal imagery throughout Comb Ridge and Cedar Mesa in Southeastern Utah.

Bement, Leland (Oklahoma Archeological Survey, OU) and Brian Carter (Oklahoma State University)

[55] *Folsom Bison Hunting on the Southern Plains of North America*

Landscape evolution, site stratigraphy, animal behavior, and hunting technology highlight and help define archaeological investigation of Paleoindian sites across the North American Plains and describe some of the critical expertise and topics contained in the legacies of George Frison and C. Vance Haynes, Jr. The methods developed and applied by these researchers continue to shape archaeological inquiry as we illustrate through a discussion of Folsom bison hunting adaptation along the Beaver River in northwest Oklahoma. Reconstructing the timing, environment, and distribution of arroyo development is integral to improving our understanding the Folsom bison hunting adaptation.

Bement, Leland [234] *see Carlson, Kristen*

Benden, Danielle (University of Wisconsin-Madison), Robert Boszhardt (Independent Scholar) and Timothy Pauketat (University of Illinois-Urbana/Champaign)

[198] *To "the Mountain Whose Foot is Bathed in Water": Cahokia's First Colony 850 Km Up River*

The Trempealeau Bluffs are a unique landmark on the Upper Mississippi River, 530 miles upstream from Cahokia. A series of Mississippian platform mounds were initially mapped at Trempealeau well over a century ago,

but very limited archaeological investigations were undertaken until 2010 and 2011. Excavations at habitation locals and within the platform mounds revealed that Mississippians settled in Trempealeau coinciding with the dawn of Cahokia. Based on imported ceramics, lithics, architectural style, and intentional solstitial alignments of mounds and houses, this occupation appears to be a mission of Cahokians who entered into the Effigy Mound world of Wisconsin.

[48] *Discussant*

Bender, Susan (Skidmore College) [209] *Discussant [209]* *Second Organizer*

Benedetti, Michael [135] *see Haws, Jonathan A.*

Benfer, Adam (University of Kansas)

[122] *Interregional "Landscapes of Movement" from the La Unión Archaeological District of Northeastern Costa Rica*

While archaeologists have documented some pre-Hispanic roads and footpaths in Costa Rica, few pre-Hispanic interregional landscapes of human movement have been identified. Through archival research on historic interregional roads as well as archaeological surveys and limited remote sensing of pre-Hispanic features, I hypothesize possible late pre-Hispanic routes of interregional communication between an archaeological district at La Unión in the northeastern Caribbean Lowlands and the Central Highlands of Costa Rica. I discuss what the functions of such routes may have been and evaluate their role within the larger network.

[122] *Second Organizer [122]* *First Chair*

Bengtson, Jennifer [105] *see O'Gorman, Jodie*

Benitez, Alexander (George Mason University) and Francisco Corrales Ulloa (National Museum of Costa Rica)

[205] *The Old and New Roads of the Minor C. Keith Collection: Collecting, Museum Policies and National Identities*

In the late 19th and early 20th centuries, Minor Cooper Keith was one of the most influential U.S. citizens in Central America. As a railroad tycoon, vice president of the United Fruit Company, and founding trustee of the Museum of the American Indian- Heye Foundation, Keith amassed one of the largest ever private collections of Costa Rican antiquities. The journey of Keith's 15,000 piece collection to three major U.S. institutions and the later dispersal of parts of the collection to several countries, including back to Costa Rica, allows us to reflect on the historical and social circumstances of this journey.

[205] *First Chair [205]* *Second Organizer*

Benn, David [37] *see Hajic, Edwin R.*

Bennett, Gwen [200] *see Chen, Pochan*

Bennett, James [264] *see Haney, Jennifer M.*

Bennett, Kathryn (Hamilton College), George T. Jones (Hamilton College) and Charlotte Beck (Hamilton College)

[84] *Is Western Stemmed Biface Technology Derived from Clovis?*

Although convention holds that Western Stemmed lithic technology is derived from Clovis, Beck and Jones (2010) propose that they were produced by different but contemporaneous human populations entering the intermountain region about 11,000 rcy BP. If Beck and Jones are correct, Western Stemmed lithic technology should exhibit the use of reduction techniques distinct from those of Clovis. To evaluate this hypothesis, we analyze two Western Stemmed workshop assemblages consisting of several hundred bifaces and related flakes and compare them to the Clovis reduction technique. Results are used to draw generalizations about the migration of people into western North America.

Benson, Benjamin [112] *see Hughes Markovics, Michelle*

Berch, Marlaina [114] *see Horne, Christopher*

Berdan, Frances (California State University San Bernardino) [98] *Discussant*

Bereziuk, Darryl [9] *see Woywitka, Robin*

Bergin, Sean (School of Human Evolution and Social Change, ASU), Isaac I. Ullah (School of Human Evolution and Social Change, ASU), C. Michael Barton (School of Human Evolution and Social Change, ASU) and Claudine Gravel Miguel (School of Human Evolution and Social Change, ASU)

[103] *Human-Environment Interactions in a Changing Environment: A Computational Model of Agropastoral Practices and Landscapes in Neolithic Spain*

We explore the complex interrelationship between land-use, landscapes, and climate using a computational modeling environment: AP-SIM. AP-SIM couples an agent-based model of small-scale agropastoralists with GIS models of landscape evolution to systematically study socio-natural interactions in agropastoral systems. Agropastoralists are represented as household-level agents that make farming and herding decisions based upon the conditions of the surrounding landscape; their economic decisions in turn impact dynamic landscape and vegetation models. Using the AP-SIM computational model, we probe the consequences of different land-use and climate-change scenarios for a Neolithic village and surrounding landscape of the Penaguila valley in eastern Spain.

Berman, Mary Jane (Center for American and World Cultures)

[165] *Temporal and Spatial Variability in Lucayan Ceramics*

Regional and temporal variability in Early Lucayan and Late Lucayan ceramics will be discussed. Temporal differences, which have been largely overlooked in the archaeological literature, are not solely stylistic (i.e. decorative). Variation in thickness, surface finish, rim shape, temper characteristics, manufacturing techniques, and decoration are discussed in terms of different colonization histories, communities of practice, and cultural transmission modes. Three production areas, corresponding to specific environmental zones, are explained in terms of Lucayan place-making, territorial

boundaries, social group affiliation, and participation in different interaction networks and political economies.

Berna, Francesco (Boston University)

[274] *Sacred places or animal enclosures?*

Microstratigraphic analysis of dung floors.

Ethnographic records report the use of dung for flooring domestic and sacred places. Recent micromorphological studies of Iron Age sites show that some of the "floors" of monumental buildings are composed of phytoliths and contain dung remains such as calcite spherulites. This paper will discuss the implication of the microstratigraphic characterization of ethnographic dung floors to comprehend the archaeological significance of the archaeological "dung floors" in large, unique architectural spaces.

Berna, Francesco [22] *see Simms, Stephanie R. [93]*
see Miller, Christopher E.

Bernbeck, Reinhard (Freie Universitaet Berlin)

[265] *What is post-operaist archaeology?*

Marxist archaeology displays a reflexive attitude towards archaeological labor. This preoccupation leads Marxist approaches to conceptualize the past as a temporal relation rather than an objective foreign country. "Marxism's critical reflection about unjust and violent conditions in capitalism requires constant theoretical re-positioning. A strong voice in current debates is Italian operaism/ post-operaism. Antonio Negri's work, derided by some and applauded by other Marxist scholars, merits a close reading by archaeologists. I focus on two issues, „immaterial labor“ and what it means for our concept of labor in general; and potential consequences of thinking about the social as a multitude."

Berrey, Charles (University of Pittsburgh)

[122] *Organization and Growth among Early Complex Societies in Central Panama*

Much of what we know about early complex societies in Central Panama comes from ethnohistoric descriptions and archaeological research focused on the regions surrounding Parita Bay. Investigations in other areas have revealed that cultural traits were shared across many Central Panamanian regions, but these studies also hint at important aspects of variation. Unlike the strong hierarchies that developed in some regions around Parita Bay, data from the Río Tonosí valley suggest that less hierarchical societies may have developed there. This paper examines regional settlement data from the Río Tonosí and Río Parita valleys, and compares their trajectories of community growth.

Bertone, Gabriela [39] *see Stich, Kyle*

Bertone, Gabriela C. [166] *see Quave, Kylie E.*

Bettencourt, Nichole (Washington State University), Adam Rorabaugh (Washington State University) and Colin Grier (Washington State University)

[37] *Characterizing Crystalline Volcanic Rock (CVR) Deposits from Galiano Island, B.C., Canada: Implications for Lithic Material Procurement at the Dionisio Point Locality*

This study provides crystalline volcanic rock geochemical

signatures from two locations on Galiano Island near the precontact Dionisio Point locality. Elemental composition analyses were performed to determine whether local secondary CVR deposits may have yielded potentially utilized tool stone. Glacial till cobbles analyzed in this study were collected from the shoreline of Parry's Lagoon and from an exposed wave cut bank. Samples were analyzed utilizing WDXRF in the WSU Geoanalytical Lab and compared to other regional sources. This analysis serves as a baseline for characterizing lithic sources from archaeological sites at the Dionisio Point locality and in the Gulf Islands.

Bettencourt, Nichole [37] *see Goodman-Elgar, Melissa*

Bettex, Michelle [270] *see Masucci, Maria A.*

Bettinger, Robert (University of California-Davis) [123] *Effects of the Bow on Social Organization in Western North America*

Bow technology was a true technological breakthrough – difficult to invent but hugely advantageous; differences in accuracy make one hunter with a bow more than twice as effective as two with atlatls. The consequences of its advent by diffusion varied in western North America however. The effect was less among Northwest Coast fisherfolk and Southwestern farmers than in California and the Great Basin, where hunting was a full time male pursuit. While the bow permitted both larger and smaller groups, the dominance of gathering strongly favored the latter and an evolutionary trajectory of decreasing social complexity verging toward anarchy.

[273] *Discussant*

Betts, Matthew (Canadian Museum of Civilization), Herbert Maschner (Idaho Museum of Natural History), Corey Schou (Idaho State University), Robert Schlader (Idaho State University) and Jonathan Holmes (Idaho State University) [129] *Virtual Zooarchaeology of the Arctic Project (VZAP) Phase II: Building a comprehensive digital vertebrate reference collection.*

Virtualization technology (technology which produces a digital representation) is increasingly being employed in basic archaeological documentation. Researchers are using these virtualized records for increasingly complex analyses that would be difficult or impossible using traditional records or assemblages. At the same time, archaeologists and museum professionals are developing means and standards for organizing and disseminating these data. This session will draw together a wide array of professionals that create, utilize, and distribute the virtual archaeological record. Papers will address virtualization technology and techniques (3D, 2D, etc.), research applications of virtualized data, and projects focused on creating accessible virtual databases and collections.

[129] *First Chair*

Betts, Matthew [129] *see Ryan, Karen [129]* *see Schou, Corey D.*

Beugnier, Valerie [238] *see Chevalier, Alexandre*

Bevan, Andrew [200] *see Conolly, James*

Bey, George (Millsaps College), Evan Parker (Tulane University), Jiyan Gu (Millsaps College), Timothy Ward (Millsaps College) and Tomás Gallareta (INAH) [201] *An ICP-MS analysis of early Maya pottery from the northern Maya lowlands*

Middle Preclassic ceramics from four sites in northwest Yucatan are examined using ICP-MS to determine the chemical variation that exists between and within these samples. Over the last decade, evidence of a complex and wide-spread occupation during the Middle Preclassic has been identified throughout the northern Maya lowlands. Beyond typological information based on visual examination of paste, slip, and surface treatment, little is known about the nature of the ceramics or the pottery economics associated with these sites. This study indicates it is possible to identify the origin of Preclassic ceramics by their chemical signature and that compositional variation existed at the site level over time.

Bey, George [128] *see Gallareta Negron, Tomas*

Bey III, George J. [242] *see Kohut, Betsy M.*

Bey, III, George J. [22] *see Simms, Stephanie R.*

Beyer, Renate (Indiana University of Pennsylvania), Ben Ford (Indiana University of Pennsylvania) and Michael Whitehead (Indiana University of Pennsylvania)

[170] *Digitizing Historic Hanna's Town: Translating Legacy Data into Digital Data*

Historic Hanna's Town (ca. 1770-1800) has been the site of intermittent archaeological investigations for more than four decades. These excavations, both professional and amateur, have produced nearly a million artifacts, approximately 15 linear feet of notes and artifact catalogs, and many maps. Recent efforts to make this data more accessible have included entering artifact information into a relational database and the construction of a GIS. While the project is in its early phase, this poster presents the initial methodology and challenges encountered, and is intended to elicit comments while the methods are still flexible.

[170] *Second Chair*

Beyers, Doug [141] *see Derr, Kelly M.*

Bezerra, Marcia (Universidade Federal do Pará/CNPq/Brasil), Caroline Fernandes Caromano (Museu Paraense Emílio Goeldi/CNPq) and Leandro Matthews Cascon (Museu Paraense Emílio Goeldi)

[28] *'Modern-day Amazons': The historical construction of Amazonian archaeology by woman's hands, eyes and minds.*

Over the past decades, archaeological thought has increasingly turned its attention to the role of gender not only in the formation of the archaeological record, but also to its interpretation in the present. Such approaches have at times dramatically changed collective views of past cultural contexts, as well as provided new parameters for understanding the processes under which archaeological method and theory are constructed. However, there are many areas of archaeological research where, despite its relevance, the discussion on the role of gender in the construction of knowledge has

not been discussed, fully or to any small extent. Amazonian archaeology is such an area. Research of the Amazonian cultural past has frequently been conducted by female archaeologists. These women many times possessed leading roles in such studies, contrasting with a male-oriented approach common to archaeological research done in neighboring areas. In not explicitly recognizing such unique characteristic, Amazonian archaeology has a historical debt to these 'modern-days Amazons'. Based on bibliographical survey and interviews the present work intends on stimulating discussions of feminist approach in Amazonian archaeology while also paying a small homage to these brave women that shaped the forest's past.

**Bicho, Nuno (Universidade do Algarve),
Tiina Manne (University of Queensland),
João Marreiros (Universidade do Algarve),
João Cascalheira (Universidade do Algarve)
and Telmo Pereira (Universidade do Algarve)**

[135] *The ecodynamics of the first modern humans in Southwestern Iberia: the case of Vale Boi, Portugal*
This paper focus on the ecology of the first modern humans in SW Iberia based on the rockshelter of Vale Boi (Portugal), a site with a stratigraphical record with Late Mousterian, Gravettian, Solutrean, Proto-Solutrean and Magdalenian. The Gravettian is dated to c. 28,000 RYBP corresponding to the earliest modern humans in the region, provably coming from the Mediterranean coast as suggested by bone technology and body ornaments. With the Gravettian occupation, subsistence was mixed with both marine and terrestrial elements (both already present in the regional Middle Paleolithic), to which grease-rendering was added corresponding to its earliest evidence in Europe.

[135] *Second Chair* **[135]** *Second Organizer*

Bicho, Nuno [135] see Marreiros, Joao F. **[36]** see Goncalves, Celia **[135]** see Haws, Jonathan A. **[75]** see Dupont De Sousa Dias, Rita

Bies, Michael [226] *Discussant*

Bigelow, Nancy [204] see Mason, Owen K. **[180]** see Graf, Kelly E.

Bigga, Gerlinde (Gerlinde Bigga) and Brigitte Urban (Institute of Ecology, Landscape Change, Leuphana University of Lüneburg)

[93] *Moving beyond the wooden spears: Paleolithic plant use in Schöningen*

Plant use is an elusive issue in Paleolithic archaeology. Due to poor organic preservation in many sites, botanical material is nearly invisible. The sediments in Schöningen, however, contain abundant macroremains, which offer the opportunity to reconstruct the local vegetation. Combined with results from pollen analysis it is possible to reveal the full potential of this environment. Ethnobotanical studies of hunter-gatherer societies living under similar conditions illustrate the importance of plants for subsistence purposes. The identified taxa from the "Horse Butchery Site" include a broad spectrum of usable species, which provides important sources of food, raw material and firewood.

Bikoulis, Peter (University of Toronto)

[83] *Geographically Based Network Creation Strategies: a comparison of two approaches*

This poster compares two geographically based Social Network creation strategies set within the late prehistory of south-central Anatolia (4500-2000 BC). The first relies on a node's Nearest Neighbors, while the second uses Least-Cost Pathway Analysis between selected sites computed in a GIS. Each represents a different way of conceptualizing social interaction, namely proximity versus accessibility. Common measures derived from both networks are then compared to results obtained from randomly generated graphs. The results suggest that archaeologists must carefully select the relations between sites and how these are used to generate Social Networks.

Bilheux, Hassina [109] see Ryzewski, Krysta

Billman, Brian (UNC & MOCHE, Inc), Jesus Briceño Rosario (Ministerio de Cultura Peru), Julio Rucabado Yong (Pontificia Católica Universidad de Peru) and Alicia Boswell (University of California, San Diego)

[24] *Community-based Heritage Preservation on the North Coast of Peru or How MOCHE, Inc is Saving the Past by Investing in the Future*

Uncontrolled urban expansion and the development of export-based agriculture are destroying archaeological sites in Peru at an unprecedented rate. With so many important sites on the brink of destruction we founded MOCHE, Inc. in 2007 (www.savethemoche.org). Results of our work with MOCHE demonstrate that archaeological sites can be preserved by forming community partnerships that integrate development, education, and preservation. This community-based approach is key to stemming the tide of heritage destruction in Peru and beyond. We discuss the causes of the dramatic acceleration of site destruction and methods we use to save sites and help communities.

Billman, Brian [243] see Mullins, Patrick James

Bilyeu, Chase [140] see Byers, David A.

Bingham, Paul (Stony Brook University) and Joanne Souza (Stony Brook University)

[123] *Comparison of theories predicting social change in response to the bow*

Globally, the archaeological and historical records often indicate intimate relationships between new weapons technologies and striking changes in human social scale and structure. These relationships have potentially profound general implications. The prehistoric North American record is one of the great treasures of the world's archaeological repertoire, a unique opportunity to explore the causal sequence of human historical change. We examine competing theories explaining these empirical relationships with the powerful level of rigor and opportunity for theory testing made possible by the robust North American record. Theoretical fecundity and generality will be explored with application to this rich empirical record.

[123] *First Chair*

Binning, Jeanne (California Department of Transportation), Craig E. Skinner (Northwest Research Obsidian Studies Laboratory) and Jennifer

J. Thatcher (Northwest Research Obsidian Studies Laboratory)

[161] *An Obsidian Biface Cache from Southern Utah*
An obsidian biface cache of twenty-nine bifaces was recovered from the Mineral Mountains in southern Utah. For each biface, the source of the raw material, the width of the hydration rind, and the distinguishing lithic technology were determined. The resulting data contribute to the long-standing discussion of the function of these phenomena in various geographic and temporal contexts.

[161] *First Chair*

Birch, Jennifer (University of Georgia)

[40] *Precontact Northern Iroquoian Warfare and Emergent Political Complexity*

This paper employs a recent survey of evidence for settlement aggregation and violent conflict from across the precontact Lower Great Lakes to explore the relationship between warfare and emergent political complexity in Northern Iroquoian societies. Widespread conflict characterized the late fifteenth and early sixteenth centuries throughout Iroquoia, bringing about the coalescence and redistribution of settlements, the elaboration of sociopolitical organization, alliance-building and, ultimately, confederacy formation. The common representation of the seventeenth century Huron and Iroquois as traditional enemies is complicated by the historical development of these political formations and their constituent parts.

Birch, Jennifer [192] *see Carnevale, Andrea*

**Bird, Douglas (Stanford University),
Brian Codding (Stanford University)
and Rebecca Bliege Bird (Stanford University)**

[234] *Mega fauna in a Continent of Small Mammals: Martu Camel Hunting in Australia's Western Desert*
Archaeologists often assume that because of their size, mega fauna would have been highly ranked prey, especially attractive to hunters using sophisticated capture technologies common after the late Pleistocene. Between 1880 and 1907 over 10,000 dromedary camels were imported to Australia, and today feral populations number well over a million. These mega fauna are regularly encountered by contemporary Aboriginal hunters in the Western Desert, but they are rarely pursued. We present data on the efficiency of camel hunting relative to common alternatives, evaluating hypotheses concerning the determinants of prey rank and the technological and social contexts that influence resource value.

[273] *Second Chair [273] Third Organizer*

Bird, Douglas [273] *see Zeanah, David W. [273]* *see Codding, Brian F.*

Birmingham, Bob (University of Wisconsin Waukesha)

[97] *The Effigy Mound Ceremonial Landscape of the Wisconsin "Four Lakes" Mound District*
Between A.D. 700 and 1100, Late Woodland people of the Upper Midwest created vast ceremonial landscapes of earthen mounds sculpted into animals and supernatural spirits important in the traditions and cosmologies of more recent Indian people. This paper

reports the results of a study of the "Four" Lakes district at the heart of the effigy mound region around Madison, Wisconsin, tracing mound landscape origins to earlier Woodland times, describing the use of topography and natural features to create three dimensional maps of ancient cosmology.

Birmingham, Robert A. [187] *see Sharpless, Megan S.*

Bishop, Ronald (Smithsonian Institution)

[201] *"Does compositional standardization of ceramic paste really mean specialization? --a revisit"*
The natural and social factors that form the basis for Arnold's concern are examined as they relate to the data obtained through instrumental means. Attention will be given to the nature of compositional data, pattern recognition, nature of source "group" and cream-skimming presentation. Issues of complexity that preclude unambiguous response to the question are illustrated through examples drawn from compositional investigations of ceramic variation in the pre-Spanish contact US southwest and the Maya region.

Bishop, Ronald L. [242] *see Werness-Rude, Maline D.*

Bissett, Thaddeus (University of Tennessee, Knoxville)

[197] *New interpretation of site use at Eva during the Middle Archaic: AMS dates from the Three Mile phase.*
New Deal excavations of Archaic shell mounds such as Eva in the western Tennessee Valley produced extensive, well-documented assemblages. However, these projects were completed before the development of radiocarbon dating. Because early dating methods were expensive and required large samples, few dates were obtained from these sites even after 14C dating became available, limiting their utility for addressing modern research questions. In light of recent hypotheses concerning cultural practices associated with shell mound use, this paper presents new dates from Eva, and a preliminary re-interpretation of the site's occupational history based on the depositional rates of the two earliest strata.

Bissett, Thaddeus [16] *see Miller, D. Shane*

Biwer, Matthew (University of California, Santa Barbara)

[104] *Chicha and Wari: A Macrobotanical Analysis of Features from Cerro Baul in the Moquegua Valley, Peru*
In this paper I consider implications of molle use at the site of Cerro Baul in the Moquegua Valley, Peru. A strong link exists between chicha and Wari at Cerro Baul. The presence of a brewery atop Cerro Baul attests to this importance. Using statistical analysis, I present preliminary data concerning the fruit of the Molle tree. I compare botanical remains from ritual and domestic contexts, ideas of performance, identity, and power, to understand the importance of chicha de molle to the Wari state.

Biwer, Matthew [104] *see First, Darcie L.*

Black, Stephen (Texas State University, San Marcos)

[246] *Hot Rock Cooking in the Lower Pecos Canyonlands*

Hot rock cooking, especially plant baking in earth ovens, was a fundamental dimension of prehistoric life in the Lower Pecos Canyonlands of southwest Texas for at least eight millennia. While the veracity of this assertion is demonstrated by the overt character of archaeological record and by previous research, we do not have in hand most of the data needed to evaluate many of the inferences and explanations that have been put forth. This poster summarizes extant data and prevailing hypotheses, and highlights new research on earth oven subsistence and technology on the northeastern periphery of the Chihuahuan Desert.

[246] *First Chair*

Blackman, M. James [242] *see Werness-Rude, Maline D.*

Blackmore, Chelsea (University of California, Santa Cruz)

[233] *Commoner Households, Agency and the State*
Traditionally, households are defined either as autonomous units apart from the state or ones tied to its fate. In terms of commoner households, these relationships are defined largely by elite (e.g. state) action and intention, with farmsteads and smallholders as passive recipients. What archaeologists rarely consider is how these households are political bodies in and of themselves. Their role and interaction in the state is better understood as a process of change over time, one that is as much initiated by commoners as by elite. In this paper, I examine the mutable nature of commoner households and their role in state organization. As lower status groups, how did these households and communities engage with the state? In what ways, did commoners reject or accept larger socio-political relationships? And finally, how may they have even altered the very nature of these state and political interactions?

Blackwell, Bonnie (Williams College), E.K. CHO (RFK Science Research Institute), J.J. Huang (RFK Science Research Institute), Anne R. Skinner (Williams College), J.I.B. Blickstein (Williams College) and J.I.B. Blickstein (U. Pennsylvania)
[117] *ESR Dating at Grotte de Contrebandiers, Témara, Morocco*

Grotte de Contrebandiers (aka Smugglers' Cave) has yielded anatomically modern hominin remains, associated with Iberomaurusian, Aterian, and North African Mousterian deposits in a stratified context within sandy-silty matrix-supported conglomerates. ESR signals in mammalian tooth enamel are the most stable of all those used by the trapped electron dating methods. Total station shot plots and volumetric averaging were used to determine the effects from sediment inhomogeneity ("lumpiness") and the cave's thin layers on the external dose rates for 11 teeth from five Mousterian and Aterian layers. ESR ages correlate well with early Oxygen Isotope Stage (OIS) 3 to late OIS 5.

Blackwell, Bonnie [37] *see Skinner, Anne*

Blair, Christopher [268] *see Dignam, Darcy J.*

Blair, Susan (University of New Brunswick) and Tricia Jarratt (University of New Brunswick)

[159] *Colour and choice in raw material procurement in the Maritime Peninsula of the Northeast*

A key characteristic of the late precontact period in the northeastern-most part of North America was the movement of goods through regional networks, with lithic tools and copper being primary preserved elements. Examination of site components suggests there was a preference on the part of ancestral Mi'kmaq and Wolastoqiyik for particular colours (red, yellow, white) driving the circulation and procurement of objects and materials. This paper will explore the role of colour preference in raw material procurement, the functional and ideological components of these choices, and how they may have articulated with other systems, such as regional interaction and exchange.

Blair, Susan [141] *see Webb, William J.* [185] *see Jarratt, Tricia L.* [268] *see Dignam, Darcy J.*

Blake, Emma (University of Arizona)

[155] *From social networks to ethnic groups in pre-Roman Italy*

This paper proposes an interactionist model for ethnic group formation in later prehistoric Italy. While instrumentalist approaches emphasize outside pressures or internal resource control, I focus on communication between members as a prerequisite of ethnic groups. This paper applies social network analysis to uneven distributions of non-local artifacts to reconstruct the regional networks preceding the ethnic groups of pre-Roman Italy. Regional clustering of foreign objects in the Late Bronze Age suggests that the roots of Italy's ethnic groups are older than previously thought. Through a process of path dependence, early connectedness may serve as a predictor for later ethnicity formation.

Blakeslee, Donald [232] *see Odell, George H.*

Blankenship, Kate [66] *see Carter, Nicholas P.*

Blazier, Jeremy (Weaver), Guy Weaver (Weaver & Associates, LLC) and Anna Lunn (Weaver & Associates, LLC)

[45] *Refining Prehistoric Chronologies on the Buffalo River, Western Highland Rim, Tennessee*

Recent investigations of stratified sites in the Buffalo River Valley have resulted in a refinement of regional chronologies and cultural sequences in the western Highland Rim of Tennessee. Stratified cultural deposits dating from the Paleoindian through the Mississippian periods are examined in light of a series of new AMS dates, with an emphasis on features and cultural remains dating from the late Paleoindian and the late Middle Woodland periods. This presentation also examines site genesis and cultural contexts of the Buffalo River sites.

Blazier, Jeremy [173] *see Cyr, Howard J.*

Blick, Jeffrey (GCSU, & Virginia Foundation for Arch. Research) and Eric Kjellmark (Florida Southern College)

[165] *Human Impacts on a Small Island Ecosystem: Lessons from the Lucayans of San Salvador, Bahamas for This Island Earth*

Prehistoric San Salvador exhibits human impact on declining land crab populations. Overexploitation of

intertidal fauna includes declining top shell and chiton. Marine resources experience declines in: sizes of parrotfish grinding molars; chronic decline in grouper atlas sizes; and chronic declines in number of identified marine taxa and average trophic levels of marine fauna indicative of declining biodiversity and fishing down the marine food web. Pollen and charcoal analysis reveal human disturbance of island flora via swidden cultivation and alteration of plant communities near habitations. Thus, even minor prehistoric human populations can have significant environmental impacts on small, vulnerable island ecosystems.

Blickstein, J.I.B. [117] *see Blackwell, Bonnie A. B.*

Bliege Bird, Rebecca [273] *see Codding, Brian F. [273]*
see Zeanah, David W. [234] *see Bird, Douglas*

Blikre, Lowell [37] *see Hajic, Edwin R.*

Blinman, Eric (NM Archaeology)

[201] *Ceramic Theory and Cultural Process: Realized and Unrealized Potential in the Southwest*
Pottery has been part of Southwestern material culture for more than 2000 years, and its study is integral to most contemporary archaeological research programs. Anna Shepard laid a broad foundation for ceramic studies in the 1930s and again prodded the discipline in the 1960s with the potential of ceramic ecology. Beginning in the 1970s, Dean Arnold's contributions helped catalyze a new era in Southwestern studies with both archaeological templates for interpretation and a corpus of ethnographic comparative data. Regional programs studying pottery production and exchange are strong, and now attention is turning toward issues of cultural style and affiliation.

Blitz, John (University of Alabama) and Eric Porth (University of Alabama)

[123] *The Temporal and Spatial Distribution of the Initial Appearance of the Bow in Eastern North America*
The bow in North America presents an interesting problem for examining the distribution of a technological innovation through time and space. The change in hafted bifaces from large forms to smaller, thinner, and lighter projectile points is the criterion archaeologists have used to identify the appearance of the bow. In this study, we plot the century-scale chronology of this size-function shift across multiple regions of North America. The resulting map exhibits a pervasive, rapid, and directional time-space pattern for the initial appearance of the bow.
[123] *Second Chair*

Bloch, Lindsay (UNC-Chapel Hill)

[64] *Waste Not: Chemical Characterization of Historic Coarse Earthenware Wasters from North Carolina Kilns*
Lead glazed coarse earthenwares offer a challenge to provenience studies. The vessels or sherds found archaeologically often lack distinctive stylistic elements, rendering them homogenous at a macro scale. Chemical characterization techniques allow archaeologists to determine the composition of a vessel's clay body, obtaining a marker of its geologic origin. This paper presents the results of a pilot study to conduct elemental composition using three techniques: ICP-MS, XRF, and pXRF. Waster sherds from five eighteenth and early-

nineteenth century kiln sites in the piedmont of North Carolina were tested. Results indicate that vessels produced at these sites have identifiable compositional signatures.

Bloch, Lindsay [214] *see Semon, Anna M.*

Blom, Deborah [28] *see Bruno, Maria C.*

Blomster, Jeffrey (George Washington University) and Kristina Short (George Washington University)
[181] *Figurines, Ritual, and Social Complexity: Diachronic Shifts in Quantity and Content in Formative Oaxaca, Mexico*

Prevalent throughout Early and Middle Formative Oaxaca, figurines materialize identity and figure prominently in domestic ritual. Late Formative transformations to a stratified society include an increasing focus on public ritual, often associated with the disruption of figurine traditions and domestic ritual. We test this relationship with figurine data from the Mixteca Alta, determining the endurance of Late Formative figurines in quantitative terms as well as diachronic changes in their formal properties, such as embodiment and costume. Changes in figurine frequency and content correlate with underlying social transformations but also reflect the resilience of figurines and domestic ritual in stratified societies.

[181] *First Chair*

Blong, John (Texas A&M University)

[169] *Prehistoric Upland Adaptations in the Upper Susitna Basin, Central Alaska*

The Alaska Range uplands play an important role in understanding human settlement of central Alaska, from reconstructing hunter-gatherer adaptation to evaluating current explanations of lithic assemblage variability. In summer 2011 we continued archaeological survey and testing of the upper Susitna basin, documenting human use from earliest to latest Holocene. Since 2010, we have recorded 19 new prehistoric sites. We initially tested three of these, along with two previously recorded sites in the study area. With this information, we are exploring variation in lithic technology and subsistence activities, and how these may relate to local environmental change and upland land use.

Blundell, Valda

[194] *Wanjina and Gwion Gwion Paintings of Northwest Australia: Tensions and opportunities for collaborations between Aboriginal Traditional owners of this rock art and outsiders*

Anthropomorphic paintings of Wanjina and paintings of delicate figures called Gwion Gwion and Girrigorro are key components of contemporary cultures of Aboriginal people of northwest Australia. This paper contrasts the significance of this rock art to its Traditional Owners, on the one hand, and non-Aboriginal outsiders, on the other. Areas of tension as well as opportunities for collaborations between Traditional Owners and outsiders are discussed with regard to: interpretations of paintings by Western researchers; heritage designations of paintings by state agencies; and uses of rock art images by non-Aboriginal artists and tourism operators.

Boada, Ana (University of Pittsburgh)

[122] Regional patterning of Muisca communities in the Sabana de Bogotá, Colombia

Recent settlement patterns research in the Sabana de Bogotá indicates that the uta and sybyn, indigenous social units, were community building blocks in the central place of the Bogotá chiefdom. While these patterns generally exist throughout the region, there are spatial differences between Muisca societies. Comparing settlement patterns derived from systematic regional surface surveys, using the methodology developed by Peterson and Drennan (2005), I will test the existence of these Muisca social units and variations in their distribution and organization throughout the sequence. I will also analyze the degree of integration among these social units. Differences in their spatial distribution will provide insights of how Muisca chiefdoms described by the 16th century Spanish documents developed.

Boaventura, Rui (UNIARQ, Lisbon / Penn State, PA)

[32] Changing identities in Central-South Portugal between the 4th and 3rd millennia BCE? How funerary data can be interpreted.

A set of funerary practices with common traits has been verified for almost all the territory of Iberian Peninsula during the 4th and 3rd millennia BCE – among researchers the expression Megalithism is used to classify that phenomenon. It is seen as a complex set of magical and religious rules that are related to death and not only strictly to a type of funerary architecture. With the available data from tombs of the regions of Central-South Portugal chronology and cultural characteristics are discussed, to evaluate trends and changes on these collective funerary practices throughout the 4th and 3rd millennia BCE.

Bobik, Aaron (University of Nevada, Las Vegas) and Levent Atici (University of Nevada, Las Vegas)

[134] After the Collapse: Rethinking Continuity and Disruption in the Zooarchaeological Record in Central Anatolia during the Early Iron Age

Iron Age marks the collapse of the Hittite Empire in Anatolia around 1200 BCE and signifies the onset of a "Dark Age." Discontinuity and disruption in social, political, and economic systems and institutions in the Iron Age Anatolia are conspicuously evident in the archaeological and textual records. This paper seeks to answer whether we can identify continuity and disruption in the zooarchaeological record. We investigate animal exploitation patterns of the preceding Middle and Late Bronze ages in Central Anatolia developing a "centralized and regulated" economic model and discuss continuity and disruption in animal exploitation patterns within this theoretical framework.

Bobik, Courtney [264] see Westmor, Colleen J.

Bocancea, Emanuela [250] see Harrington, Katherine

Bocherens, Hervé [93] see Kuitens, Margot

Bocinsky, R. Kyle (Washington State University) and Tim Kohler (Washington State University)

[272] Suboptimal Foraging Theory (It's the Best)

'Rational' beings are mythological creatures. Humans—with limited cognitive capacity—use 'rules of thumb,' either to approximate optimal decision-making or to act in

a way that is merely satisficing. These simple heuristics are always less efficient than their 'optimal' counterparts, under solo employment. We demonstrate, however, agents employing several of these heuristics in competition on the same landscape actually forage more efficiently than a population of 'optimal' foragers; we expect that suites of foraging heuristics will evolve for a given landscape. We create a competition on the NSJ Village landscape to generate a landscape-specific suite of optimal foraging heuristics.

[51] First Chair

Bocinsky, R. Kyle [88] see Newbold, Bradley [51] see Kohler, Tim A. [85] see Reese, Kelsey

Boehm, Andrew (Southern Methodist University), Casey Dukeman (Western State College) and Lauren Willis (University of Oregon)

[96] Bone as Fuel: A Study of North American Species

Previous research has examined the thermal properties of bone and the resulting physical changes to burned bone. However, no previous study has used North American, large mammal species. This study utilizes these species to examine the variability in heat production between different species, different elements, and different portions of the same element, in varying differing states of desiccation. Additionally, we varied the species of wood and the relative quantities of wood to bone to identify the most efficient tree species and the most efficient ratio. We use our results to interpret a high-elevation Folsom campsite from southern Colorado.

Boehm, Andrew [96] see Willis, Lauren M.

Boeke, Bruce [245] see Smith, James B.

Böhner, Utz [93] see Lang, Joerg

Boileau, Arianne (Trent University)

[15] Exploring Preclassic Maya diet: exploitation of animal resources at Pacbitun, Belize

This paper examines the exploitation of animal resources at the Maya site of Pacbitun, Belize, during the Middle to Late Preclassic. The faunal remains analyzed were recovered from various domestic structures associated with the production of shell artifacts. To analyze the remains, the diet breadth model and the central-place foraging prey choice model, used in conjunction with an analysis of the ecozones available to the ancient population of the area, were used to reconstruct the foraging behaviors at the site. These behaviors are interpreted in the context of broader subsistence strategies during the Preclassic period in the southern Maya lowlands.

Boisvert, Richard (NH Div. of Historical Resources)

[268] Jefferson VI - A newly defined component of the Israel River Complex

The Jefferson VI site was identified in July 2010 and intensively investigated in the summer of 2011. Initial data indicated that it is a low density site, strategically located on a primary vantage point overlooking the Israel River Valley in close proximity to other Paleoindian sites. Excavations have yielded a narrow range of tool forms and a broad range of lithic raw materials. Interpretations of site function and external contacts over substantial

distances are presented and evaluated within the context of the site cluster known as the Israel River Complex.

[268] *First Chair*

Bolender, Douglas (Northwestern University)

[91] *Landscape Capital, Rent, and Embedded Places: Farm Investment Strategies in Viking Age and Early Modern Iceland*

During the Viking Age, Iceland and other North Atlantic islands were settled for the first time. Colonists quickly transformed these unsettled landscapes into productive farming properties. In many cases, the original farms established in the Viking Age are still in operation over a millennium later. Based on regional survey and excavation in the Skagafjörður region of northern Iceland this paper explores the impact of early settlement on the long-term develop of Icelandic farms and political economy. In particular, it will examine the changing incentives for land intensification between freeholders and tenant farmers.

Bolfing, Christopher (Texas State University - San Marcos)

[196] *Men, Women, and Power: Reassessing Conventional Ideas of Mississippian Society*

This paper addresses how a matrilineal interpretation of power and an emically-based contextualization of archaeological evidence provide new insights into the lifeways of Mississippian peoples. Conventional explanations of Mississippian society, such as that of Moundville, posit chiefdoms with men holding political power. However, most southeastern tribal groups are matrilineal. Additionally, interpretations of what has been assumed to be the archaeological evidence of these powerful chiefs, such as Mound B at Moundville, have little basis in the context of southeastern peoples. Expressly, I posit that the evidence supports Mound B as the residence of Moundvillian Priests rather than a chief.

Bollwerk, Elizabeth (University of Virginia)

[185] *Seeing What Smoking Pipes Signal(ed): An Examination of Late Precolonial and Early European Contact Period (A.D. 900-1665) Native Social Dynamics in the Middle Atlantic*

This poster explores the integral role Native tobacco smoking pipes played in the processes of interaction, individual and group expression, and innovation that were part of Native social networks in the Middle Atlantic region of the U.S. during the Late Woodland and Contact periods (A.D. 900 to 1665). Using ArcGIS software I examine the spatial distributions of pipe stylistic attributes from 62 archaeological sites spread throughout the region. This investigation reveals that Native communities were using pipes to maintain and perpetuate certain aspects of communal identity while simultaneously facilitating the exchange of ideas and materials with outside groups.

Bollwerk, Elizabeth [164] see Watson, Adam S.

Bolnick, Deborah [56] see Feder, Kenneth L.

Bond, Julie (AGES, University of Bradford, UK) and Stephen Dockrill (AGES, University of Bradford)

[86] *Site to island: case studies in sustainability and*

resilience

This paper explores two island studies in Orkney. Tofts Ness, a multi-period settlement on Sanday, provides an insight into the core issues of sustainability and resilience, and illustrates the potential of a new project using the island of Rousay as the study zone. Due to the northerly position of Orkney, the islands are marginal for agriculture with cool temperatures and a short growing season. These factors allow the study of the long-term influences of climate change on survival and the resulting adaptive strategies from the first farmers over 5,000 years ago to the clearances of the 19th century

Bond, Julie [263] see Dockrill, Stephen J.

Bonhage-Freund, Mary, Leslie Branch-Raymer (Paleobot Consultants) and Scot J. Keith (New South Associates)

[45] *From Indiana to Georgia: Evidence of Significant Pre-Maize Gardening in the Lower Southeast*

Peoples of the Midwest and Midsouth cultivated a suite of native plants as by the Late Archaic Period. By the Middle Woodland Period indigenous gardens were well-integrated into subsistence systems. Until recently, no evidence of substantial gardening existed for the lower Southeast. We submit that a growing body of evidence documents significant Woodland Period pre-maize cultivation throughout an area that today encompasses Northwest Georgia and Southeastern Indiana. Moreover, reliance on indigenous crops within a late Woodland context unexpectedly persists in the Whitewater River valley which is geographically and temporally located within the Ohio River Valley Fort Ancient settlement-subsistence system.

Bon-Harper, Sara [67] see Smith, Karen Y. [67] see Perrotti, Angelina G.

Bonsall, Clive (University of Edinburgh), Catriona Pickard (University of Edinburgh), Peter Groom (University of Edinburgh), László Bartosiewicz (Loránd Eötvös University, Budapest) and Maria Gurova (Bulgarian Academy of Sciences)

[75] *What's in a Midden? Changing perceptions of the Mesolithic of W Scotland*

Coastal shell-middens are a prominent feature of the Mesolithic (9500–4000 BC) archaeological record of western Scotland, reflecting a maritime economy based on fishing and shellfish collecting. Heavy fish consumption is also indicated by stable C-isotope analysis of human remains from these sites. The middens themselves have been variously interpreted as seasonal base camps, logistical camps and even ritual monuments. Our paper will review the evidence relating to seasonality and site function, and report on experiments designed to reconstruct the equipment and methods used by Mesolithic people to procure fish and other marine resources along the Atlantic seaboard of Scotland.

Bonzani, Renee (University of Kentucky)

[136] *New Meets Old: Botanical Evidence of Dietary Interactions during the Spanish Mission Period on Sapelo Island, Georgia*

In contexts of contact between different groups, botanical remains can point out which plants may have been

involved in changing dietary patterns. Evidence of macrobotanical remains recovered during the Spanish Mission Period (1568-1684) from the Sapelo shell ring complex (Site 9Mc23) on Sapelo Island, Georgia, yields evidence of this early use and exchange of dietary plants from both the New and Old Worlds. The recovery of corn (*Zea mays*), a New World domesticated grain, and peaches (*Prunus persica*), from an Old World fruit tree, provides evidence on these exchanges and food choices between different societies.

Boon, Andrea (Indiana University of Pennsylvania) and Sarah W Neusius (Indiana University of Pennsylvania)

[271] *New Approaches to Interpreting Koster Faunal Assemblages*

Abundant faunal remains were recovered from the various horizons at Koster. Currently additional analyses of materials from the Early Archaic Horizon Eleven are being conducted and incorporated with the work of earlier researchers. These analyses contribute to the debunking of old ideas about the simplicity and uniformity of Early Archaic peoples in the Midcontinent. Koster faunal remains also are being incorporated into efforts to build a large regional faunal data set from the interior Eastern Woodlands in conjunction with the Digital Archaeological Record. This dataset will allow rigorous explorations of changing human choices concerning animal usage across time and space.

Boone, Cristie (University of California, Santa Cruz)

[141] *Hungry or Full: How a Forager's State Influences Subsistence Decisions*

Based in behavioral ecology and widely used in animal ecology, dynamic state variable modeling (DSVM) permits the exploration of which factors are important to a forager's decisions, how costly it is for the forager not to reach optimum fitness, and, importantly, how the forager's state affects which choices are optimal. I develop a patch choice DSVM that incorporates the forager's level of energetic reserves (state), the risk of injury or death during foraging, and the stochastic nature of the environment. I then test the DSVM's predictions using archaeological material from the Central Coast of California, emphasizing acquisition of fishes.

Booth, Laura (The University of Western Ontario), Christine D. White (The University of Western Ontario), Fred J. Longstaffe (The University of Western Ontario), Lisa Hodgetts (The University of Western Ontario) and Zoe Morris (The University of Western Ontario)

[141] *An isotopic analysis of faunal remains from suspected ritual deposits on Ontario Iroquoian Tradition sites*

Ethnographic evidence for the capture of bear cubs and ritual deposition of bears, deer and dogs by the Ontario Iroquois suggests these animals had social meaning. We use isotopic analysis of bone and tooth collagen (C, N) and carbonate (C, O) of animals from special (i.e. non-midden) deposits from Ontario Iroquoian sites to test the hypothesis that purposeful feeding of maize augmented an animal's social value. Because most animals (except dogs) apparently consumed a wild C3 diet, we surmise that ideological significance was more commonly expressed through acts of animal procurement and

communal feasting than purposeful feeding of captured animals.

Boozer, Anna

[267] *Tracing Daily Life in Roman Egypt*

Archaeological residues provide us with clues about past agents and the events of their daily lives. These fragmentary traces illustrate how individuals consciously presented themselves, as well as the subconscious influences that individuals performed within daily life. Exploring these negotiations within a Romano-Egyptian context, we might effectively disentangle instances of intentional from unintentional identity displays. This paper examines material traces from two houses from Roman Egypt in order to understand the often-contradictory ways in which individuals adapted their material world amid protracted social changes.

Borck, Lewis (University of Arizona), Jeffery J. Clark (Center for Desert Archaeology), Barbara J. Mills (University of Arizona) and Matthew A. Peebles (University of Arizona/Center for Desert Archaeology)

[260] *The Structural Setting of Migration: Network Organization and the Kayenta Area Depopulation of the Late 13th Century*

Archaeologists know that migration happened. Sometimes we know how. Rarely do we know why. When explanations are offered, they are often environmentally deterministic. Social network analysis can facilitate an understanding of causation that reaches beyond ecology. We will analyze diachronic network changes in the Kayenta region, and in relation to neighboring regions, by applying modularity and External-Internal (E-I) indices at regular temporal intervals. These two analyses quantify community structure, and the relational structure between communities, within social networks. These analyses will help us understand the social changes, if any, that led up to the Kayenta migration.

Borck, Lewis [260] see Mills, Barbara J.

Borejsza, Aleksander [233] see Lesure, Richard [167] see Joyce, Arthur A.

Boric, Dusan (Cardiff University)

[251] *Göbekli Tepe imagery and the classificatory system of the PPN world in Upper Mesopotamia*

The paper discusses imagery found at the PPN site of Göbekli Tepe in Upper Mesopotamia (c. 9000-7800 BC). Firstly, the abundant evidence of animal imagery from the site is contextualized with other available archaeological data. Secondly, a wider anthropological interpretive framework is employed and the notions of corporeal instability and metamorphosis are examined in relation to this imagery. The paper sketches elements of a particular cosmogony shared across a large area of southwest Asia at this time. Finally, these considerations are tied back to a particular historical and social context in which this site and its extraordinary features emerged.

Boric, Dusan [202] see Cristiani, Emanuela

Borojevic, Ksenija (Boston University)

[57] *Exploring the role of and evidence for plants in*

feasting models in the Neolithic of Southeast Europe

This paper examines plant evidence from two late Neolithic settlements of the Vinca culture in central Southeast Europe. Systematic retrieval of plant remains has provided an exceptional opportunity to study the processing and storage of plant foods and to assess the evidence for feasting at Opovo a small hamlet, and Vinca, a major tell site. Recovered plants provide evidence for different taphonomic processes or for household food processing and storage. The results underscore the difficulties of differentiating feasting from quotidian foodways using vegetal data and limit our ability to examine feasting within its larger cultural and social networks.

Borrero, Luis (CONICET)

[89] *Before and after the bow & arrow in South Patagonia and Tierra del Fuego: guanaco bones and changing strategies*

The main weapon of the Aonikenk of Patagonia at the time of European contact was the bow. Judging from the size of archaeological projectile points, the time of their introduction can be estimated in 2000 years. Larger projectile points probably propelled by atlatl are recorded since 3500 BP. There is no evidence of replacement of one weapon system by another in Patagonia, and it appears that they were used simultaneously. In order to evaluate possible differences we present a comparison of faunal remains associated with both weapon systems in the Continent and with bow technology in northern Tierra del Fuego.

Bosquet, Dominique [238] *see* Chevalier, Alexandre

Boswell, Alicia [24] *see* Billman, Brian R.

Boszhardt, Robert [198] *see* Benden, Danielle M.

Boudreaux, Sarah (Texas Tech University) and Marisol Cortes-Rincon (Humboldt State University)

[70] *A Hinterland Inquiry on the Dos Hombres to Gran Cacao Archaeological Project*

A vast amount of the Programme for Belize Archaeological Project (PfbAP) permit area is unexplored terrain. As a result, the location, number, and size of ancient settlements is unknown, and the relationship between settlements is not well understood. Projects such as the Dos Hombres to Gran Cacao Archaeological Project (DH2GC) are trying to create a detailed picture of the PfbAP area by way of an interdisciplinary inquiry including: archaeological, ecological, and geoarchaeological survey efforts. This poster presents the preliminary results of a complementary project exploring the interactions and influences of the larger site centers on the hinterlands between them.

Boulanger, Matthew (University of Missouri) and Michael O'Brien (University of Missouri)

[160] *Cultural Transmission among Eastern Fluted-Point Cultures*

Fluted projectile points are the quintessential temporally diagnostic artifact, occurring only during the Paleoindian period (ca. 13000–11000 ybp), yet a diversity in fluted-point forms occurs in the eastern United States compared to that found in the Plains and Southwest. One explanation for this occurrence may lie in varying

processes of cultural transmission: Did individual learning take priority in the West, whereas various forms of social learning governed transmission in the East?

Phylogenetic analysis is used to evaluate spatio-temporal patterns of Eastern fluted-point forms and to evaluate hypotheses concerning processes of cultural transmission.

[257] *Discussant* **[10]** *Discussant*

Bourrillon, Raphaëlle [11] *see* White, Randall

Boutin, Alexis (Sonoma State University) and Whitney McClellan (Sonoma State University)

[94] *Collection, Curation, and Commingling: The Stories of Two Near Eastern Museum Assemblages*

Recent bioarchaeological research at the Hearst Museum of Anthropology and the Badè Museum of Biblical Archaeology interrogates not only the interpretive limitations that commingling places on collections of human remains, but also the concept of commingling itself. Skeletons may be commingled throughout excavation and curation; or, individuals may be kept separate, while their contextual information is lost. The former situation applies to one tumulus in eastern Bahrain, while the latter describes the remains from Tell en-Nasbeh. The interpretive challenges and opportunities posed by both assemblages will be compared, shedding light on a common issue in museum collections research.

Bovy, Kristine (University of Rhode Island) and Jessica Watson (University at Albany- SUNY)

[141] *Comparative Analysis of Late Prehistoric Bird Use Along the Oregon Coast: Examining Umpqua/ Eden and Whale Cove*

There is relatively little archaeological and ethnographic information available on bird use in the Northwest Coast. Bird bones, an often-neglected artifact type, can help us clarify issues such as site seasonality, foraging location (offshore vs. nearshore), hunting strategies, and processing techniques. We will report on our recent zooarchaeological analyses from the estuarine Umpqua/ Eden site (35-DO-83) and Whale Cove (35-LNC-60), located on Oregon's outer coast. We will compare and contrast data from these two sites and other available sites to synthesize our existing knowledge of late prehistoric bird use on the Oregon Coast and identify future research needs and questions.

Bow, Sierra [241] *see* Simek, Jan F.

Bow, Sierra M. [6] *see* Sherwood, Sarah C.

Bowes, Jessica (Syracuse University)

[133] *Social Dimensions of Slaves' Uses of Plants at Thomas Jefferson's Poplar Forest*

Botanical remains from Thomas Jefferson's Poplar Forest highlight various aspects of the slave community living and working on the plantation from slave subsistence to plantation social relations. This paper will discuss the relationship between environments accessed by the slaves and their subsistence while under the ownership of Thomas Jefferson and the later management of Edward Hutter. I draw on charred botanical remains from eighteenth and nineteenth century slave contexts to understand the past environments and those who utilized the archaeological

plants. I will demonstrate how the slaves' relationship to the landscape was impacted by differing management styles.

Bowser, Brenda (CSU Fullerton)

[201] *Continuities and Discontinuities in Pottery-Making Traditions in the Upper Amazon: Contributions toward Anthropologically-Informed Archaeology*

Arnold's long-term commitment to field studies in contemporary pottery-making communities, an ecological approach, and cross-cultural analysis of behavior have transformed our knowledge of the archaeological past. His research has provided a rich understanding of how and why the archaeological record may be confounded by variations in behavior, but yield meaningful patterns nonetheless. Building from Arnold's work, this paper describes long-term, micro-scale ethnoarchaeological research among potters in the Ecuadorian Amazon, synthesized with oral history and linguistics, to reconstruct Zaparo ethnogenesis, the spread of a pottery-making tradition, and the migration of people into this region over the past 4,000 years.

Bowser, Brenda [250] see Gray, Jamie R. **[111]** see George, Richard J. **[235]** see Schreyer, Sandra

Boy Sr, Alvin Windy [250] see O'Boyle, Robert C.

Boyd, Carolyn (SHUMLA/Texas State University) and J. Phil Dering (SHUMLA Archeobotanical Services)

[17] *The Science of Art: Systematic Approaches to Recording and Analyzing the Structure and Symbols Inherent in Red Linear Style Pictographs of the Lower Pecos Canyonlands, Texas and Mexico*

The scientific process requires systematic observation and analysis—prerequisites for recording and detecting patterns in Archaic Period pictographs of the Lower Pecos. Field and laboratory protocols include scale drawings, photographic enhancement, legacy photographs, and attribute data entered into a searchable database. These data have transformed our understanding of Pecos River and Red Linear style pictographs. Many examples of Pecos River style imagery superimpose Red Linear style, which was presumed to be 1,500 years younger, and color and morphological variants identified within the style. This has prompted a reassessment of the age, form, structure, distribution and symbolism in Red Linear pictographs.

Boyd, Carolyn [101] see Castaneda, Amanda M.

Boyd, Carolyn E. [255] see Bates, Lennon N.

Boyd, Gary (Consulting Archaeologist)

[87] *Settlement Pattern Correlates of Social Complexity on the Pacific Coast of Guatemala*

A mid-1980s survey of 168 sq km surrounding the site of La Blanca on the southwestern coastal plain of Guatemala identified nearly all archaeological sites in the survey area. The present study revisited the survey data using weights-of-evidence, spatial cluster analysis, and testing of inter-settlement alignments to investigate settlement pattern correlates of social complexity from the Early Formative through the Late Classic periods.

Settlements during all time periods were found to be dispersed rather than clustered, with no preference for agriculturally productive soils. Inter-settlement alignments toward prominent volcanoes suggest ideology as a possible basis for elite power.

Boyd, Jon [111] see O'Brien, Helen L.

Boytner, Ran (USC) [12] *Discussant [12]* *First Chair*

Boytner, Ran [59] see Lozada, Maria Cecilia

Boz, Basak (Thrace University Edirne) and Lori Hager (Pacific Legacy, Inc and Catalhoyuk Research Project)

[94] *Making Sense of Social Behavior from Disturbed and Commingled Skeletons: A Case Study from Çatalhöyük, Turkey*

The main burial custom at Catalhoyuk was primary-single interment; however, usage of the same places within the houses resulted in many individuals being buried in the same pit at different times, causing commingling of bones. The degree of the commingling depends on the amount of decay of the body and the number of times the graves were reopened. To understand the complex nature of the human remains, the bones were examined under six depositional categories which reflect the complexity of the interaction of the Çatalhöyük people with human bones from the time of the original disposal of a body.

Bozarth, Steven (University of Kansas)

[271] *Biosilicate Analysis of H11 at the Koster Site, Illinois*

Opal phytoliths were analyzed for evidence of plant subsistence in 35 midden sediment samples collected in the early Archaic Horizon (H11). Evidence of food producing taxa includes *Celtis* (hackberry), *Helianthus* (sunflower), and *Iva annua* (marshelder). The presence of *Eupatorium perfoliatum* (boneset)-type achene phytoliths provides evidence for the utilization of this medicinal species. Sediment samples were not oxidized as part of the standard phytolith isolation procedure so as not to destroy pollen and particulate charcoal. Significant amounts of culturally important pollen and pollen aggregates (*Ambrosia*, *Iva*, and *cheno-am*) were present in several samples.

Bradbury, Andrew (Cultural Resource Analysts, Inc.) [261] *Discussant*

Bradbury, Andrew [127] see Martin, Andrew V. **[90]** see Quick, Russell S.

Bradley, Bruce (University of Exeter) and Raphael Suarez

[225] *A Fishy Tale: Clovis and Cola de Pescado technologies in the Americas*

For decades archaeologists have recognized striking similarities between Clovis and Cola de Pescado (Fishtail) points and theorized how the former led to the latter. How did similar these technologies, at practically the same time (ca. 11,000-10,800 RCYBP) appear in two different regions of the hemisphere as much as 10,000 km (6,000 miles) apart, and more importantly, separated by a wide range of ecological zones? Understanding the

possible connections between the regions should significantly influence current models that suggest, perhaps incorrectly, that Clovis was the progenitor of the early colonizers of the eastern side of South America.

Bradley, James (ArchLink)

[192] *From the Edge to the Middle, The Onondaga Iroquois in 1550 and 1675*

This paper has two purposes: to introduce the overall session and its main themes - cross-cultural exchange and regional interactions over time, and the relationship between traditional high value materials (marine shell, copper, and red stone) and the forms they take. Second is to examine these themes in detail by comparing two Onondaga Iroquois sites, one mid 16th century, the other occupied between 1663 and 1682. The changes in the frequency and distribution of these materials, and the forms in which they occur, provide a useful framework for reconstructing the complex social interactions that took place after European Contact.

[192] *First Chair* **[192]** *Second Organizer*

Bradt Möller, Marcel [135] *see Weniger, Gerd-Christian*

Brady, Conor [9] *see Davis, Stephen R.*

Brady, James (Cal State L.A.) and Jeremy Coltman (Cal State L.A.)

[179] *Have We Learned Nothing Since Seler? A Critical Rethinking of the Meaning of Bats in Classic Maya Iconography.*

Over a century ago, Eduard Seler identified an anthropomorphic bat image on a Chama vessel as a camazotz and associated bats with death, blood, sacrifice, and decapitation. The unchallenged application of this model since that time has inhibited our understanding of the meaning of bats in Classic Maya ideology. We argue that the identification of bat images with the camazotz is largely mistaken and the association with death, blood, sacrifice, and decapitation is drawn principally from Late Postclassic Central Mexican sources. Bats appear to have functioned as messengers associated with earth deities and fertility.

Brady, James [179] *see Cobb, Allan B.*

Brady, James E. [208] *see Kieffer, C. L. [179] *see Licitra, Valentina**

Brady, Liam (University of Western Australia)

[194] *A Powerful and Active Legacy: articulating rock-art's relevance in contemporary settings*

This paper argues that by examining ways rock-art is used, perceived, and managed by Indigenous groups today we develop a greater awareness of how rock-art is made meaningful in contemporary settings. Using case studies from northern Australia I explore how Indigenous communities are (re)engaging with rock-art in the context of identity politics, land disputes, and cultural maintenance to demonstrate how its legacy remains relevant. By focusing on how rock-art's significance and symbolism is being (re)negotiated today I contend that researchers will be in a better position to understand the powerful and active nature of rock-art's legacy in the present.

[194] *First Chair* **[194]** *Second Organizer*

Braje, Todd (Humboldt State University), Jon M. Erlandson (University of Oregon), Torben C. Rick (Smithsonian Institution) and Keith Hamm (University of Oregon)

[164] *Crescents on California's Islands: Curios, Collections, and Current Research*

Museum collections from around the world contain hundreds of chipped stone crescents from California's Channel Islands. None of these came from datable contexts or known sites, but recent field research has shown that island crescents are part of a sophisticated Paleocoastal technology dating between ~12,000 and 8000 cal BP. We compiled a database for over 500 island crescents from museum collections and recent field work, demonstrating that the vast majority come from the northern (Santarosae) islands, with far fewer from the southern islands. Our research demonstrates the value of integrating current field research with the study of museum collections.

[74] *Discussant*

Braje, Todd [164] *see Glassow, Michael A.*

Braly, Bobby (University of Tennessee)

[197] *The Tennessee Valley Authority and the Norris Reservoir: The Beginning of over 75 years of TVA Archaeological Research*

In 1933 the Tennessee Valley Authority began construction on Norris Reservoir, their first high water dam. Large scale archaeological excavations at this time and later during construction of Melton Hill Reservoir in the same area recovered enormous amounts of archaeological data, including the excavation of 29 mounds, recovery of nearly 24,000 ceramic artifacts, and the first dendrochronology project in the eastern United States. An analysis of these materials, coupled with a suite of twelve new radiometric AMS dates, examines fine scale sociopolitical changes over time in the area. This paper attests to the usefulness of extant Works Progress Administration collections.

Branch-Raymer, Leslie (New South Associates)

[107] *Archaeobotanical analysis of Late Archaic to Late Woodland components at 40MI70, Marion County, Tennessee*

This study examines Late Archaic to Late Woodland plant use and assesses relative contributions of indigenous cultigens and gathered plants, changes in subsistence over time, anthropogenic landscape alteration, and wood use patterns. Analysis suggests gardening was fully developed by the Middle Woodland and increasing anthropogenic landscape management in later occupational periods. Patterns of plant use appear to resemble those of contemporary Cumberland Plateau sites, which suggests 40MI70 occupants were more closely related to the Duck and Elk river drainage inhabitants than other areas of east Tennessee, at least insofar as use of plant foods was concerned.

Branch-Raymer, Leslie [45] *see Bonhage-Freund, Mary Theresa*

Brandl, Michael (Austrian Academy of Sciences, Prehist. Commission), Christoph Hauzenberger (University of Graz, Austria) and Walter

Postl (Universalmuseum Joanneum, Graz, Austria)**[127] *Chert Source Provenance Studies: A Multi-Layered Approach***

The present case study presents a three-step model of analysis, which advances the characterization of chert raw materials. Macroscopic features permit a pre-classification of chert sources, while microscopic analysis coupled with SEM - imaging provides detailed information concerning fossil inclusions in cherts. The geochemical analysis produces the highest resolution. In the present study, LA-ICP-MS was applied. Practical experience has shown that it is not sufficient to rely on a single method of analysis for chert sourcing. Only a combination of methods with different layers of resolution can lead to a successful determination of the provenance of chert artifacts.

Brandl, Michael [131] see *Martinez, Maria M.*

Brandon, Robert**[226] *100 Years of Kite Aerial Photography: Finally it's easy, economical, and ready for you to use***

Sir Henry Wellcome pioneered using kites for acquiring aerial photographs of archaeological sites in 1912/1913 at Jebel Moya, Sudan. The process proved laborious and expensive and balloons and airplanes became the de-facto tool for archaeologist to acquire aerial photographs. With the advent of automatic cameras in the 1970's and 1980's Kite Aerial Photography (KAP) began a renaissance which grew exponentially with the introduction of strong light kites and programable digital cameras in the 1990's and 2000's. Today KAP is an economical easy to deploy tool ready for widespread adoption by research institutions and CRM firms.

[226] *First Chair***Brandt, Steven (University of Florida) and Abiyot Debebe Seifu (University of Florida)****[108] *A Landscape Approach to Monumentality: The Megaliths of Southern Ethiopia***

Scattered across southern Ethiopia's highlands are thousands of ancient megaliths. Ranging from small, undressed single stone blocks to dense clusters of tall, elaborately carved anthropomorphic figures, they were probably built by ranked agrarian societies ~500-1500 CE. Those few scholars attempting to provide meaning to the stelae have usually invoked uncausal explanations: gravestones, territorial markers, or symbols of gender and/or authority. Drawing upon archaeo/ethnoarchaeological, ecological, geographic, and ethno/historic data, we instead take a landscape approach to viewing these monuments as "places" that provided necessary social and natural meanings, at multiple scales, to communities undergoing rapid cultural, economic and political change.

Brannan, Stefan (University of Georgia), Stephen Kowalewski (University of Georgia), Laura Stiver and Ellen Turck (Ohio State University)**[181] *The mapping of Cerro Verde, in the Valley of Coixtlahuaca, Oaxaca, Mexico.***

During the regional survey of the valley of Coixtlahuaca in 2011 we mapped Cerro Verde, a well-preserved hilltop terraced site of 197 ha. The major occupations date to the Early Classic and the Late Postclassic. This paper reports on the methods used to record the architecture

and pottery distributions. The integrated use of GPS and GIS facilitated rapid and efficient mapping. We describe changes in site occupation through time and compare Cerro Verde to other major hilltop sites in the region, including Cerro Jazmín, Yucuñudahui, Yucuita, and Nixugue-Naduza.

Brashler, Janet (Grand Valley State University)**[28] *Working at Archaeology in Government, Academia and CRM: A Cross Cultural Perspective on Gender in the Archaeology Work Place***

The last 50 years have been transformative for women professionals in archaeology for a variety of reasons, including the development of feminist thinking in US culture and discipline; the rapid expansion of alternative career paths with the development of CRM and federal historic preservation programs, compared to earlier times; and the demographic shift whereby more women are both getting college degrees and choosing archaeology as a career. This presentation looks at gender and archaeology based on over 40 years of experiences in academia, government and CRM comparing each setting where I have been privileged to work at archaeology.

Braswell, Geoffrey (UC San Diego) [275] *Discussant*

Braswell, Geoffrey [61] see *Fauvelle, Mikael*

Braun, David [258] see *Hlubik, Sarah*

Bray, Tamara (Wayne State University)**[52] *At the Edge of Empire: A Comparative Look at Inca Pucaras and Imperial Practice around Tawantinsuyu***

The focus of this paper is the role of pucaras (hilltop fortresses) in the imperial Inca project, with special emphasis on northern frontier. As a principal apparatus of state order, I suggest pucaras were integral sites for the social processes attending the growth of Tawantinsuyu. To explore these processes as well as evidence for diachronic change in state strategies, I examine the distribution of Inca pucaras with respect to historic narratives of imperial expansion, the ethnic landscape, and local geography. I also consider the archaeological evidence pertaining to "pucara-camayoc" and their relationship to local populations on the edges of imperial control.

Bray, Tamara [235] see *Krull, Amy*

Brennan, Michael (Graduate School of Oceanography, URI), Eleanor King (Howard University) and Leslie Shaw (Bowdoin College)**[70] *Preliminary geochemical assessment of limestone resources and stone use at the Maya site of Maax Na, northwestern Belize***

Stone use and the movement of quarried stone across the Maya landscape is poorly understood. This poster reports on geochemical analysis of 45 limestone samples from the site of Maax Na in northwestern Belize. Samples were collected from bedrock exposures, quarried areas, and megaliths identified as possible monuments from the site. These samples were put into solution with acid digestion, then analyzed with ICP-MS and ICP-AES for trace and bulk chemistry. Our results indicate that both the sourcing of monuments to quarries

and the identification of stone imported from outside Maax Na are possible with these geochemical methods.

Brennan, Tamira K. [239] *see* Butler, Brian M.

Brenneman, Dale [25] *see* Jelinek, Lauren

Brenner, Mark (University of Florida)

[167] *Reconstructing Holocene Environments on the Yucatan Peninsula*

In the 1980s, Bruce Dahlin assembled a team to: 1) explore Holocene archaeological and environmental changes in the Maya lowlands, 2) link empirical data from paleoenvironmental archives to north Atlantic climate, and 3) use archaeological and paleoenvironmental records to understand interactions among climate, environment and humans, with the goal of developing future management strategies. Bruce's research on past environments of the Yucatan Peninsula set the stage for the detailed paleoclimate studies that followed. I will present findings that came out of Bruce's paleoenvironmental research, and some of my own recollections of our field collaborations.

Brenner-Coltrain, Joan [145] *see* Salazar-García, Domingo Carlos

Breslin, Jason (University of Florida)

[141] *Shellfish Use and Extraction at two Inca Period Sites in Coastal Southern Peru*

The antiquity of shellfish gathering along the Andean coast dates from the earliest inhabitants through many complex civilizations. I examine invertebrate assemblages from two coastal sites in Southern Peru; Tacahuay Tambo, a provincial Inca way-station, and Punta Picata, a late intermediate-Inca period littoral fishing village. I quantify spatial and temporal variations at intra and intersite levels, and use ethnography and ethnohistory to place mollusk gathering in the unique socio-historical context of these Inca period sites. Specifically, how shellfishing reacted to, yet also helps interpret, the dynamic social, environmental, and political landscapes before and during the expansion of the Inca Empire.

Brewer, Jeffrey (University of Cincinnati)

[131] *Ancient Maya Water Management at the Medicinal Trail Site, Northwest Belize*

A small depression located at the Medicinal Trail site in northwest Belize, near the major site of La Milpa, has been excavated and evaluated to determine its probable function. The elevation, size, and coordinate location in relation to structures and site boundaries established by GPS, combined with archaeological excavation within the reservoir and comparison with previously investigated water features in the region, indicates that the depression served in some capacity as both a water reservoir and an area for working lithic material, as well as a probable trash dump.

Brewington, Seth (The Graduate Center, City University of New York)

[86] *Sustainability and resilience in the Norse North Atlantic: An example from the Faroe Islands*

The Norse westward expansion (c. 800 – 1000 CE) from Scandinavia into the offshore islands of the North Atlantic

involved the transplanting of European people, crops and animals into new, marginal environments. The application of a farming-based economy on these islands did not always prove entirely viable in the long run, but recent research has found evidence that the Norse settlement in the Faroe Islands represents an example of relatively successful, long-term sustainability. Multidisciplinary research on the island of Sandoy, in the Faroes, is helping to shed light on the development and maintenance of this system.

[86] *First Chair*

Bria, Rebecca (Vanderbilt University)

[26] *Remodeling the Landscape, Remodeling the Ceremony: Changing the place and practice of ritual during a period of agricultural intensification at late Formative Period Hualcayan, Callejón de Huaylas Valley, Peru*

This paper explores how religious beliefs and practices are often reconceptualized with changes in economic production, particularly when new patterns of daily practice, social organization and cooperation emerge. Recent mapping and excavation data from Hualcayan, north-central Peruvian highlands, will be used to identify and assess the significance of changes made to the place and character of religious ceremonies during a period of agricultural terrace and canal construction in the late-terminal Formative Period (900-200 BC). These data illustrate that, rather than one being the cause of the other, changes in religion and economy are in some cases coeval and mutually reinforcing.

Bria, Rebecca [8] *see* Gravalos, Marie E. **[5]** *see* Witt, Rachel G

Bria, Rebecca E. [8] *see* DeTore, Kathryn E. **[29]** *see* Pink, Christine M.

Briçeno Rosario, Jesus [24] *see* Billman, Brian R.

Bricker, Harvey M. [269] *see* Bricker, Victoria R

Bricker, Victoria (TULANE/U FLORIDA) and Harvey M. Bricker (Tulane/U Florida)

[269] *Some Alternative Eclipse Periodicities In Maya Codices*

Anthony Aveni's Skywatchers provides a table of possible eclipse cycles based on multiples of the lunar synodic month. Of the 25 eclipse periodicities listed, only two appear in the Precolumbian Maya codices. However, several tables and almanacs in the surviving codices contain evidence of alternative and apparently culturally more salient eclipse periodicities that commensurate more directly and in shorter time periods with the Maya sacred calendar known as the tzolkin, even though they are not close to integral multiples of the lunar synodic month.

Bridges, Elizabeth (University of Michigan) [82] *Discussant*

Brigham, Michael [268] *see* Bartone, Robert N. **[268]** *see* Cowie, Ellen R.

Brighton, Stephen [132] *see* Barrett, Thomas P.

Brin, Adam [129] *see Richards, Julian D.*

Bringelson, Dawn

[240] *Under the Radar: Historic Land Use in the Apostle Islands*

A series of recent historic (mid-19th – mid-20th century) sites recorded at Apostle Islands National Lakeshore indicate uses of the archipelago about which little is known. Unlike much of the industrial and homesteading record of the Apostles, these assemblages are unrepresented in documentary data. Members of local Ojibwe communities might provide key information for some sites, but archaeological data are likely the sole sources of information for others. Understanding who utilized these locales is pivotal to a more comprehensive understanding of the history of the islands, as well as to management and interpretation of park resources.

Brink, Jack (Royal Alberta Museum)

[55] *Stone drive lane construction and communal hunting strategies at the Ross Buffalo Jump, southern Alberta, Canada*

George Frison pioneered the recognition of stone drive systems as integral features of communal bison hunting. However, drive lanes have received little attention by archaeologists. Study of a network of rock drive lanes at the Ross site in Alberta provides insight into Aboriginal manipulation of aspects of bison biology and behaviour in order to achieve successful kills. The placement and density of drive lane rocks at the Ross site exhibit distinct patterns, ones that must have been grounded in knowledge of bison habits with respect to travel, flight response, predator avoidance, vision, smell, stampede behaviour, and other traits.

Brink, Jack [234] *see Dominey, Erna*

Brinkman, Adam (Thomas Jefferson's Poplar Forest) and Lori Lee (Thomas Jefferson's Poplar Forest)

[133] *People's Remedies: Nineteenth Century Health and Consumer Practices at Poplar Forest*

A wave of medicinal tonics swept across America during the nineteenth century. The inhabitants of Poplar Forest were not immune to the influence of these health practices. The bottles these concoctions were sold in are distinctive within the archaeological record. They also provide an opportunity to analyze the consumption patterns and offer a look at the daily lives of the residents of Poplar Forest. By examining medicine bottles from two discrete contexts at the Poplar Forest plantation we analyze the changing health and consumer patterns in the first half of the nineteenth century.

Britton, Emma and Michael Whalen (University of Tulsa)

[216] *Preliminary analysis of paste and temper types of Casas Grandes ceramics*

Preliminary visual analysis of paste-temper types of Casas Grandes Polychromes and Plain ware sherds recovered from a rare midden context at Site 204, Chihuahua, Mexico indicates a considerable diversity in paste-temper types in Polychrome sherds not observed in Plain ware sherds. Diversity of paste composition suggests that Polychromes possessed a more dynamic social life than Plain wares, being created and circulated

widely. Coupled with iconographic messages carried by polychromes, especially Ramos Polychrome, vessels may have actively assisted in the integration of the Casas Grandes regional system. However, the dominating presence of jars suggests a departure from traditional interpretations of feasting.

Broadfield, Douglas [139] *see Philmon, Kendra L.*

Brodie, Laura (University of WI-Madison)

[122] *Sociopolitical Organizations on the Osa Peninsula, Costa Rica: Understanding Pre-Columbian Settlement Patterns and Materials*

The Osa Peninsula, part of the Diquís archaeological subregion in Costa Rica, is known as a historic and prehistoric gold resource area. However, it has not been systematically surveyed nor been the focus of intensive archaeological research. In this presentation, I discuss exploratory research conducted in the summer of 2011 in which I identified four possible unrecorded Pre-Columbian sites. I propose future studies that will focus on mapping settlement patterns to develop a culture history and address questions of sociopolitical organization.

Brookes, Samuel (national forests in miss.) [76]
Discussant

Brooks, Alison [6] *see Zipkin, Andrew M.*

Brooks, Jason (Georgia State University)

[240] *Into the Hell Hole*

On May 25, 1864, the town of New Hope, Georgia was transformed into a deadly field of battle. General William T. Sherman attempted to out maneuver confederate general Joseph E. Johnston by taking the road through New Hope to reach Atlanta, but the confederates reached the road first. The fierce fighting here led the federal troops to refer to the place as the Hell Hole. This research will focus on the historical records along with the archaeological fieldwork to provide a more complete explanation of the actions and events that took place during the Battle of New Hope Church.

Broughton, Jack [248] *see Cannon, Mike*

Brouwer, Marieka (Michigan State University)

[16] *Dynamic Landscapes, Dynamic Decision-Making: Hunter-Gatherer Land Use Strategies in the Central River Valley of the Netherlands*

Over generations, Mesolithic hunter-gatherers living in the central Netherlands adapted to dramatic changes in landscape configuration and character. This paper discusses the results of a multi-criteria decision-making model that was developed to gain insight into the land use choices of these groups. The model identifies areas most likely to have been used by hunter-gatherers for specific resource provisioning and settlement purposes. In addition to shedding light on the decision-making processes of past hunter-gatherers, the model also allows practical predictions to be made concerning areas of high potential for future hunter-gatherer research and heritage management.

Browman, David [144] *see Miller, Melanie J.*

Brown, Brooke (Bureau of Land Management-Oregon)

[53] *The Gerber Family's Legacy in Southern Oregon*
Louis Gerber began homesteading in 1895 in southern Oregon. The Gerber's quickly became one of the largest cattle operations in the area. Louis's son, Henry Gerber, became a driving force for range improvements via reforms in Oregon. Henry's tenacity led to the establishment of the "Bonanza Grazing District," the first grazing district in the nation under the Taylor Grazing Act of 1934. Today, members of the Gerber family still graze on public lands within "The Gerber Block," and this homesteading family's legacy is seen and felt on a daily basis.

Brown, Claire (Binghamton University), Ian Kuijt (University of Notre Dame) and Casey McNeill (Boston University)

[244] *Patterns of Stone: Land use and property on Inishark, Co Galway, Ireland*

This poster examines 19th and 20th century land use on the island of Inishark, Co. Galway, Ireland. Drawing upon collected oral histories, LiDAR research, and Ordnance Survey maps from 1838 and 1898, we explore the continuity and change within field systems, household ownership, and modification of the landscape through changing national polity. Government intervention in the early 20th century by the Congested Districts Board and corresponding Land Purchase Acts reorganized field walls, changed the construction of houses, and allowed for tenant property ownership, physically and economically inscribing the isolated landscape of this island with the public policy of the mainland.

Brown, Clifford (Florida Atlantic University), Larry Liebovitch (Queens College), April Watson (Florida Atlantic University) and Urszula Strawinska (Queens College)

[128] *Changing Inequality in Ancient Maya Society*
We investigated the evolution of inequality in ancient lowland Maya society by examining changes in the distribution of wealth at four sites from different periods: Komchen (Late Formative), Palenque (Late Classic), Sayil (Terminal Classic), and Mayapán (Late Postclassic). We used the sizes of houses as a proxy for household wealth. We calculated several statistical measures to summarize the wealth distributions: the Gini coefficient and probability density functions. We found that the wealth distributions had some characteristics of an approximate power law at all these sites, yet the exact distributions were statistically different from each other at each site.

Brown, Clifford [259] see Williams, Michele

Brown, David (University of Texas at Austin)

[178] *Water, power and culture on the northern frontier: Inka water systems in Ecuador*

In addition to their more immediate functions, Inka water systems seem designed to emphasize imperial power over landscape and the hydrological cycle. State water projects, ranging from agricultural engineering works to water delivery systems for ritual and aesthetic ends such as baths and fountains, are spread throughout Ecuador, albeit less common than in the heartland. There are subtle differences in their distribution in northern

Ecuador, however, that suggest shifts in discourse during the final decades of imperial control. These differences are probably due to a combination of changing imperial strategies and local cultural, historical and environmental influences.

Brown, Emmett (AMEC)

[157] *Mammoths, Rabbits, and Paleo-Pooches: Is Canis Familiaris Evidence for a post Clovis Migration?*

Archaeologists have traditionally used faunal evidence to support the application of optimal foraging theories to describe local adaptations post Clovis. The presence of domesticated dogs in the Americas can be evidence for larger structural shifts including population movement and territoriality. Dogs are not ubiquitous during the Early Holocene; they first appear in the archaeological record in certain environmental niches in the Americas circa 9500 BP. The presence of dogs in the Americas is evidence for the exploitation of marginal environments and may represent the arrival of new groups that settled these sparsely inhabited niches circa 9500 BP.

Brown, James (Northwestern University)

[266] *The Architecture of Cosmic Access at the Spiro Great Mortuary*

The Great Mortuary at the Spiro mound center, located at the edge of the Eastern Woodlands in Oklahoma, was a massive 'Center of the Universe' monument that was materialized by a series of interconnected tableaux. The famous hollow chamber appears to have represented the sky vault and its floor was staged with sculpted images of important spirits or deities and with chests of precious sacred objects. Imagery on copper and marine shell spelled out details of this imago mundi tableau and even depicted the anticipated moment of divine revelation to suppliants approaching the cosmic pole connecting earth and heaven.

[59] *Discussant* **[97]** *Discussant*

Brown, James [196] see Kelly, John E. **[124]** see Lynott, Mark J.

Brown, Kyle [142] see Schoville, Benjamin J.

Brown, Leslie E. [29] see Turner, Bethany L.

Brown, Linda [203] see Jackson, Sarah E.

Brown, Luke [7] see Wolff, Christopher B.

Brown, M. Kathryn (The University of Texas at San Antonio)

[61] *Preclassic Ritual Practices and Place Making at Xunantunich, Belize*

Recent investigations at the site of Xunantunich, Belize have uncovered a large Preclassic ceremonial center located just outside the Classic period site core. This location, designated Group E, has been the focus of excavations by the Mopan Valley Preclassic Project. The Group E monumental architecture appears to have been initially constructed during the Middle Preclassic and abandoned by the Terminal Late Preclassic. Excavations of the easternmost pyramid structure and the associated plaza area have revealed a series of Preclassic ritual deposits. This paper presents these data and our current understanding of Preclassic ritual practices and place

making at Xunantunich.

Brown Vega, Margaret (Penn State University)

[199] *Weaving Together Evil Airts, Sacred Mountaintops, and War*

Central Andean fortified hilltops are sites of an ambiguous nature, interpreted as having either nothing to do with war, or everything to do with war. This dichotomous thinking stems from conceptualizations of the world as a composition of bounded, discrete entities and practices. Drawing on Timothy Ingold's concept of "meshwork", this paper examines the entanglement of harmful winds, spirited peaks, ritual spaces of defense, and war in the late prehispanic Huaura Valley, Perú. Animated environments and practices that link worldly relationships are relevant for interpreting fortifications, people's experiences in them, and the role of war in culture change.

Brownstein, Ian [213] *see Herringer, Susan N.*

Brumfiel, Elizabeth (Northwestern University)

[23] *Artifact Decoration and Multiple Social Identities at Xaltocan, Mexico*

This paper explores art as a means of developing and communicating multiple social identities. Specifically, it examines how spindle whorl decoration defines and declares individual, "personal" identity and how serving bowl decorations define and declare the existence of a collective household group. Contextualizing these designs within the sphere of daily practice at Middle Postclassic Xaltocan, Mexico, allows us to see how artifacts can promote a single hegemonic world view within households or provide the means to formulate alternatives. Artifact decoration also enunciates the coming into being of new individual and collective identities in response to political economic change.

[267] *Discussant*

Bruning, Susan (Southern Methodist University)

[249] *Cultural Affiliation Among Western Pueblo Peoples: Multi-Faceted Relationships and Perspectives*

Hummingbird Pueblo is situated within a region of high significance and ongoing relationship to present day Pueblo peoples. My poster will focus on perspectives about cultural affiliation between present day and past peoples, as shared by, and discussed with, cultural heritage experts from Acoma, Hopi, Laguna, and Zuni Pueblos who participated in a multi-year collaboration with colleagues at the Hummingbird site.

Bruno, Cristina [209] *see DeBlasis, Paulo*

Bruno, Maria (Dickinson College), Nicole Couture (McGill University) and Deborah Blom (University of Vermont)

[28] *Challenges and Accomplishments of Multi-disciplinary, Female, Co-Directorship at Mollo Kontu, Tiwanaku, Bolivia*

Since 2001, the authors have co-directed an interdisciplinary archaeological research project at the Mollo Kontu sector of Tiwanaku, Bolivia. As three female co-directors, our goals were to construct a project that fostered collaboration and scientific rigor amongst our diverse group of North American and Bolivian students and colleagues but also support our various stages of

professional and personal development. As this inclusive approach challenges frequently male-dominated, "lone-ranger" paradigms, it presents challenges of its own. These challenges are outweighed by the revelations that have been produced about Tiwanaku through true collaborations in an era of increased specialization in archaeology.

Bruno, Maria C. [238] *see Fritz, Gayle J.*

Brunstedt, Jonathan (St. Antony's College, Oxford)

[230] *Between Nostalgia and Expedience: Moscow's Poklonnaia Hill as Site of Second-World-War Remembrance*

This paper will explore Soviet remembrance of the Second World War through the lens of a long-drawn-out project for the national Victory Memorial in Moscow. In particular, the paper focuses on the memorial's chosen building site, Poklonnaia Hill, a location only speciously affiliated with the Second World War but intimately connected to Russia's pre-socialist conflict with Napoleon. Contrary to the widely held view that the decision was a cynical appeal to popular Russian sensibilities, this paper argues that it was in fact the product of bureaucratic dysfunction and disorganization. Thus, the paper highlights the ambiguities associated with public commemoration.

Bruseth, James, Tiffany Osburn (Texas Historical Commission) and Jim Bruseth (Archeological Consultant)

[17] *Magnetic Survey at the George C. Davis Site: Interpretations from the Indian Mound Nursery Property*

In 2008, magnetometer surveys were conducted by the Archeology Division of the Texas Historical Commission over a portion of the George C. Davis site (41CE19) at Indian Mound Nursery, then operated by the Texas Forest Service. The George C. Davis site was a major Caddo village and ceremonial in eastern Texas. Dee Ann Story spent a significant part of her professional career working at the site. The results of the magnetometer survey indicated that very significant archaeological features still existed on the Indian Mound Nursery property, despite decades of intensive agricultural practices.

Bruseth, Jim [17] *see Bruseth, James*

Bryce, Julie [137] *see Harrison-Buck, Eleanor*

Buchanan, Briggs [84] *see Ruttle, April F. [279]* *see Collard, Mark*

Buchanan, Meghan (Indiana University)

[199] *The Mississippian Vacant Quarter: Conflict, Vanished Mississippians, and Missing Agents*

During the 14th and 15th centuries, large portions of the Middle Mississippi and Lower Ohio River Valleys were abandoned, creating a "Vacant Quarter." Demographic shifts throughout the region resulted in portions of the Midwest largely devoid of human occupation. These abandonments have been attributed to environmental shifts and chiefly cycling, with less attention paid to violence and warfare. In this paper, I explore the role of violence in Mississippian population movements with evidence from the Common Field site and the roles non-

human agents may have played in the creation and maintenance of landscapes of violence.

[199] *First Chair*

Buchanan, Meghan [199] *see Skousen, Benjamin J.*

Buchner, C (Panamerican Consultants, Inc.)

[232] *2011 Excavations at the Foster Site (3LA27), a Late Caddo Component on the Red River in Southwest Arkansas*

The Foster site is a large (48 ha) multi-component site in the heart of the Southern Caddo culture area that contains widespread evidence for a Late Caddo occupation. It is probably best known for C.B. Moore's (1912:591-619) investigation of three mounds there that produced a treasure trove of Caddo ceramic vessels. This paper presents data recovered during 2011 in advance of a Corps levee rehabilitation project. Work conducted included a geophysical survey, formal excavation of sixteen 2-x-2 m units, and mechanized striping totaling 720 m in length that revealed multiple house patterns and over 300 features.

Buck, Paul (Nevada State College/Desert Research Institute), Donald Sabol (Desert Research Institute) and William Meyer (Desert Research Institute)

[7] *Remote Sensing for Detection of Prehistoric Landscape Use in NW Arizona, USA*

Remote sensing is used to estimate soil type, vegetation, soil moisture, and surface roughness to identify productive prehistoric maize agriculture areas in the Mt Trumbull region of NW Arizona. A crop/habitation model is constructed showing optimal areas for maize agriculture. Important factors include high soil moisture to support germination and taseeling; specific soil associations; sufficient precipitation during the summer; and a plant community dominated by rabbit brush. The hydrologic model FLO-2D was used to evaluate the hydrology of two watersheds in the study area both rainfall and soil type. The model indicates areas where topographic and soil conditions provide high flow depth and high infiltration, likely resulting in more soil moisture available for maize.

Buckler, Edward [35] *see Swarts, Kelly*

Bueno, Lucas (Universidade Federal de Santa Catarina) and Agueda Vialou (Museum National d'Histoire Naturelle)

[231] *Unifacial Lithic assemblages from Central Brazilian Plateau in the Early Holocene: implications for the study of Early Peopling of South America*

The research about peopling of America has been dominated by discussions about lithic technology from a typological framework centred in a specific artifactual category: bifacial projectile points. In this presentation we intended to show and compare the lithic assemblages from 3 different regions of Central Brazilian Plateau that are pointing to a different direction: Jangada, Lajeado and Lagoa Santa. In all these 3 places there are lithic assemblages made by an essentially unifacial technology, but presenting technological variability. For these regions we have a well known chronology for the beginning of the Holocene, between 8,000 and 10,500 BP. Based on this data we intend to present some questions about early peopling of South America,

emphasizing the necessity to discuss the existence of a dynamic process that could involve different peopling routes, adaptative strategies and historical trajectories.

Bueno, Lucas [158] *see Ribeiro, Loredana*

Buikstra, Jane (Arizona State University), Douglas Charles (Wesleyan University) and Jason King (Center for American Archeology)

[59] *Don't Forget the Outliers: Lessons from James A. Brown*

In the seminal 1971 SAA Memoir 25, "Approaches to the Social Dimensions of Mortuary Practices," James A. Brown's Introduction explicitly contrasts statistical with formal approaches to the study of cemetery sites. He emphasizes that uniqueness is only discoverable in formal approaches and provides an elegant example from three North American Mississippian sites. Most studies of mortuary sites, however, continue to emphasize statistical approaches. In this paper, we explore a chronological sequence from the rich archaeological record of the Lower Illinois Valley for unique and anomalous mortuary features, and we face the challenges and opportunities inherent in interpreting them.

[271] *First Chair [271] Second Organizer*

Buikstra, Jane [271] *see Wiant, Michael D.*

Buikstra, Jane E. [124] *see King, Jason L.*

Bullock Kreger, Meggan, Lourdes Marquez Morfin (Escuela Nacional de Antropología e Historia, Mexico) and Patricia Hernandez Espinoza (Escuela Nacional de Antropología e Historia, Mexico)

[62] *Life and Death in the Chinampas of Xochimilco: Mortality in the Postclassic Population of San Gregorio Atlapulco*

New paleodemographic techniques, including transition analysis and the Siler model, were used to evaluate mortality in 408 skeletons from the Postclassic population of San Gregorio Atlapulco, Xochimilco, a community of chinampa agriculturalists that provided much of the food supply for Tenochtitlan. The age-at-death distribution indicates large numbers of juveniles, suggesting both a growing population and high infant and early childhood mortality. Adult mortality peaks in the 70s, indicating that individuals who survived into adulthood typically lived into old age. Unsanitary lacustrine conditions and exploitation by the Aztec center appear to have negatively affected the health of the inhabitants of Xochimilco.

Bundy, Paul [90] *see Quick, Russell S.*

Buonasera, Tammy (University of Arizona) and Margie Burton (San Diego Archaeological Center)

[159] *A Formal Optimality Model for Material Choice and Manufacturing Investment in Ground-Stone Milling Tools among Mobile Hunter-Gatherers*

A recently proposed model of technological investment is adapted and applied to ground-stone form and raw material choices among mobile hunter-gatherers. The model employs empirical data from replicative grinding and manufacturing experiments to compare the efficiency of two different tool designs as expected use-time changes. Predictions generated support and expand

upon intuitive arguments that ground-stone form and material choices are related to duration of use and, by implication, patterns of land use among mobile hunter-gatherers. Although data and applications are provisional, they provide a starting place for further experimentation and modeling.

Burbank, Joshua [203] *see Michael, Amy*

Burdin, Rick

[16] *The Waning of the Shell Midden Phenomenon and Subsequent Late Archaic Occupation at Two Archaic Sites in the Lower Ohio River Valley*

In the North American Midcontinent, Archaic hunting and gathering people begin to use a variety of new resources that became increasingly abundant during the Middle Holocene. Of note was intensive harvesting of freshwater mussel, beginning about 6500 B.P., resulting in the accumulation of dense shell middens along many interior waterways. The investigation of two co-located Archaic sites along the Ohio River provides a relatively continuous view of hunter-gatherer life from around 5800 B.P. until about 4200 B.P. including the late Middle Archaic shell midden phenomenon, its decline, and the subsequent Late Archaic occupation and use of the area.

Burghardt, Lucy [104] *see Hicks, John J.*

Burger, Richard (Yale University), Lucy Salazar (Yale University) and Victor Vasquez (University of Trujillo, Peru)

[156] *Rethinking Agricultural Staples for the Initial Period Populations of the Lurin Valley: Scraping the Bottom of the Olla*

In the Lurin Valley, research at Initial Period sites produced several detailed studies of plant remains using macrobotanical, phytolith and pollen analysis. These indicated use of a range of wild and cultivated plants, but few of these were a rich source of calories. Recent studies of food residues from Cardal, Mina Perdida and Manchay Bajo identified starch grains from foods previously unidentified or underrepresented in earlier analyses, most notably manioc, sweet potatoes, achira, potatoes, and maize. The prominence of root crops capable of yielding large amounts of calories is noteworthy, and their absence from previous studies reflects methodological bias.

[108] *Discussant*

Burgess, Robin [53] *Discussant*

Burke, Ariane (Université de Montréal) and Dario Guiducci (University of Montreal)

[129] *The visual representation of climate variables: reconstructing a paleo-environment.*

In this paper, we examine some of the issues related to the visual representation of climate variables for the purpose of archaeological analysis. Information about past climates, whether it consists of data obtained from climate-proxies (pollen counts, faunal communities) or data generated by simulations, is notoriously difficult to display. This is becoming more of an issue as climate data becomes available at finer and finer resolutions. In an age when the visual representation of space has become quite sophisticated and almost three-dimensional, the inclusion of climate variables is still a

knotty problem for archaeologists.

[93] *Discussant*

Burke, Chrissina (University of Nevada - Reno)

[96] *Neotaphonomic Analysis of the Feeding Behaviors and Modification Marks Produced by North American Felids*

Examination of felid hunting and scavenging behaviors, coupled with observations of physical feeding behaviors and measurements of masticatory anatomy can assist in explaining tooth marks exhibited in zooarchaeological assemblages. African felids have been the focus of much research in taphonomy, but North American felid research is very limited. This paper presents the results of actualistic feeding experiments with mountain lions and bobcats, which were fed stripped and articulated cow and lamb limb elements. Additionally, the hunting and scavenging strategies and bite forces of Pleistocene and extant North American felids will be compared.

Burke Davies, Clare (University of Sheffield), Peter Day (University of Sheffield), Anno Hein (Institute of Materials Science N.C.S.R. 'Demokritos'), John Cherry (Joukowsky Institute for Archaeology & the Ancient World Brown University) and Daniel Pullen (The Florida State University)

[270] *The Early Helladic Ceramics of Korinthia: An Integrated Approach*

Forming part of a broader programme of analysis of Early Bronze Age ceramics from Korinthia and the Argolid, this paper will examine the results of macroscopic, petrographic and SEM analysis of samples from sites within Korinthia, mainland Greece. It will discuss our current understanding of the nature and organisation of Early Helladic production and exchange based upon NAA work undertaken in the 1970s (Attas 1981; Attas et al. 1987) and the contribution that the present integrated analytical programme can make to discussions of ceramic technology and patterns of consumption.

Burke-Davies, Clare T. [270] *see Gilstrap, William*

Burks, Jarrod [9] *see Hargrave, Michael L. [240]* *see Hoag, Elizabeth*

Burnett, Jacquelin (University of Memphis)

[127] *Holographic Modeling of Late Paleozoic Chert Deposits in Northern Wyoming*

The Bighorn Mountains of Wyoming host multiple deposits of high quality lithic material that have proven difficult to characterize with specificity. Using the "Phosphoria" chert as a case study, this paper examines the problem of characterization from multiple perspectives: How might we reframe our approach from the archaeological and geochemical lens, to that of paleoenvironmental storytelling, or hypothesize a pattern-recognition rubric of the prehistoric prospector? Multi-perspective and multi-scalar narrative approaches, both scientific and humanistic, with their attention to meaningful variability, may increase not only the feasibility but also the pertinence of our characterization methods.

Burnett, Katherine (Indiana University-Bloomington)

[125] *The Nostrum Springs Stage Station, A Turn of the*

Twentieth Century Stagecoach Stop in Rural Northwestern Wyoming: Thoughts on Merging Historical and Indigenous Archaeologies

Located southwest of Thermopolis, Wyoming, the Nostrum Springs Stage Station was in existence well after the mythic time of stagecoaches roaming the West in constant peril. This station has many stories of its own to tell; in fact, the stage station is a historical archaeologist's playground. Its location on the border between the Red Canyon Ranch and the Wind River Indian Reservation, however, also makes this site a prime location for practicing a historical archaeology with roots in indigenous archaeology. This paper will explore the research questions derived from applying the principles of indigenous archaeology in a "historical" setting.

Burnett, Paul (SWCA Environmental Consultants) and Erik Otarola-Castillo (Iowa State University)

[84] *Geometric Morphometrics: Expanding our Understanding of the Rosegate Projectile Point*
The Rosegate point type is thought to be among the first arrow points to be commonly distributed across the Great Basin and Intermountain West. However, differences in Rosegate morphology across regions are poorly understood. Geometric Morphometrics is used to study Rosegate shape variation in over 430 points from the Colorado Front Range, the Wyoming mountains, and the Great Basin. This technique fits specimens to a two-dimensional Cartesian (x, y) grid, which allows the shape differences to be statistically evaluated. Rosegate points were found to be shaped significantly different in each region, indicating that this style may have geographic idiosyncrasies.

Burnett, Paul [110] see Kennedy, John D.

Burnett, Scott [35] see Stone, Jessica H.

Burnette, Mae [67] see Laluk, Nicholas C.

Burton, James (University of Wisconsin), T. Douglas Price (University of Wisconsin) and William S. Folan (Universidad Autonoma de Campeche)

[58] *Measuring Mobility in Mesoamerica*
In the last two decades, new methods have appeared for directly assessing human movement in the past. Focused on dental enamel, these methods have employed isotopic ratios of strontium, oxygen, and lead to examine the mobility of the inhabitants of ancient Mesoamerica. Investigations have focused on both individuals and groups to assess questions such as migration and mobility with regard to age, sex, and status. In this presentation, examples of isotopic studies of migration from Copan, Palenque, and Calakmul will be discussed in detail to document the utility of these methods.

Burton, Margie (San Diego Archaeological Center) and Adolfo Muniz (San Diego Archaeological Center)

[159] *Patterns in Grinding Tool Lithic Choice among Hunter-Gatherers: A Case Study from San Diego County*
The mobile lifestyles of hunter-gatherers present social and technological opportunities and constraints that differ significantly from those of settled food producers. These

lifestyle factors can be expected to impact choices of lithic raw materials for bulky grinding tools. With this in mind, we examine lithic material choices made by pre- and protohistoric hunter-gatherer societies of the San Diego region as reflected in groundstone assemblages. We explore ideas about how mobile hunter-gatherer societies balance concerns with local availability and relative performance characteristics in selecting lithic materials for grinding tools. We also introduce a new geochronological technique for sourcing sedimentary rock artifacts.

Burton, Margie [159] see Buonasera, Tammy

Butler, Brian (Southern Illinois University), Corin C. O. Pursell (Southern Illinois University) and Tamira K. Brennan (Southern Illinois University)

[239] *Kincaid in the New Century—Recent Investigations of A Prehistoric Illinois Metropolis*
Until recent years, Kincaid, the great Mississippian mound center at the confluence of the Tennessee, Cumberland, and Ohio rivers, was known largely through the pre-World War II investigations by the University of Chicago. Beginning in 2003, SIUC archaeologists returned to the site for a program of small-scale targeted excavations guided by a large-scale geophysical survey. This presentation will focus on the key results of those excavations, which have examined mounds, palisade constructions, and domestic architecture, while developing much needed chronometric information.

Butler, Michelle (University of California, Riverside)

[181] *Early Terminal Formative and Early Classic Contexts at Charco Redondo, Oaxaca*
Charco Redondo, located in the lower Río Verde valley on the Pacific coast of Oaxaca, is a key site from which to examine political authority and communal identity in the region. Charco Redondo had been a traditional locus of authority throughout the Late Formative, but is inferred to have been subject to Río Viejo during Terminal Formative political centralization. Communal burial contexts from the Early Terminal Formative and Early Classic periods inform interpretations regarding authority and identity during and after political transformations in the region. This paper focuses on excavations conducted at the site the 2009 and 2011 field seasons.

Butler, Michelle [181] see Paul, Kathleen S.

Butler, Virginia [241] see Campbell, Sarah K.

Buvit, Ian, William H. Hedman (Bureau of Land Management), Steven R. Kuehn (Illinois State Archaeology Survey, Prairie Research Institute) and Jeff Rasic (Museum of the North, National Park Service)

[110] *Stratigraphy, Archaeology and Late Quaternary Geological History of Raven Bluff, a Late Pleistocene Age Fluted Projectile Point Site in Northwest Alaska*
Raven Bluff is the only fluted point component in Alaska within a buried, stratified context with well-preserved faunal remains. Excavations allow us to better understand paleoenvironments at the site, as well as to propose a detailed stratigraphic sequence and general, late Quaternary geological history of this unique location. The oldest cultural material, including fluted points and

microblades, are associated with radiocarbon dates that range between 13,180 and 10,220 cal B.P. Post-depositional processes are evident but have not distorted the sequence of major stratigraphic units. Ongoing research continues to refine the site's geochronology, and define a more highly resolved occupation history.

Buvit, Ian [211] *see Terry, Karisa*

Byers, A. Martin (Retired Research Affiliate McGill University)

[97] *Reclaiming the Hopewell Interaction Sphere Notion:* Is the Hopewell Interaction Sphere notion a "has been" concept distorting more than enlightening our understanding of this most unique archaeological assemblage? This paper insists that the core notion must be reclaimed. It argues the HIS mediated widespread and critically important ceremonial practices that sustained regional ceremonial spheres. These regional spheres were constituted as composite sets of autonomous of world renewal rituals performed by ecclesiastic-communal cult sodality heterarchies; and these heterarchies in turn interacted trans-regionally. This understanding stands in stark contrast to the view that the HIS was the consequence of personal self-aggrandizing pursuits of esoteric knowledge and exotic resources.

[97] *Second Chair*

Byers, David (Missouri State University), Chase Bilyeu (Missouri State University), Sean Capps (Missouri State University), Heather Craig (Missouri State University) and Brad Stefka (Missouri State University)

[140] *Site 24CB1677: An Upland Lithic Workshop in the Pryor Mountains, Montana*
Missouri State University, in cooperation with the Custer National Forest, conducted fieldwork in the Pryor Mountains of Montana during July 2011. These investigations focused on survey and excavation in the Bear Canyon drainage. A portion of this project focused on excavations at site 24CB1677. This site, located in an alpine meadow produced a large artifact assemblage including debitage, middle Archaic projectile points, bifacial blanks, and large preforms, the vast majority knapped from quartzite quarried from a nearby source. Analysis of the lithic assemblage suggests the site represents a bifaces production and retooling station in an upland setting.

Byers, David [141] *see Petinaris, Lydia Y.*

Byrd, Rachael (University of Arizona, Arizona State Museum)

[139] *Phenotypic Variability and Microevolution of the First Farmers in the Sonoran Desert*
Cranial phenotypic variability reflects the genetic diversity of Early Agricultural period (circa 2100 B.C.-A.D. 50) people living throughout the lowland desert southwest United States and northwest Mexico. Shared material culture, increasing sedentism, mixed foraging-farming subsistence, and long distance trade are found during this time throughout the region. Cranial morphometrics provide a method for understanding how microevolutionary processes affect phenotypic variation within and between site populations. Here we test the

hypothesis that post-marital residence patterns and interactions through trade and migration occurring at Early Agricultural sites contribute to a widespread genetic diversity underlying a shared cultural continuity.

Byrd, Rachael [116] *see Watson, James T.*

Byrnes, Allison [84] *see Pedler, David*

Cable, Charlotte (Michigan State University)

[83] *A Multitude of Monuments: Characterizing and interpreting the distribution of 3rd millennium BC monuments in north-central Oman*

GIS is a useful tool for characterizing monument distributions in a landscape analytical framework. The people of 3rd millennium BC Oman were extraordinary monument-builders, acting from within a wide-ranging network of social and exchange systems. Although their tombs are abundant across the region there is a great deal of variation that we are only beginning to recognize. Even less well understood is the contemporary tower tradition whose distribution overlays the tombs. This research applies innovative statistics to traditional survey methods, comparing distributional patterns to ethnographic models of land use in north-central Oman, in order to present potential cultural explanations.

Cagnato, Clarissa (Washington University in St. Louis) and Gayle J. Fritz (Washington University in St. Louis)

[13] *Strolling through Madame Mandeville's Garden: The Real and Imagined Landscape of 18th Century New Orleans*

Paleoethnobotanical samples from 18th century French and Spanish colonial contexts at the Rising Sun Hotel site, New Orleans, were collected and analyzed to further understand the colonial garden landscape and to assess whether or not the plants cultivated there reflect creolization. Results indicate that while there was no dramatic change in plant composition over time, the garden as a constructed landscape was modified to suit the needs and values of the inhabitants. Moreover, the garden probably did not represent the city planners' ideal vision of what the constructed landscape should look like: one that replicated Versailles and other European gardens.

Cain, David

[213] *Sticks with Stones: Controlled Experimentation in the use of the Weighted Atlatl*

Multiple experimental studies over the past century have attempted to determine if and how the atlatl weight mechanically affected atlatl performance. I aim to resolve uncertainty in their conclusions through a systematic experimental test of the hypothesis that the weight affects power and precision. I do this by conducting controlled experiments in the use of both the weighted and unweighted atlatl. I control for human sources of variation in atlatl performance with the construction of an atlatl launch machine, testing the weapon effects instead of human ones such as skill, temporary physiological conditions, and the projection of expected results.

Cajigas, Rachel (American Museum of Natural History) and Christopher Stevenson (Diffusion Laboratories)

[37] *Experimenting with Ceramic Rehydroxylation: Results and Applications of Soil Temperature Monitoring*
Ceramic rehydroxylation dating is a minimally-destructive technique that measures the amount of water absorbed, and structurally bound, to fired clay particles. One of the more important variables impacting this dating method is ambient temperature. The temperature estimate used to adjust the rehydroxylation rate constants is critical to the rehydroxylation dating process. Therefore, it becomes imperative to understand the relationship between air temperature and soil temperatures at various depths. We present the methods and results of a two year soil temperature and ceramic rehydroxylation study at four archaeological sites and show the utility of soil temperature studies in rehydroxylation dating.

Calfas, George (University of Illinois at Urbana-Champaign)

[162] *Asian Inspired Kilns: Industry in South Carolina*
The University of Illinois 2011 field school focused on the Pottersville kiln site (38ED011) in Edgefield South Carolina. Edgefield was the epicenter for American Alkaline Glazed stoneware in the 19th Century. Typical alkaline glazed stoneware kilns tend to be 20-30 feet in length but the Pottersville kiln is an astounding 105 feet in length. This research suggests there should be a reconsideration for the development of stoneware in the American South and that Pottersville and other similar kiln sites should be considered as "industrial" in the agricultural Anti-bellum South.

Calla Maldonado, Sergio [231] see Capriles, José M.

Callaghan, Richard (UNIVERSITY OF CALGARY)

[4] *Being Dave Kelley's Graduate Student*
I began as Dave Kelley's last PhD student in the fall of 1984 and completed in the spring of 1990. It was the most intensive and enjoyable learning experience that I have had before or since. There was rarely a topic that Dave did not think was worth perusing or that he was unwilling to discuss. Dave opened up new interests for me and allowed me for the first time to officially follow up on some of my old interests that we considered off limits to many others. It was one of the most exciting times of my life.

Callaghan, Richard [276] see Maillol, Jean-Michel

Calleja, Janis (Harvard University)

[216] *Ceramic Variation and Chronological Change in Jemez Valley, New Mexico*
This poster is an analysis of 15 ceramic sherds from two sites in the Jemez Province of Northern New Mexico. The goals of this analysis were first, to compare new ceramic data obtained through thin section analysis with previously collected data, and second, to understand the uses of petrographic analysis in the context of historical revitalization efforts during the Pueblo Revolt era (1680-1692). Results were consistent with previous petrographic analyses and research, with slight but notable differences in the identification of minerals. These differences could be significant for further refinement of local historic ceramic chronology.

Calugay, Cyril (University of Hawaii at Manoa)

[182] *The Archaeology of Philippine Islandscapes*

Archaeologists working in archipelagic and oceanic territories have long recognized that landscape archaeology is not confined to land-based research. Understanding coastal people in the past means studying interactions over both land and sea. Archaeological evidence of long-term interactive trade networks suggest pockets of sea-centered small worlds at the height of Southeast Asian maritime trading during the 10th to 16th centuries, the control of which possibly led to more complex socio-political structures on several different islands. I examine the archaeology of small-world islandscapes and their development in the Philippines with particular attention to Cebu and its emerging influence within the Visayan network.

[182] *Second Organizer*

Calvin, Inga

[242] *Rolling Out in the Field: An Analysis of Provenieniced Classic Period Maya Pottery*

The photographic rollout technology developed by Justin Kerr (and the generous distribution of images by Kerr Associates) provides the field of Maya studies with an invaluable resource. Having learned this technique from Justin, my research focuses on the documentation of the less well-known Maya ceramics derived from archaeological projects. While this data set rarely includes the elegantly-painted polychromes favored by museum curators, it compensates by providing information regarding context and agency on the part of the ancient Maya. Analysis of ceramics from various Lowland burials reveals cultural values and affiliations that amplify our study of imagery derived from rollouts.

Cameron, Catherine (University of Colorado)

[198] *Gender, Labor, and Hierarchy in Chaco Canyon*
Chaco and Cahokia were centers of significant power during the 11th and 12th centuries and much research has been focused on the amount of labor that went into constructing great houses in Chaco and huge mounds at Cahokia. Less study has been made of the nature of the workforce that supported these great centers. Recent work by Alt (2006) suggests the presence of captive women at Cahokia and its hinterlands. Using ethnographic, ethnohistoric, and archaeological sources, this paper will explore relationships among gender, labor, and hierarchy in Chaco Canyon.

Cameron, Catherine [120] see Van Buren, Mary [216] see Ferguson, Jeffrey R.

Campbell, Jennifer (Archaeology Centre)

[92] *Edging an Empire: The Effect of Edge Proximity on Cores and Peripheries in Mughal South Asia*
For some edges map cultural patterns and bound material expressions. For others edges represent historically described imperial realities. Examining imperial footprints often involves spatial analysis that defines and values spaces by their proximity to the "edge". The terms "core" and "periphery" are also commonly employed to theorize imperial interactions. I attempt in this paper to deconstruct what defines core and periphery in the South Asian medieval Mughal Empire and then to rebuild these in consideration of edge proximity. The results I hope will offer ways to further theorize the impacts of edges on imperial control.

Campbell, Peter (CAIRN)**[41] *Ritual Use in Albanian Springs: Issues and Logistics of Underwater Cave Research in Albania***

The Balkan region has a rich archaeological record, including many underwater caves that are significant features in the cultural landscape. Albania recently opened to the outside world for archaeology and scuba diving after the collapse of the communist government and a lengthy civil war. This paper details the issues and logistics of underwater research in a country lacking diving support. Research centered on the Blue Eye, a large spring with a local oral history about ritual use. A test project was carried out in 2011 to determine the feasibility of diving and archaeological research in remote Albanian underwater caves.

[41] First Chair

Campbell, Roderick (Institute for the Study of the Ancient World)**[199] *History, things, lines, movement – rethinking structure, scale and time***

Actor-networks, things, lines, and distributed beings are increasingly cropping up across disciplines in social theoretical attempts to move beyond structure and function or even structuration and habitus. If archaeology and history have always shared a common interest in space and time (however differently approached), it also the case that space and time come together in movement. This paper explores the possibility of a critical synthesis of Ingold's ideas concerning lines and movement with work on things and networks to arrive at a new approach to history in the broad sense.

[12] Discussant

Campbell, Sarah (Western Washington University) and Virginia Butler**[241] *Understanding the Evolution of Northwest Coast Marine Resource Management Systems using Collective Action Models***

Northwest Coast native peoples possessed technologically complex and socially nuanced systems for harvesting, enhancing and managing marine resources. These systems represent inherited traditions of knowledge and practice developed over multiple generations. This paper explores ways in which we can integrate an evolutionary perspective on conservation with the rich ethnographic record, focusing particularly on how mass capture methods provide the context within which robust collective action institutions can develop. Better linkages between abstract concepts like ownership and social regulation of resource use and physical artifacts and facilities are needed to test these relationships in the archaeological record.

Campiani, Arianna [233] see Domenici, Davide

Cannon, Aubrey (McMaster University) [59]

Discussant

Cannon, Kenneth [9] see Morgan, Chris

Cannon, Mike (SWCA Environmental Consultants) and Jack Broughton (University of Utah)**[248] *Exploring the Rise and Fall of Fremont Agriculture with a Comprehensive Archaeological Database***

Previous evolutionary ecology-based explorations of Fremont agriculture have been either primarily theoretical or ethnoarchaeological in nature, or they have focused on empirical archaeological data from small numbers of sites. This poster builds on this important earlier work by analyzing subsistence-related data from Formative period occupations across the eastern Great Basin and northern Colorado Plateau. These data, compiled into a comprehensive Fremont archaeological database, enable regional-scale investigation of relationships among such factors as climate, human impacts on prey, wild resource foraging efficiency, and investment in agricultural production in order to test several hypotheses about the causes of change in Fremont agriculture.

Cantin, Mark [261] see Stafford, C. Russell

Canuto, Marcello (M.A.R.I./Tulane University), Joanne Baron (University of Pennsylvania) and Yann Desailly-Chanson (Yale University)**[151] *La Corona and Calakmul's "Royal Road"***

Lowland Classic Maya society was riven by rivalry between Calakmul and Tikal. One strategic factor in this rivalry was a "royal road" giving Calakmul access to the central lowlands and southern highlands while skirting Tikal's jurisdiction. Along a critical stretch of that road lay the Maya center of La Corona. La Corona was a modest Early Classic center with limited access to inter-regional exchange networks. However, after the development of Calakmul's Late Classic trade route, it was entirely transformed. Focusing on epigraphic and burial data, we discuss the impact of the royal road on La Corona society.

[151] Second Organizer

Canuto, Marcello [151] see Barrientos, Tomas J.

Cap, Bernadette (University of Wisconsin-Madison) [203] *Classic Maya Plazas: Public Venues for Community Integration*

Plaza spaces in the architectural centers of Classic Maya sites provide unique venues for people to meet for a variety of purposes. As scholars have begun to investigate plaza spaces in-depth, insights are being gained on the specific types of activities that took place in them and their significance in shaping society. This paper discusses recent findings of ceremonial and market exchange activities in Late Classic plazas at the sites of Chan and Buenavista del Cayo, Belize. These examples demonstrate the diversity of plaza activities and the varied strategies for community integration used by the Classic Maya.

Cappellini, Enrico [145] see Warinner, Christina

Capps, Sean [140] see Byers, David A.

Capriles, Jose [144] see Miller, Melanie J.

Capriles, José (Washington University in St. Louis), Juan Albarracín-Jordan (Bartolomé de las Casas Foundation) and Sergio Calla**Maldonado (Universidad Mayor de San Andrés)****[231] *The Archaic Period of the Bolivian Altiplano: Recent Data on Settlement Patterns, Lithic Technology, and Subsistence***

Archaic Period archaeology in Bolivia, based mostly on typological comparisons with sequences from neighboring countries, has been limited to chronological speculation. Moving beyond culture-historical debates, in this paper, we present preliminary analyses of survey and excavations from Iroco, an area located in the central altiplano of Bolivia. Settlement patterns, lithic manufactures, and faunal remains are used for reconstructing economic organization, mobility patterns, and foraging behavior of early hunter-gatherers. We explain the observed variability in terms of evolutionary adaptations in a context of social and environmental change. These results provide a new perspective on the Archaic Period of the region.

Carballo, David (Boston University) and Anthony Aveni (Colgate University)

[73] *Public Architecture and Ritual Offerings during Central Mexico's Later Formative Periods.*

Strategies of governance are reflected in the socially integrative and divisive rituals undertaken within ceremonial centers of central Mexico's initial period of urbanization. We examine the symbolic grammar of public architecture and ritual offerings at several centers, focusing on site planning principles, architectural alignments, and temple and plaza offerings in order to evaluate points of convergence and divergence in politico-religious strategies. Certain trends in articulating built environments with natural surroundings are discernible, and consideration of embodied participation or observation of rituals within plazas and temples permits a more comprehensive perspective on variable strategies across the spectrum of power.

Carballo, Jennifer [233] *see Lesure, Richard*

Card, Jeb (Miami University) and William Fowler (Vanderbilt University)

[166] *Conquistador Closing Time: Wealth, Identity, and an Early Sixteenth-Century Tavern at Ciudad Vieja, El Salvador*

The archaeological remains of the first villa of San Salvador at Ciudad Vieja, El Salvador, provide very early archaeological evidence for a commercial eatery or tavern in the Spanish American colonies. From 1528 to ca. 1560, San Salvador was a multiethnic settlement of both European and Mesoamerican conquistadors. Amidst its formal Spanish political, economic, and cultural institutions was a commercial eatery or tavern marked by consumption of European wine or food stuffs, intensive food production, and imported fineware vessels, most spectacularly Venetian glassware. For residents and travelers alike, this institution expressed and promoted non-formal Spanish cultural values and identity.

[56] *First Chair*

Card, Jeb J. [56] *see Anderson, David S.*

Cardinal, J. Scott (New York State Museum)

[146] *Society in Hindsight: Hermeneutics and "Retro-diction"*

Archaeological data should ideally present a robust comparative set for the evaluation of theoretical constructs. The relationship of archaeological theory, sociocultural theory, and the interpretation of

archaeological data is understood to be a recursive hermeneutic cycle. Iteration of this cycle, however, tends to stall when theoretical constructs are perceived as an interpretive "toolkit" to be contingently applied or when ideological bias intervenes. This paper discusses some of the potential epistemological contradictions underlying contemporary interpretive approaches and assessments of sociocultural organization and complexity. Differential views of causal relationships and their application in the construction of theoretical models are reconsidered.

Cardoso, João Luís [157] *see Detry, Cleia*

Carey, Heather [101] *see Wagner, Mark J.*

Carey, Mia

[69] *Unearthing a Hidden Past: Health & Environment for Nicodemus*

This poster proposes to reconstruct the environment and health of African Americans in Nicodemus, an Exoduster community established during Reconstruction in Kansas, in order to measure the migrants' success in adapting to a new geographical region. Research methods included identification of commensal rodents, construction of a species account, different soil analyses, and microscopic analysis of fauna. Completion of this preliminary study suggests that while the Exodusters were able to transform their physical environment and establish a unique culture suited for life on the plains, their activities may have resulted in the exposure to heavy metals and subsequent health problems.

Carey, Peter [161] *see Middleton, Emily S.*

Carleton, William (Simon Fraser University), James Conolly (Trent University) and Mark Collard (Simon Fraser University)

[63] *Modeling the depopulation of the East Mound at Catalhoyuk*

This study used a novel combination of techniques to test the hypothesis that climate change was a driver of the depopulation of the East Mound at Catalhoyuk, Turkey, around 8400 cal BP. Principle Axis Factoring (PAF) was applied to architectural, lithic, and faunal data to identify socioeconomic trends. Time Series Analysis (TSA) was then used to distinguish trends in the Greenland Ice Core Project data. Lastly, the results of the PAF and TSA were compared to identify synchronicities. The results are consistent with the hypothesis that climate change was one of the factors that contributed to the depopulation process.

Carlson, Betsy (Southeastern Archaeological Research, Inc.)

[193] *Thinking Outside the Tackle Box: Shell Middens and Subsistence Practices in Eastern Puerto Rico*

Using zooarchaeological data from multiple sites excavated on the Roosevelt Roads Naval Facility in Eastern Puerto Rico, this study looks beyond species lists and quantifications of shells and bones to interpret foraging practices and imagine the social dynamics of prehistoric subsistence. Combining excavation of undisturbed faunal deposits with microbotanical plant identifications and the recovery of artifacts that relate to meal preparation, this study highlights dietary practices at individual sites across the landscape, shows how the

central place of this multi-site community is the bay, and is a reminder that a site and its surrounding environment must be investigated as one.

Carlson, David (University of Washington)

[182] *Agency and materiality on colonial-period plantations in Southeast Asia*

This paper will explore what new insights landscape archaeology can offer for our understanding of social processes on Dutch colonial-period plantations in Southeast Asia. It will employ a theoretical perspective informed by phenomenology, agency, and material culture theories. This approach treats the material organization of landscapes as something which structures and is structured by social actors, who employ material culture to reinforce, create, or challenge social organization and meaning. Several case studies, drawn from similar approaches in the Caribbean and United States, will be provided to further clarify this perspective.

Carlson, David (Texas A&M), Michael Waters (Texas A&M University) and Charlotte Pevny (R. Christopher Goodwin & Associates, Inc)

[100] *Spatial Organization of Clovis Lithic Production at the Gault Site Area 8*

Area 8 at the Gault Site in central Texas contains an intact, hearth-centered activity area where blades were produced and bifaces reduced. Spatial analysis of the activity area using kernel density plots and Monte Carlo simulation provides evidence of the organization of lithic production at this Clovis site.

[100] *First Chair*

Carlson, Eric [110] *see Ahlman, Todd [132]* *see Prentiss, Anna Marie*

Carlson, Eric S. [110] *see Smith, Lisa M.*

Carlson, John

[269] *The 2012 Phenomenon – What the Ancient Maya Calendar-Keepers might have Anticipated: An Astronomer-Mesoamericanist's Perspective*

Deities shown on two Late Classic ceramics, gathered in "cosmogonic conclave," prepare to re-create the world with sacrifices at the completion of the last 5,125-year 13 Bak'tun Maya "Long Count." The rites of passage are presided over by Venus warrior/sacrificer deity God L. This god of tobacco, merchants & Venus was in charge of these highly important 260 K'atun completion rituals. It is argued that the Maya would have anticipated that the same supernaturals would return and gather again to conduct the ceremonies for the fulfillment of the present cycle on Dec.21st, 2012, & to reanimate the world.

Carlson, Kristen (Northern Arizona University) and Leland Bement (University of Oklahoma)

[234] *Organization of Bison Hunting at the Pleistocene/Holocene Transition on the Southern Plains of North America*

This paper focuses on the development of communal bison hunting across the North American Great Plains. Prehistoric hunters were not merely opportunistic. An understanding of topography, environment, bison behavior and migration patterns was necessary to successfully complete complex communal bison kills. In turn, these kills required the existence of social

complexity whereby multiple groups of hunters worked in unison toward a successful kill event. On the southern Plains of North America evidence suggests communal bison hunting arose as mammoths and other megafauna became extinct 11,000 radiocarbon years ago. We review this evidence in light of new site discoveries.

Carlson, Risa (University of Cambridge)

[27] *More New Early Holocene Sites in the Alexander Archipelago of Southeast Alaska located using a Raised Marine Beach Predictive Model*

An update on the seven new Early Holocene sites under analysis which were discovered in 2009/2010, and the preliminary findings of new sites located in 2011 utilizing a predictive model based on the age and elevation of *Saxidomus giganteus* shells in relic raised marine beach deposits. Located on the remote islands of the Alexander Archipelago of Southeast Alaska, these microblade sites are found above the highest marine transgression and date between 7,000-9,200 BP.

Carmack, Hannah Jane [260] *see Hill, Brett*

Carmichael, David [20] *see Holliday, Vance T.*

Carmichael, PhD, David [100] *see Vasquez, Jose Javier*

Carmody, Stephen [16] *see Miller, D. Shane*

Carmody, Stephen B. [6] *see Sherwood, Sarah C.*

Carnevale, Andrea (Archaeological Services Inc.), Ronald Williamson (Archaeological Services, Inc.), Martin Cooper (Archaeological Services Inc.) and Jennifer Birch (University of Georgia)

[192] *Hidden from View: The Story of an Early Sixteenth Century Iron Tool in Eastern North America*

An iron tool was recovered from an excellent sealed context at the early sixteenth century ancestral Huron-Wendat Mantle site near Toronto. It is one of the earliest European artifacts to have been found in the Great Lakes region. Radiographic analyses (x-ray and neutron radiography) of the piece have provided information on the nature and function of the object. This paper discusses the implications of this tool in terms of both pre-existing exchange networks in shell, catlinite, and native copper as well as early European-Indigenous trade and interaction from local, regional and super-regional perspectives.

Carpenter, Andrea [216] *see Reed, Lori S.*

Carpenter, John [55] *see Sanchez Miranda, Guadalupe*

Carpenter, Lacey (University of Michigan), Gary M. Feinman (Field Museum of Natural History) and Linda M. Nicholas (Field Museum of Natural History)

[201] *Domestic Cloth Production: The Economic Significance of Households in the Classic Period Oaxaca Valley, Mexico*

Since the identification of specialization, researchers have argued that production for exchange ought to take place in workshops or other such special facilities. Arnold's work demonstrates that even today households

produce goods to trade in the market and through barter with neighbors. Using household assemblages collected over ten years of excavations at two Prehispanic sites in the Oaxaca Valley, Mexico, we argue that domestic production for exchange has deep roots in Mesoamerica and broad implications for understanding the economy of the region.

Carpenter, Scott [279] *see Fisher, Philip R.*

Carpenter, Tim [100] *see Gorrie, Bryan F.*

Carr, Christopher (Arizona State University)

[97] *Regional Differences in the Eschatology and Cosmology of Ohio Hopewell Peoples*

Ohio Hopewellian peoples appear to have recognized two pathways taken by the deceased to afterlives: through the Below realm(s) and through the Above realm(s). Contextual analyses of mortuary remains reveal rituals attentive to the two journeys. Different Hopewellian groups in southwestern, south-central, and northeastern Ohio celebrated different journeys, or placed significantly different emphases on them, as evidenced by frequencies of depiction of ordinary animals and composite creatures of different realm(s), and by tomb forms. These differences in basic concepts of eschatology and cosmology call into question the notions of a single, interregional, participant-understood Hopewellian "religion", "mortuary cult", or "world view".

Carr, Christopher [64] *see Frashuer, Anya C.*

Carr, Kurt [268] *see Stewart, R Michael*

Carrasco, Michael (Florida State University)

[242] *Intertextuality in Classic Maya Ceramic Art and Writing*

Ceramic texts and imagery have been critically important tools in the study of Maya iconography and epigraphy. However, how these narratives coordinate with those in other media, reference the built world, and name locations in the landscape, have been little explored apart from the illustrative value of narrative ceramic scenes. Examining a representative set of examples, this paper compares vessel iconography and text with that found on monumental sculpture (e.g. K1398 with Naranjo St. 21) to understand differences in media and to assess the ways in which particular media, iconography, and texts were deployed in specific socio-political and religious contexts.

[242] *Discussant [242]* *Second Organizer*

Carter, Alison (University of Wisconsin-Madison)

[95] *Intra-regional interaction networks in Iron Age mainland Southeast Asia as viewed through stone and glass beads*

The Iron Age period in mainland Southeast Asia (500 BC- AD 500) is notable for the earliest evidence of contact with South Asia. The presence of new types of artifacts, especially stone and glass beads, have often been used to discuss these inter-regional trade networks. However, recent compositional analysis of stone and glass beads from several Iron Age period sites in Cambodia and Thailand have identified distinct intra-regional patterns of artifact distribution. In this paper, I

will identify some of these regional networks and discuss the importance of exchange within these local networks.

[95] *Discussant [95]* *Second Organizer*

Carter, Brian [55] *see Bement, Leland*

Carter, James [234] *see Hockett, Bryan*

Carter, Nicholas (Brown University), Yeny Gutiérrez Castillo (University of San Carlos), Sarah Newman (Brown University) and Kate Blankenship (Brown University)

[66] *Power on the Periphery: The Late Classic Period at El Zotz, Petén, Guatemala*

Located on the periphery of the powerful Tikal state, the Maya polity of El Zotz surely felt the fluctuating might of its much larger neighbor. A continuous dynasty oversaw a period of modest prosperity during the early Late Classic period, then a major construction phase potentially sponsored by Tikal. Yet El Zotz's geographic position may have helped connect its rulers to other political and economic networks, allowing its ruling dynasty a degree of independence. The authors explore social, architectural, and economic change at Late Classic El Zotz, and address the evidence for Tikal's influence and contacts with other polities.

Carter, Nicholas [66] *see Newman, Sarah E.*

Carter, Tristan [61] *see Peuramaki-Brown, Meaghan M. [153]* *see Grant, Sarah*

Casana, Jesse (University of Arkansas), Jackson Cothren (University of Arkansas) and Tuna Kalayci (University of Arkansas)

[64] *Settlement Systems in the Northern Fertile Crescent: Results of the Corona Imagery Atlas Project*

This paper presents initial results of a NASA-funded project to analyze ancient settlement systems in the northern Fertile Crescent utilizing a new database of orthorectified Cold War-era CORONA satellite imagery. Because most archaeological sites, particularly mounded tells, appear with great clarity, it is now possible to map definitively the density and distribution of sites, beyond the limits of archaeological surveys and across national borders. Site distributions are then compared to the region's highly variable climate regime, as revealed through a variety of space-borne sensors, to show their correspondence with zones of sustainable agriculture.

Casana, Jesse [36] *see Clark, Andrew J.*

Cascalheira, Joao (Universidade do Algarve - Portugal)

[135] *Hunter-gatherer ecodynamics and the impact of the H2 cold event in Central and Southern Portugal*

The impact of North Atlantic Heinrich 2 event (26,500–24,300 cal BP) in Iberia is currently attested by a considerable set of high resolution marine and terrestrial pollen cores, confirming a record of increasing aridity, lowered temperatures, and important changes on the vegetation cover. In Portugal, a reasonable number of archaeological sites are dated to this period, where significant changes in the economic and technological structures are identified as a new cultural component – the Proto-Solutrean. This paper focuses on Proto-

Solutrean hunter-gatherer ecodynamics as a response to the environmental shift triggered by the HE 2 event in Central and Southern Portugal.

Cascalheira, Joao [36] *see Goncalves, Celia*

Cascalheira, João [135] *see Bicho, Nuno*

Caseldine, Christopher (Arizona State University)
[247] *Go Fish: An Inter-site Analysis of Prehispanic Fish Consumption in the Mogollon Highlands and Upper Gila River Area*

Faunal analysis for the prehispanic Southwest has largely focused on mammalian and to a lesser extent, avian remains. An under-analyzed portion of the faunal archaeorecord is fish. In the semi-arid Southwest, residential site selection based on proximity to water sources made fish a viable food resource. Using faunal data from the Mogollon Highlands and Upper Gila River area, I make inter-site comparisons of fish ubiquity. Historically, fish use is variable and tied to self-identity among Native groups; therefore, evidence of inter-site fish consumption variability may suggest social and cultural diversity.

Casson, Aksel (Slippery Rock University), Alexander Bauer (CUNY - Queens College) and Owen Doonan (University of California - Northridge)

[212] *Constructing Prehistory in a Survey Context: Microscopy and Luminescence of Ceramics from Sinop, Turkey*

The Sinop Regional Archaeological Project (SRAP) is engaged in long-term efforts to reconstruct patterns of prehistoric occupation and interregional connection through surface survey. In order to develop a comprehensive typological and chronological sequence of wares from the survey, we have developed a methodology that combines the use of a technology-based ware typology with fine-grained luminescence dating of ceramics. The aim of this poster is to review the steps used in each of these approaches and to demonstrate their explanatory power when used in combination. This approach may serve as a model for analyzing other assemblages collected from surface contexts.

Castaneda, Amanda (SHUMLA Archeological Research and Education Center), Angel Johnson (SHUMLA Archeological Research and Education Center) and Carolyn Boyd (SHUMLA Archeological Research and Education Center)

[101] *Red Linear Roundtable: A Re-examination of Red Linear Style Pictographs in the Lower Pecos Canyonlands, Texas and Mexico*

In 2010 SHUMLA identified Red Linear style figures painted over, under, and sometimes interwoven with Pecos River style figures, which was presumed to be 1,500 years older. These findings prompted the gathering of eleven researchers from across the country in April 2011 and a reconsideration of the relative ages of the two styles. The group visited nine sites, verified SHUMLA's findings, and recommended an in-depth examination of a larger sample of this understudied style in order to better define Red Linear and understand its relationship to other pictograph styles in the Lower Pecos

Canyonlands.

Castillo, Rebecca [14] *see Goralski, Craig T. [14]* *see Gray, Alexis A.*

Catlin, Kathryn (University of Massachusetts Boston)
[6] *A Stratified Landscape: Soil Cores and the Origins of Wealth in Viking Age Iceland*

Tephra sequences observed in thousands of soil cores across Langholt in Skagafjörður, Iceland provide a landscape-scale record of change and variability in soil accumulation rates between neighboring farms at successive times from pre-Settlement through the Viking Age and Medieval periods. These environmental variables are correlated with archaeological and historical evidence of farm size, settlement order, and relative wealth. Spatial variations in soil accumulation rate are inherent, persistent, and magnified by environmental decline. Subtle differences in the rate of soil accumulation lead to large differences in farmstead wealth.

Cattani, Maurizio [185] *see Kelly, Lucretia S.*

Cecil, Leslie (Stephen F. Austin State University) and Prudence M. Rice (Southern Illinois University Carbondale)

[201] *De Colores: Pigments and Potters in Postclassic Petén*

In his seminal article "Ethnomineralogy of Ticul, Yucatan Potters: Etics and Emics," Arnold employs ethnographic and mineralogical data to illuminate the cognitive rationale behind choices of raw material used in pigment and pottery manufacture. We use this foundation to examine pigments used by Kowoj and Itzá Maya potters in the central Petén lakes region. Through archaeological data of these distinct socio-political ethnicities, we demonstrate the strong tie between different Postclassic emic systems (why certain colors co-occur and choices of pigments) and etic data (chemical compositions). Additionally, we reconfirm that cognitive systems are not out of the grasp of archaeologists.

Cegielski, Wendy (Arizona State University) and Justin Rego

[155] *Gradiometer Survey And Magnetic Anomaly Testing Of Castro De Neixón Grande And Pequeño: Boiro, A Coruña - Galicia, Spain*

Recent geophysical and archaeological investigations into the Iron Age site(s) of Castros de Neixón Grande and Pequeño in Galicia, Spain, have revealed the veracity of gradiometric survey techniques for locating archaeological features at Castro culture hill forts. In the first magnetic survey of a Castro period hill fort in Galicia, several hundred magnetic anomalies were located, and two were ground-truthed. Ground-truthed anomalies were verified to be intact subsurface archaeological features. Geophysical survey techniques have great potential for locating subsurface features in NW Spain, and such methods should be further utilized by archaeologists interested in Castreño sites.

Cerezo-Roman, Jessica (University of Arizona)

[116] *Unpacking Identities in the Hohokam Area of Southern Arizona, Preclassic and Classic period Transition*

This paper presents research investigating group identities in Southern Arizona by applying the concept of personhood as expressed in prehistoric Hohokam mortuary practices. Changes in Preclassic and Classic period mortuary practices from Tucson Basin sites are examined as well as how these relate to regional and broader trends in Hohokam society. During the Classic Period preliminary findings indicate regional variation in mortuary practices although cremation was common in the Tucson Basin. Furthermore, cremation rituals change significantly through time. These results suggest the spatial and temporal differences in mortuary practices may relate to manifestations of different group identities within Hohokam society.

Cervantes, Gabriela [215] see *Wagner, Ursel [243]* see *Cutright, Robyn E.*

Cervantes Reyes, Azucena [22] see *Manahan, T. Kam*

Chacaltana, Sofia (University of Illinois at Chicago)
[52] *Beyond Tacahuay Tambo/Pueblo. A local perspective of Inka imperial influence in coastal Colesuyo of the Southern Andes*

Tacahuay Tambo/Pueblo is a multi-component site on the southern Peruvian coast with a local domestic occupation and architecture resembling an Inka tambo. Unlike contemporaneous sites in coastal Colesuyo Tacahuay presents high frequencies of Inka-altiplanic sherds and altiplanic types of funerary structures (chullpas). Ethno-historical and archaeological data show how the community of Tacahuay was affected by the most powerful empire of the pre-Hispanic Andes. We propose (1) although Tacahuay Tambo/Pueblo was not incorporated into the Inka imperial system, imperial influence increasingly affected the local economy and identity and (2) altiplano elites copied Inka political strategies for their own economic benefits.

Chacaltana Cortez, Sofia [77] see *Piscitelli, Matthew*

Chadwick, Oliver [177] see *Ladefoged, Theng*

Challis, William (Rock Art Research Institute) and Jamie Hampson (University of Cambridge & Rock Art Research Institute)

[194] *Rock art tourism and community archaeology: case studies highlighting the (re)negotiation of identity*
As a manifestation of socio-political and cultural identities, rock art directly impacts many people today. Rock art and other heritage site stakeholders – Indigenous groups, archaeologists, politicians, and heritage managers – are not homogeneous; nor are these groups mutually exclusive. Using specific case studies, we focus on community archaeology and rock art visitor centres in west Texas and southern Africa as vehicles for challenging visitors' preconceptions of rock art and of the Indigenous peoples who made it. These arenas do not simply create jobs in impoverished communities; they also allow and encourage the negotiation and re-negotiation of cultural identity.

Chamblee, John F. [196] see *Hally, David J.*

Chan, Keith (University of Missouri-Columbia)
[5] *Using Harris Lines to Examine Sex Differences: An*

Additional Complication?

For decades, Harris lines have been used as an indicator of growth disruptions during subadulthood. This study uses Harris lines to gauge differences in health between males and females from the Late Intermediate Period (1000 - 1400AD) city of Armatambo, on the central Andean coast. Statistical analysis found no significant difference in Harris line counts between the biological sexes when age at death was included as a covariate. A positive trend in Harris lines found with increasing age warrants explanation. Based on observations, bone loss with age may have to be considered as a confounding influence in Harris line manifestation.

Chandlee, Sarah (The University of Tulsa)

[264] *Urban Development in Ancient Egypt: A Study of the Greco-Roman Site of Tell Timai*

This paper will analyze the urban design and development of Tell Timai through current excavations and applications in Geographical Information Systems. The aim of this research is to digitally rebuild the ancient city. From this, we can identify urban structures on the site and then determine if the development of this city followed Ptolemaic or Roman urbanization patterns, through site comparisons. This analysis will also shed more light on the movement of peoples from Mendes in the north, to the growing suburb of Timai in the south during the Greco-Roman period.

Chandlee, Sarah [264] see *Chapman, Sarah [232]* see *Odell, George H.*

Chang, Claudia (Sweet Briar College) and Perry Tourtellotte (Sweet Briar College)

[103] *Iron Age settlement at the edge of the Eurasian Steppe: Agropastoralism, demographic expansion, and the rise of social hierarchy*

The dual economy of cereal cultivation and animal husbandry on the Talgar alluvial fan at the northern edge of the Tian Shan Mountains in southeastern Kazakhstan is the foundation for the increasing social complexity of the Saka and Wusun nomadic confederacies of Semirech'ye. Tuzusai, an Iron Age site (ca. 400 BC – AD 100), is the focus for on-going archaeological investigations. At this site and on the Talgar fan, these variables shall be examined: (1) demographic expansion; (2) irrigated crop production; (3) spatial organization of mud brick and pit house architecture; and (4) a complex mortuary cult.

[103] *Second Organizer*

Chang, Melanie L. [202] see *Nowell, April*

Chaplin, George [123] see *Zavodny, Emily*

Chapman, Bob (University of Reading, UK)

[265] *Everywhere and nowhere: the normalization of Marxism in British archaeology*

Marxist ideas have played an important role in the theoretical debates in British Archaeology since the 1970s. But as Chris Wickham has argued for medieval history, these ideas have been 'normalised' and 'Marx simply becomes a major social theorist of the past whose ideas can be drawn on'. The history of British archaeology shows how Marx has been denied, appropriated, discarded and misunderstood and his

ideas have been used in 'pick and mix' theoretical approaches. This paper engages critically with this history and argues for a greater relevance and centrality of Marxist ideas in current archaeology.

[32] *Discussant* [265] *Second Organizer*

Chapman, Sarah (University of Arkansas), Sarah Chandlee (University of Tulsa) and Lori Lawson (American University in Cairo)

[264] *Digital Preservation Project at Tell Timai, Egypt*

We present methods for digital preservation of Tell Timai, a Greco-Roman site in the Egyptian Delta, using close-range photogrammetry along with programs in Geographical Information Systems. This digital preservation project will be used to create an online database of the site, assist with the physical restoration of standing architecture on-site, be incorporated into the most recent surface survey of the site, and used in the eventual creation of an online museum of Tell Timai.

Charles, Douglas (Wesleyan University)

[97] *Hopewell: A Great Tradition or Just a Good One?*

Fifty years ago Joseph Caldwell characterized the Hopewell "situation" as an interaction sphere, related to Redfield's conception of a civilization being based on a number of small (regional) traditions participating in a Great Tradition, the latter described as religious or non-secular. Granting that Hopewell was not a civilization as generally conceived, Caldwell argued that it nonetheless represented the early stages of the kind of process that led to great civilizations in other circumstances. This paper will examine the religious-ceremonial nature of the Hopewellian "Great Tradition," as well as the interaction of agency, history and context that led to its emergence.

Charles, Douglas [59] see Buikstra, Jane E.

Charles, Douglas K. [124] see King, Jason L.

Chase, Adrian (Harvard University)

[9] *Beyond Elite Control: Maya Classic Period Water Management at Caracol, Belize*

Some Mayanists have theorized that control over water resources and water rituals formed the primary power base for Classic Maya elite. A recent application of LiDAR at Caracol, Belize calls this assertion into question. LiDAR has yielded a detailed ground view of 200 square kilometers of settlement and enabled the study of water management over this large landscape. Hundreds of ancient reservoirs have now been documented within the Caracol settlement area. As most reservoirs are associated with residential complexes, this strongly suggests that Classic Maya water management was not solely elite controlled.

Chase, Arlen (University of Central Florida) and Diane Chase (University of Central Florida)

[200] *New Approaches to Regional Archaeology in the Maya Area: LiDAR and Caracol, Belize*

Archaeological survey in Mesoamerica has been characterized by two divergent traditions. In Highland Mexico, complete regional coverage has been attained because of a paucity of vegetation and the use of aerial and satellite images. In the Lowland Maya area, regional coverage has been hindered because of the difficulty in carrying out traditional survey in a jungle environment.

Now, however, technology has enabled Maya archaeology to view complete regional landscapes through the tree canopy. The recent LiDAR application at Caracol, Belize, methodologically revolutionizes survey in the Maya area and promises to transfigure traditional interpretations of Classic Maya society.

Chase, Arlen [70] see Lomitola, Lisa M. [128] see Chase, Diane Zaino

Chase, Diane (University of Central Florida) and Arlen Chase (University of Central Florida)

[128] *Marketplaces in the Southern Maya Lowlands: The Economic Integration of Caracol, Belize*

Modeling Classic Period social and economic systems of the ancient Maya has proven difficult for a number of reasons, including: sampling, preservation, and interpretational biases. As more archaeological research has been undertaken, views about the Classic Period Maya have become progressively more complex. Bruce Dahlin recognized that the Maya practiced marketplace exchange in the Northern Lowlands and was actively involved in demonstrating the existence of marketplaces elsewhere at the time of his death. Archaeological data from Caracol, Belize, not only demonstrate how marketplaces were imbedded in the Maya landscape but also how they were used to integrate the site.

Chase, Diane [200] see Chase, Arlen F. [70] see Lomitola, Lisa M.

Chase, Zachary (The University of Chicago)

[262] *Andean pasts, comparative colonialisms, and the empiricism/theory "Möbius strip"*

The cultural exceptionalism influencing Andean archaeology has often hampered both comparative approaches and the study of specific historical processes. Understanding that empiricism and theory are recursively co-constituting requires approaches that account for different ways our very data were active in the creation of realities and understandings, past and present. Drawing on performance and comparative colonialism studies, I present recent data from Huarochirí, Peru, that historically contextualize the ways the past was constituted, codified, communicated, and mobilized through Inka and Spanish colonizations of the area. I conclude by suggesting foci for future archaeological research in the Andes that encourage comparative engagement.

[156] *Discussant* [156] *Third Organizer*

Chassaigne, Laura (McGill University)

[11] *Marked objects from the French Aurignacian: observations and interpretations*

During the Aurignacian, symbolic material — such as beads, engravings, and sculptures — were produced on an unprecedented scale. Included in this body of artifacts are objects engraved with enigmatic line and dot sequences. Scholars have proposed notational, decorative, and functional roles for these engraved markings; however, these theories have not yet been tested through a comprehensive study. My work attempts to illuminate the ways the markings were meaningful to their makers and users, and the extent to which these relationships are accessible to the present-day researcher.

Chatelain, David (Tulane University)

[203] *Investigations into the South Ballcourt at the Site of La Milpa, Northwestern Belize*

From throughout Mesoamerica, ballcourts have long been known as public spaces in which ballgames and other ritual events likely took place, but their construction histories can sometimes reveal more complex shifts in the use of space through time. Preliminary excavations at the Classic Maya site of La Milpa in northwestern Belize investigated the construction history of the site's South Ballcourt, revealing part of an intact plaster floor mosaic below the eastern structure. Combined with previous research on this particular ballcourt, these excavations begin to reveal how public spaces can be reinterpreted and invested with new meanings over time.

Chatters, James C. [41] *see Rissolo, Dominique*

Chavez, Sergio [5] *see Juengst, Sara L.*

CHAVEZ CRUZ, SUSANA [58] *see Gallegos Gomora, Miriam Judith*

Chavez Granados, Edson (Universidad Nacional Autonoma de Mexico)

[62] *Marcas por Estrés Ocupacional en Jugadores de Pelota Mixteca*

Un estudio sobre jugadores modernos de pelota Mixteca fue realizado para identificar un patrón de lesiones y marcas asociadas con este deporte, con el propósito de aplicar esta información en el análisis de colecciones osteológicas de Mesoamérica. Marcas características de estrés ocupacional asociadas con el juego de pelota fueron identificadas a través de cuestionarios, mediciones antropométricas, radiografías y análisis biomecánicos. Estableciendo el patrón de marcas y lesiones en huesos asociadas con esta actividad permitirá a antropólogos que trabajan en colecciones esqueléticas prehispánicas de Mesoamérica, identificar a jugadores del juego de pelota y profundizar el papel sociopolítico que desempeñó este deporte.

Chazin, Hannah (University of Chicago)

[130] *"Were the sheep sweeter?" The circulation of domesticated animals in the Late Bronze Age, the Tsaghkahovit Plain, Armenia*

This paper analyzes faunal data from two sites in the Tsaghkahovit Plain, Armenia, to explore how domesticated animals factored into newly emergent political systems in the Late Bronze Age in the Southern Caucasus. Patterns in the species utilized, herding strategies, and meat distribution in multiple areas at multiple sites suggest that the control and circulation of animals and their products contributed to political forms that differed from those in the Middle Bronze Age. These new systems were based on a different relationship between (semi-)nomadic pastoralists and settled farmers than those proposed in models developed for the Near East.

Cheetham, David (ASU)

[54] *Canton Corralito: An Early Olmec Colony in Global Perspective*

Worldwide, the colonial experience is multi-faceted and historically contingent, with social-political relations

between colonist and local ranging from hegemonic to mutually beneficial and ethnic identity usually in a state of flux whatever the case may be. I explore these issues with respect to Canton Corralito, a Gulf Olmec colony (ca. 1250-1000 bc) located on the Pacific Coast of Chiapas, Mexico. Discussion rests on models advanced for colonies in Mesoamerica and other parts of the world, including primary Sumerian states, and the comparative analyses of material remains on which all understanding of early colonies must rest.

Chen, Kwang-tzuu [163] *see Li, Yung-ti*

Chen, Maa-ling (National Taiwan University)

[36] *Movement of People and Its Cultural Reconstructions and Imagery Conceptualization Processes*

Cultural cognition is figurative, metaphorical, and participatory. Space is incorporated in daily cultural practices with other social and cultural aspects of living. Spatial constructions of a social group at different times and places during frequent movements, presented as figurative patterns, are regarded in this paper as the imagery conceptualization processes. These processes map or encode spatial cognition and relative cultural aspects dwelling in people's minds onto new lands through daily activities and physically spatial constitutions when people move. This will be supported by analysis on various spatial concepts explored by GIS analysis on two comparative aboriginal groups in South Taiwan.

Chen, Pochan (National Taiwan University), Rowan Flad (Harvard University), Gwen Bennett (McGill University) and Zhanghua Jiang (Chengdu City Institute of Archaeology)

[200] *Surveying Rice Paddies: Negotiating Different Approaches to Survey in Southern China*

While archaeological survey has become an increasingly important component of the suite of methodologies used in archaeological research in China, systematic methods have been more common in North China, where the landscape is more conducive to intensive surface surveys, than in Southern China, where various vegetation and topographic conditions have made systematic survey more difficult. The project has been surveying one such environment as a collaborative effort among scholars from different national and intellectual traditions. Here we discuss the process by which our methodology was developed, and the incorporation of data produced by other surveys methods.

Chen, Xingcan [163] *see Liu, Li*

Cheong, Kong (Trent University)

[15] *Maya Music at Pacbitun (Belize): Archaeological Investigations of the North Group*

Recent investigations of the North Group at Pacbitun have produced new evidence of ancient Maya musical instruments. Analysis of the architecture indicates that the first platform was constructed during the Early Classic period (AD 300-550) and expanded, to a total of seven structures composing a restricted access plazuela, before abandonment by the end of the Terminal Classic period (AD 700-900). The presence of burials, exotic goods, caches, musical instruments, as well as the spatial layout of the plazuela, suggest that the inhabitants

of the North Group were sub-elites with special ties to the royal court of Pacbitun in the Classic period.

Cherian, PJ [173] see Kotarba Morley, Anna M.

Cherkinsky, Alex [64] see Turck, John A.

Cherry, Jim (Arkansas Archeological Society)

[189] *Ceramic headpot effigy forms: What can they tell us?*

The St. Francis Basin in the Central Mississippi Valley is celebrated for its ceramic art work; especially famous are those vessels known as headpots. A few headpots are remarkably similar stylistically, appearing likely to have been made by the same potter/artist. In this presentation, I explore those similarities and address questions they raise. Clues to village-site social interactions are evident in the geographical distribution pattern.

Cherry, John (Brown University) [200] *Discussant*

Cherry, John [270] see Burke Davies, Clare T.

Chesley, John [71] see Thibodeau, Alyson M.

Chesson, Meredith (University of Notre Dame)

[267] *Learning a "Feel" for Being: Storing Sensibilities, Everyday Life, and Sensuous Human Practice*

This paper emerges from overlapping pathways in my life: teaching, researching illegal antiquities, and learning horseback riding. So what links learning to ride a pony with archaeology? The concept Kus (1997) calls "sensuous human practice": how we use our bodies to learn the "routine of life", using our senses to capacity to learn to navigate through and embrace the necessities of life. My case study focuses on storage in third millennium BCE Early Bronze Age communities in the southern Levant. I examine storage by using the situated learning framework (Lave and Wenger 1991) and archaeological models of communities of practice.

[229] *Discussant*

Chevalier, Alexandre (Royal Belgian Institute of Natural Sciences), Valerie Beugnier (Royal Belgian Institute of Natural Sciences), Caroline Hamon (ArscAN Protohistoire européenne, CNRS - UMR 7041), Aurelie Salavert (Royal Belgian Institute of Natural Sciences) and Dominique Bosquet (SPW-DGO4-Service de l'Archéologie en province de Brabant wallon)

[238] *Technical and social processes of food plants procurement in Early Northwestern European Neolithic.* Five archaeobotanical methodologies (carpology, anthracology, palynology, phytolith and starch grains) contributions, combined with use-wear analyses on sickle flints blades and grindstones will be presented and discussed to better understand the economies and food choices of Northwestern European first farmers. Specifically we will discuss which plants have been gathered and harvested, the way the plants have been processed, and the socio-cultural setting in which these plants have been used. Five LBK sites in eastern Belgium are considered in this study. Our data will be contrasted with current Neolithization theories.

Chiang, Chihhua (Institute of History and Philology,

Academia Sinica) and Yi-Chang Liu (Institute of History and Philology, Academia Sinica)

[229] *Houses in the Neolithic Wansan society, Taiwan*

This paper aims to explore the roles of the houses in prehistoric Wansan society (ca 3,700-2,700 BP). Inspired from the concept of house society, I argue that the prehistoric Wansan people transformed their residential houses into "sacred houses" through the process of interring the deceased members in proximity to their houses and placing particular anthropomorphic-object with the deceased. This anthropomorphic-object probably acts as an "inalienable possession" which the house members use as "cosmological authentication" to verify their connection with ancestors. More importantly, houses that possess this object demonstrate better control of local resources. On the contrary, houses without this object thus utilize more imported materials.

Chiari, Giacomo [71] see Thibodeau, Alyson M.

Chiarulli, Beverly (Indiana University of Pennsylvania), Phillip D. Neusius (Indiana University of PA), Ben Ford (Indiana University of PA) and Sarah W Neusius (Indiana University of PA)

[209] *The IUP MA in Applied Archaeology: What We Planned, What We Have Learned So Far*

In Fall 2005, we began to develop a MA in Applied Archaeology. Our goal was to meet industry and government needs for professional archaeologists. We expected that most of the graduates would be employed in the fields of cultural and heritage management. The program was designed to balance recent SAA initiatives with institutional requirements and resources. We sought to develop critical skills through a set of integrated courses. This paper discusses our experience and changing perspectives on how to train applied archaeologists.

Chiarulli, Beverly [170] see DeHaven, Lydia S. **[232]** see Neusius, Sarah W.

Chichkoyan, Karina [158] see Lanata, Jose Luis

Chicoine, David [26] see Helmer, Matthew R.

Childs, S. (Department of the Interior) [164]

Discussant [48] Discussant [81] Discussant

Childs, Terry (Arkansas Archeological Society) and Charles McNutt (University of Memphis)

[189] *The Floating Figure Motif of the Nodena Phase*

Three Late Mississippian vessels from Mississippi County, Arkansas, duplicate a very distinctive motif visible on a catlinite pipe from the Upper Nodena site. This motif, designated "floating figure," is discussed, as are other decorative techniques that distinguish the Nodena area from regions farther south.

Childs, Terry [189] see McNutt, Charles H.

Chinchilla, Oswaldo (Museo Popol Vuh, Universidad Francisco Marroquín)

[21] *Cotzumalhuapa and Chichen Itza: An International Style of the Epiclassic?*

Stylistic and iconographic parallels between Cotzumalhuapa and Chichen Itza have been repeatedly

noted, although they have not been subjected to protracted inquiry. Current archaeological evidence casts doubt on traditional explanations—that they resulted from migration from a common point of origin, somewhere in Mexico. In consonance with explanations of Postclassic cultural commonalities across Mesoamerica, this paper explores the applicability of the “international style” concept to explain the appearance of shared ideological and artistic traits at both cities during the Epiclassic, highlighting the extraordinary degree of correspondence in among selected examples of sculptural art from both cities.

Chiou, Katherine [238] *see Farahani, Alan*

Chiou-Peng, TzeHuey (Univ. Illinois UC)

[95] *The Introduction of Piece-mold Casting in Bronze Age Southeast Asia: a case study of a regionalized technological transfer*

This work investigates the beginnings in Southeast Asia of clay piece-mold casting, a distinct metallurgical process not known in Southeast Asia prior to 500 BCE but subsequently led to an enormous production of representative Bronze-Iron Age artifacts of the region, including kettledrums and situla/thap urns. A scrutiny of the stylistic and technological aspects of relevant artifacts points to the possibility that this technological transmission was conducted via the complex societies along the river valleys of southwestern Sichuan and western Yunnan; it occurred in isolation from direct impacts from the Chinese central plains, the ultimate source of piece-mold casting technology.

Chisholm, Linda (Katmai National Park & University of Minnesota) and Loukas Barton (Katmai National Park & University of Pittsburgh)

[141] *Interpreting Early Kachemak Life through the Chiaroscuro Lens*

The Little Takli Island site in Katmai National Park is a rare Alaska Peninsula-based example of early sedentism and marine resource intensification dating to the mid-4th millennium BP. Faunal, lithic and site feature data shed light on the local character of acquisition, processing and consumption while inter-site comparisons point to important variation in the trajectory of mid-Holocene resource intensification throughout the region. Here we examine spatial and temporal variation in foraging efficiency to evaluate causal explanations for the dramatic subsistence transition that marks the beginnings of the Kachemak Tradition in southwest Alaska.

CHO, E.K. [117] *see Blackwell, Bonnie A. B.*

Chovanec, Zuzana (University At Albany)

[121] *Intoxication on the wine dark sea: investigating psychoactive substances in the Mediterranean Basin*

The investigation of intoxication in the Mediterranean Basin has traditionally focused on fermented beverages. While evidence for grape wines and grain beers abounds during the historical period, the role of psychoactive substances in prehistoric societies is poorly understood and consequently often succumbs to historical analogy. Although likely that fermented beverages were consumed in prehistory, it is equally as likely that a broader range of psychoactive substances were

consumed. A residue analysis program has been undertaken that is centered on the molecular characterization of alkaloids in a range of indigenous psychoactive plants. Experimental methods and preliminary results are discussed.

Christensen, Alexander

[21] *Modern Genetic Variation and Ancient Mesoamerican Population Movements*

An increasing amount of data is available on genetic variability in modern Mesoamerican populations. Data on various genetic systems has been collected for different reasons from different groups, with varying amounts of associated population information. What light does this modern data shed on ancient population movements in the region? Postcolumbian gene flow from the Old World has been superimposed on any Precolumbian genetic patterning, but the use of mitochondrial DNA and non-recombining Y haplotypes allows us to filter out non-indigenous lineage markers. Demographic collapse and consequent population extinction and bottlenecks are more difficult to account for.

Christensen, Kim (University of California Berkeley)

[18] *Reforming Women: Politics, the Home, and Materiality*

This paper presents the results of dissertation research undertaken at two nineteenth and early twentieth century domestic sites in New York and California. Research at these sites has explored how the women of these households, both reformers in the public eye, enacted their politicized work within their domestic spheres. The materiality of their everyday lives recovered archaeologically suggests how normative material culture played various roles in pursuing their efforts to reform society, and suggests that the active use of material culture in past contexts is crucial for understanding how people created and recreated their worlds of meaning.

Christie, Heather (University of Illinois at Chicago)

[256] *Artifact Distribution: A New Approach to Understanding the Early History of Southeast Asia*

Archaeologists have recently voiced concern over the current divisions of Metal Age Southeast Asian populations into meaningful socio-political groupings, and their connections to later historically-known societies. These concerns relate to both the material correlates of identifying ancient “polities” of varying scale and complexity and the use of foreign, non-contemporary historical documents to define earlier societies. Using large-scale geospatial and statistical analyses of glass bead distribution, I examine both the methodological advantages and pitfalls of archaeological identification of socio-politically distinct regional populations within Southeast Asia during the first millennium AD, and how materially-based methods differ from historical projections into the past.

Christmas, Patricia (Texas State University - San Marcos)

[266] *Headpots: Cultural Invention and Continuity*

Nodena phase headpot vessels, some of the most readily identifiable of Mississippian artifacts, are limited in both temporal and geographic range. This study juxtaposes iconographic interpretation with statistical analysis of the extant contextual data for the vessels.

The results find no correlation between the age or sex of an individual and the appearance of a headpot vessel in grave offerings, resulting in a rejection of hypotheses based upon assumptions of a significant relationship with these variables. Taking these results into account, iconographic interpretation of the vessels reveals a localized continuation of the tradition of ancestor-worship after the fall of Moundville.

Chumbley, Scott [96] *see Otárola-Castillo, Erik*

Church, Minette [150] *see Kray, Christine A.*

Cinquino, Michael [101] *see Hayward, Michele H.*

Ciochon, Russell [83] *see Putt, Shelby S.*

Cioffi-Revilla, Claudio [103] *see Rogers, J. Daniel*

Ciolek-Torrello, Richard [90] *see Heckman, Robert A.*

Cirigliano, Natalia

[8] *First Surveys In A Historical Whereabout Close To Chico River (Patagonia, Argentina)*

Sierra Ventana o Mowais is a historical whereabouts which Musters described. It's located ca. 30 km (straight line) from the locality of Gobernador Gregores and constitutes an important mark for local inhabitants today. Data from first systematic archaeological surveys are presented here. Lithics—made on local and non-local raw materials— and ceramics were recovered. Tools identified as well as written information suggests that the site was used both before and after the introduction of the horse.

Ciugudean, Horia [83] *see Quinn, Colin P.*

Claassen, Cheryl (Appalachian State University)

[59] *Exploring Mortuary Variability during the Archaic of the Eastern United States—Comments on Position and Place*

Positions of interest include the side upon which a flexed body was placed, and the minority postures that often include individuals with evidence of violent death. Where possible, genetic distance information will be used to examine kinship status for violent and non-violent deaths. Topographic settings of interest are elevated places—e.g. above waterfalls-- and low places--cave, sinkholes, ponds, and the unembellished earth. Cause of death may well explain both body positioning/treatment and topographic setting in some cases. The souls of the dead placed in high places or in low places may have served the spirits of those realms.

Clancy, Flora (Emeritus, University of New Mexico)

[269] *The Moon in Ancient Maya Thought*

It is assumed the main reason ancient Maya astronomers kept track of the Moon was to predict eclipses, and any study of the Moon has been almost exclusively achieved by examining the lunar tables in the Dresden Codex, a Maya book compiled around 1250. Another major, but understudied, source of ancient Maya lunar data is the Lunar Series consisting of six to ten glyphs embedded in long Initial Series dates. I begin an analysis of the Lunar Series by looking at monuments bearing the same Initial Series date but citing different lunar data.

Clark, Amy (University of Arizona)

[11] *Spatial Organization at Abri Castanet (Sergeac, France)*

Recent excavations (2005-2010) at Abri Castanet have revealed Aurignacian lithic and bone tools, personal ornaments, three interrelated fire features, and an engraved block. The site consists of one archaeological layer, approximately 30 cm thick, and has been precisely dated to 32-33 radiocarbon kya. A certain degree of spatial variation in artifact classes has been observed, resulting from a combination of geologic and anthropogenic processes. This paper will discuss the spatial variation and what it can tell us about the use of the fire features and the activities that took place around them.

[11] *First Chair [11] Second Organizer*

Clark, Andrew (SD Historical

Society) and Jesse Casana (University of Arkansas)

[36] *Rediscovering Archaeological Landscapes in the Middle Missouri*

In the mid 20th century, large portions of the Missouri River were dammed, flooding thousands of acres. Because of the inundation, modern Digital Elevation Models (DEMs) for the reservoirs are not suitable for regional scale settlement analyses, as many of the archaeological sites and large portions of the landscape are now submerged. Using a combination of historical aerial photogrammetry, modern DEMs, and digitized historical topographic maps, the author reconstructed a 1950s era 3-D model of the Big Bend geographical division of the Middle Missouri. In the future, this model will be used to test hypotheses regarding regional scale conflict.

Clark, Bonnie (University of Denver)

[112] *Freshmen Sourcing Obsidian? Using pXRF in the Introductory Archaeology Classroom*

Students in introductory archaeological classes rarely encounter the types of materials science that are revolutionizing the field. With funding from an NSF Course, Curriculum, and Laboratory Improvement Grant, the University of Denver has integrated authentic research into the natural and social science undergraduate curriculum through the use of a Portable X-Ray Fluorescence (PXRF) instrument. Students in introductory archaeology courses have employed a PXRF to geosource archaeological obsidians from North America. This poster overviews the four year project, outlining its goals and results while highlighting issues of instrumentation, accuracy, and pedagogy.

Clark, Elizabeth (University of Utah)

[230] *Teaching Memory: Turkish Primary Education and the Creation of Turkish Identity*

Because of its long history, Turkey provides a good location from which to study how memory and history interact and affect one another. I examine the history presented in modern Turkish schools of past civilizations and analyze which of these histories are presented as truly "Turkish." Through interviews with Turks I explore how historical education has influenced their knowledge and opinions of history and their identities. Thus we may begin to see how memory, identity, and history interact and how local understandings and perceptions of the past affect archaeology, preservation and the ability to

conduct further research.

Clark, Jeffery (Center for Desert Archaeology), M. Steven Shackley (University of California, Berkeley), J. Brett Hill (Hendrix College) and W. Randy Haas, Jr. (University of Arizona)

[260] *Long Distance Obsidian Circulation in the late Pre-Contact Southwest: Deviating from Distance-Decay*
Obsidian increases dramatically in archaeological assemblages throughout most of Arizona after A.D. 1300. XRF analysis demonstrates the emergence of long distance exchange networks that circulated this valuable raw material from Papagueria, Upper Gila and San Francisco Volcanic Field sources. This paper examines these late networks using over 4700 sourced specimens from nearly 150 sites. Deviations in obsidian circulation from terrain adjusted distance-decay models suggest that factors other than source proximity were important in obsidian circulation, including migration and new ideologies. Distance decay deviations are compared with contemporaneous decorated ceramics networks to explore the social dimensions of obsidian exchange.

[260] First Chair [260] Second Organizer

Clark, Jeffery [260] see Mills, Barbara J.

Clark, Jeffery J. [260] see Borck, Lewis

Clark, Jesse (Washington State University)

[272] *Paleoproductivity in the southern VEPII region*
This study integrates temperature and precipitation data with historic records of agricultural yields to estimate the productivity of soils in the southern VEPII study area during the Pueblo period. If these estimates correlate with a local dendrochronological record that extends back to at least A.D. 600, it may be possible to provide a reasonable estimate of annual maize production for the study period. Modeling maize productivity in the southern VEPII study area is one of several key components in a broader effort to understand the historical ecology of Pueblo peoples occupying the Mesa Verde region between A.D. 600 and 1300.

Clark, Julia (University of Pittsburgh)

[91] *People and Pasture: A Look at Mongolian Pasture Management Strategies*

Pasture is one of the key resources of pastoralists and the condition and availability of these grazing areas may impact herd size, composition, health and the movements of mobile pastoralists. This paper will primarily focus upon two case studies within Mongolia that show similarities and differences in ethnographic pasture management. The focus will then turn to the archaeological recognition of these practices by reviewing regional archaeological data, studies from other regions, and interdisciplinary methods for analyzing pasture histories. Finally, this paper will consider how this research might impact and improve current local and national pasture management policies.

Clark, Loren [114] see Herrmann, Edward

Clark, Meagan (North Carolina State University), Jessica Stone (North Carolina State University) and Christina Giovas (University of Washington)

[141] 1) *Examining Size Differences in Nerita sp. between*

ca. AD 900-1150 at the Coconut Walk Site on Nevis
Recent archaeological investigation of the Coconut Walk site on Nevis revealed dense 40 cm deep midden deposits that accumulated over a narrow time range between ca. AD 900-1150. Preliminary analysis of faunal remains reveals an assemblage dominated by nerites. To examine whether there were any size differences in Nerita sp. through time that might be indicative of human overpredation, we measured over 4000 specimens. Results provide important insight into human subsistence patterns during the late Ceramic Age and a framework for comparing with other Pre-Columbian sites in the Caribbean.

Clark, Terence (Canadian Museum of Civilization), Gary Coupland (University of Toronto) and Jerome Cybulski (Canadian Museum of Civilization)

[207] *Wealth or Ritual Power?: What is on display in early Northwest Coast bead-rich burials?*

In this paper we explore the context of bead-rich burials dating to the Charles culture (5500-3500 BP) on the Northwest Coast of North America. Archaeological and osteological data from burials containing thousands of ground stone and shell beads are presented. We examine whether elaborate grave goods are displays of wealth or whether they might represent ritual paraphernalia. Building on this discussion, the nature of incipient status inequality is considered.

Clark Schmidt, Sunshine R. [110] see Ahlman, Todd

Clarke, Wesley (Southeast Asian Studies, Ohio University, Athens.) and Thanik Lertcharnrit (Silpakorn University)

[95] *Dvaravati Trade: An Updated Assessment*
Dvaravati is the culture in which Indic and other extra-local elements are widely encountered in the region of central Thailand. These materials indicate that Dvaravati groups had regular connections with outside regions. Localized assemblages within the Dvaravati culture area also can be traced to indicate lines of intra-regional trade. This presentation will summarize the trade data from Dvaravati, in order to examine questions connected to trade in the Dvaravati era: What is the status of our knowledge about trade patterns in Dvaravati? What do these patterns suggest about political and economic organization? What new questions can we ask of this data?

[95] Third Organizer

Clay, R. Berle [7] see Greenlee, Diana M.

Clayton, Sarah (University of Wisconsin-Madison)

[54] *From Households to Markets: Neighborhood Socioeconomics at Teotihuacan*

Among Barbara Stark's many contributions to Mesoamerican archaeology is her significant research concerning craft production and exchange at multiple analytical scales. In this spirit, I investigate the production and distribution of ceramic and obsidian artifacts at Teotihuacan. Economic organization at Teotihuacan is frequently discussed from a large-scale perspective emphasizing state-level administration of central marketplaces, specialized workshops, and interregional trade routes. However, it is crucial to consider the smaller-scale practices that shaped Teotihuacan's

economy, from household reciprocity to community marketplaces. Recent research suggests that Teotihuacan's neighborhoods were distinguishable based on assemblage variation and distinctive technological modes of production.

Cleland, Robin [71] *see Schwartz, Christopher W.*

Clement, Nicholas (Idaho State University) and Herbert Maschner (Idaho Museum of Natural History at Idaho State University)

[129] *Virtual Repositories: Methodologies for Integrating Access to Archaeological Collections.*

Location, multi-agency ownership, and the fragility of collections require collaborative efforts to create virtual repositories: image-based cyber-infrastructures that allow researchers access to integrate, analyze, and mine diverse data assemblages at scales not possible with current repository models. We propose that an entirely new form of repository is necessary that allows the storage of complete archaeological collections in digital form. This requires a virtual repository described here as a comprehensive, hyper-plastic image database system to house representations of an archaeological collection with the goal of democratizing access to collections-based science and enhancing regional analysis.

Clement, Nicholas [129] *see Schlader, Robert [129]*
see Ryan, Karen

Clifton, Julia [164] *see Merriman, Christopher W.*

Cline, Eric (The George Washington University)

[56] *Raiders of the Faux Ark: Pseudo-Archaeology and the Bible*

The amount of pseudo-archaeological nonsense that has been published concerning the Bible is appalling. The vast majority of this work has not been produced by professional scholars but rather by amateur enthusiasts who all work outside of academia. In this paper, I will present examples of such pseudo-archaeology, especially as it pertains to topics such as the possible locations of the Garden of Eden, Noah's Ark, Sodom and Gomorrah, and the Ark of the Covenant, and issue a call to arms for professional archaeologists and other scholars to take back their fields from the amateur enthusiasts and uninformed documentary filmmakers.

Clouse, Robert (University of Alabama)

[101] *Effect of Methodological Variability on Interpretive Diversity*

In the waning domination of social constructionism, the rigorous methodology that is a critical element of the archaeological profession has been left in the dust. While encouraging a resistance to archaeologically generated knowledge as an authoritative source about the past, this same social constructionism has by implication devalued the methodological rigor through which the past is brought as a tangible record into the present. Using research from southwestern Minnesota's Jeffers Petroglyphs site as an example, data recorded over a 40 year time span is compared against the variable documentation methodology and the theoretical perspectives underpinning the resultant interpretations.

Cobb, Allan and James Brady (California State

University, Los Angeles)

[179] *Reevaluating Image and Chronology in Maya Speleothem Rock Art*

Crude faces pecked in speleothems have been reported from all parts of the Maya area for over a century. Archaeological work in caves in two areas of the Peten recorded a large corpus of speleothem rock art that included representations of animals, particularly reptiles, amphibians and felines, indicating that the images are more varied and more complex than previously thought. Prior research suggested that the figures first appeared during the Classic Period and continued to be produced up to the present. Some images can be securely dated to the Preclassic, suggesting an earlier origin for the art form.

Cobb, Charles (South Carolina Inst of Archaeology & Anthropology) and Chester DePratter (South Carolina Inst of Archaeology & Anthropology)

[92] *Diasporic Edges and Shared Histories in Colonial Carolina*

The southern edge of the English Carolina colony departed from the popular image of frontiers as wedges of contestation between relatively stable social entities. Instead it consisted of a major drainage, the Savannah River, apparently abandoned ca. 1450 before the establishment of Charleston in 1670 prompted a flood of both European and Native American immigration toward the valley. This had the effect of re-populating the valley and creating a heterogeneous cultural edge zone sustained by multi-directional diasporic flows for over half a century. Our research on several settlements along this frontier has revealed an interlocked pattern of complex, shared histories.

[198] *Discussant*

Cobean, Robert (INAH, MEXICO)

[21] *Origins Of The Founding Populations For The Toltec State*

The origins of the Toltec state in the region of Tula, Hidalgo, Mexico can be traced to at least four or five centuries before urban Tula's apogee circa 1000-1100 A.D. Three decades of investigations by several projects (but especially the settlement pattern program directed by Alba Guadalupe Mastache and Ana Maria Crespo, and subsequent work by Mastache and Cobean) indicate that there probably were several ethnic groups in the Tula region during the Epiclassic and Early Postclassic. Settlement pattern, ceramic, and physical anthropological studies suggest northern (or non-local) origins for some key Epiclassic peoples.

[153] *Discussant*

Cochrane, Ethan (International Archaeological Research Inst. Inc.)

[160] *Evaluating artifact classifications used to identify transmission: an example from Lapita ceramic motifs*

The seafarers who colonized the western Pacific islands 3000 years ago made intricately decorated pots, called Lapita. The distribution of similar Lapita motifs across archipelagos has been used to identify cultural transmission patterns for over 40 years. Several motif classification systems exist, but their ability to measure transmission has never been rigorously evaluated. While they certainly identify coarse patterns of transmission, more recent questions about population structure,

colonization mode, and population origins demand greater precision. In this paper, I use Pocklington's discussion of culturally transmitted units to evaluate current Lapita classifications and identify robust transmission patterns in the region.

Codding, Brian (Stanford University), Douglas Bird (Stanford University), Rebecca Bliege Bird (Stanford University) and Peter Veth (Australian National University)

[273] *Quaternary Kangaroo Hunting in Arid Western Australia*

Sometime in the late-Holocene, life in Australia's deserts changed dramatically, with human populations increasing coincident with reductions in mobility. To help explain this transition, we examine faunal remains from a series of sites in Western Australia. Evidence suggests a shift from foraging strategies focused on larger resources to smaller resources. Drawing on ecological and ethnographic work with Martu foragers, we suggest that these changes resulted from the depletion of kangaroo patches. Subsequent dietary changes were likely driven by risk-averse foraging strategies designed to decrease the probability of returning home empty-handed. These altered strategies were likely driven by women's foraging labor.

[273] First Chair [273] Second Organizer

Codding, Brian [234] see Bird, Douglas [273] see Zeanah, David W.

Coe, Marion (Texas A&M University - CSFA)

[169] *A Materials Analysis of Perishable Artifacts from Four Siblings Rockshelter, Nevada*

The 2006 excavation of Four Siblings Rockshelter in eastern Nevada by Goebel, Graf, and Hockett yielded a rich assemblage of perishable artifacts, including a basketry fragment, cordage, arrow shafts, and matting. The artifacts range in age from the early Archaic to the Protohistoric periods. Using standard transmitted light microscopy and SEM, I identified the raw plant materials used in the production of these artifacts. Here I present results of this analysis and provide a micrograph reference collection of plants used by Great Basin groups for the production of perishable artifacts.

Coe, Michael (Yale University) [118] Discussant [242] Discussant [102] Discussant

Coffey, Grant (Crow Canyon Archaeological Center) and Scott Ortman (Crow Canyon Archaeological Center)

[272] *The Built Environment and Economic Exchange in the Northern Rio Grande Study Area*

The traditional view of plazas in ancestral Pueblo sites is that they provided gathering spaces for community-scale ceremony; however, many Classic period sites in the VEP Northern Rio Grande study area appear to have had more plaza space than required for this purpose. This paper explores the possibility that economic factors provide a better explanation of plaza areas in these settlements. Specifically, we explore relationships between plaza space, population, and imported glaze ware to assess the hypothesis that plaza area was more responsive to economic exchange associated with ceremonial activity than with population per se in these

settlements.

Coggins, Clemency (Boston University)

[269] *Celestial Pole*

This paper traces the evolving and adapting calendric role of the Celestial Pole and its personification in Middle and Late Preclassic Mesoamerica. As focus of the layout of many ancient Mesoamerican sites, the significance of the direction north changed through time in some instances, while remaining constant in others, although its association with the name and face of "God C" persisted for almost a millennium. The controversial interpretation of the Maya understanding of "north" will be considered in this long term context as its cultural role responded to the lunar and solar elaboration of the Maya Long Count.

Cohen, Anna [91] see Pezzutti, Florencia L.

Colaninno-Meeks, Carol (University of Georgia)

[136] *Zooarchaeological Analysis of Mission Period Deposits on Sapelo Island, Georgia (USA)*

Excavation on Sapelo Island, Georgia, yielded large quantities of seventeenth-century Guale artifacts with artifacts of Spanish origins, suggesting the probable location of Mission San Joseph de Sapala or associated Guale town of Sapala. I review archaeofaunal collections from these mission period deposits on Sapelo Island and compare this collection with previously studied collections from nearby Mission Santa Catalina de Guale and associated Guale village on St. Catherines Island, Georgia. All collections indicate a post-contact exploitation strategy similar to local pre-hispanic strategies; however, this comparison reinforces the hypothesis that both indigenous and Hispanic exploitation strategies throughout Spanish Florida were diverse.

Collard, Mark (Simon Fraser University), Briggs Buchanan (Simon Fraser University and University of Missouri), Jesse Morin (University of British Columbia) and Andre Costopoulos (McGill University)

[279] *Risk and hunter-gatherer toolkit structure in northern North America*

It has been suggested that the diversity and complexity of hunter-gatherer toolkits increase as risk of resource failure rises. We tested this hypothesis with data from populations living in the Northwest Coast, Plateau, and Subarctic. Because the Subarctic is riskier than the Plateau, and the latter is riskier than the Northwest Coast, our expectation was that the subarctic group's toolkits would be more diverse and complex than those of the Plateau groups, and the latter's toolkits would be more diverse and complex than those of the Northwest Coast groups. The results of the analysis were not consistent with these predictions.

Collard, Mark [84] see Ruttle, April F. [63] see Carleton, William C.

Collins, Joe (Mississippi State University), C. Fred T. Andrus (University of Alabama, Tuscaloosa), Robert J. Scott (Arkansas Archeological Survey) and Amy Moe-Hoffman (Mississippi State University)
[220] *Oxygen Isotope Ratios ($\delta^{18}O$) of Freshwater Shell*

as a Proxy for Determining the Seasonality of a Protohistoric Shell Assemblage

We test the assumption that an early protohistoric shell assemblage from southeast Arkansas, based on a refit analysis, represents a single, primary deposit of artifacts and shell by using stable oxygen isotope ratios ($\delta^{18}\text{O}$) of freshwater mussel shell. Results show a clear oscillating pattern, indicating shell precipitation throughout most of the year. The broader implication is that seasonality of freshwater shell middens could potentially be determined based on $\delta^{18}\text{O}$ profiles, providing insight into past subsistence patterns.

Collins, Matthew [145] *see Warinner, Christina*

Collins, Michael (Gault School of Archaeological Research)

[225] Preliminary Geographic Patterns in Older-Than-Clovis Assemblages of North America

Enough "preClovis" sites are available to reveal some intriguing regional differences in artifact assemblages of older-than-Clovis ages. Three patterns are defined and their distributions traced. High-impact modification of proboscidean bone occurs primarily in the central grasslands from the northern plains to central Mexico, dated 18-14kya. Broad, thin bifaces associated with prismatic blades occur from New England through the Mid-Atlantic states, dated 21-14kya. And, long, narrow, thick bifaces occur from southern California, across the Great Basin and onto the Columbian Plateau from very late preClovis into early Clovis times. Explanations are hypothesized.

Collins, Ryan (Brandeis University)

[191] Phase, Period, and Perscription in Maya Archaeology

This paper questions the epistemological division between the Preclassic and Classic periods in Maya archaeology by assessing the nature of chronologically constructed cultural boundaries and discussing how observable continuities and changes in material culture relate to conceptual shifts in social organization and political structure. In Maya studies "Preclassic" serves as a temporal marker intended to delineate a culturally distinct period. However, the "Preclassic's" relation to an archaeologically distinct culture is debatable and fosters a misleading interpretation of past cultures. The broader goal of this paper is to address the larger implications of periodization archaeologists employ in their assessments of the past.

Collins, Sara (Pacific Consulting Services, Inc.) [72] *Discussant*

Colten, Roger (Peabody Museum of Natural History) and Brian Worthington (Southeastern Archaeological Research, Inc.)

[193] Pre-ceramic Era Faunal Exploitation at Vega del Palmar, Cuba

The earliest occupants of Cuba were hunter-gatherers that arrived from Central America approximately 4-5,000 years ago. While the broad outlines of Cuban prehistory are known, a lack of quantified faunal data limits our ability to describe the subsistence economy in local and regional contexts. In this paper we present new data on vertebrate faunal exploitation from the pre-ceramic site of

Vega del Palmar which is located near Cienfuegos on the south coast of Cuba. We discuss the ecological implications of these data and compare them to faunal data from other sites on Cuba and elsewhere in the Caribbean.

Coltman, Jeremy (California State University, Los Angeles)

[118] A Darker Side of Art: The Representation of Sorcery in Ancient Mesoamerica

While there has been a recent tendency in Mesoamerican studies to describe the ethereal and beautiful paradisiacal realms that awaited kings in death, and the lavish courtly palaces they walked in life, recent research suggests that there was a more malevolent side to courtly life. The visual representation of sorcery appears most elaborately developed among the Classic Maya and peoples of Late Postclassic Central Mexico where the dark arts played a pervasive role in political and religious ideology. Among the themes to be considered include ritual intoxication, self-decapitation, noxious insects, and an intricate creation mythology.

[118] First Chair

Coltman, Jeremy [179] *see Brady, James E.*

Comer, Douglas [122] *see Egitto, Antoinette C*

Cominiello, Leigh [245] *see Selden, Robert Z.*

Comstock, Aaron [261] *see Seeman, Mark F.*

Conard, Nicholas (University of Tübingen), Thijs van Kolfschoten (Faculty of Archaeology, Bio-Archaeology, University of Leiden), Brigitte Urban (Institute of Ecology, Landscape Change, Leuphana University of Lüneburg) and Jordi Serangeli (Institute for Prehistory, University of Tübingen)

[93] Schöningen and the economics and social organization of Middle Pleistocene hominins

This paper integrates the paleoenvironmental and taphonomic results with the archaeological data available from Schöningen. Here we emphasize that Schöningen is not one site, but rather a number of sites within a series of lakeshore deposits. The exceptional preservation of these sites provides key insights into complex archaeological occurrences such as the famous "horse butchery site," as well as into the many more ephemeral archaeological events at Schöningen. These data document the activities and decision making of Middle Pleistocene hominins and allow us to model the movements of individuals and small social groups on the northern European landscape.

[93] First Chair [93] Second Organizer

Conard, Nicholas [93] *see Hardy, Bruce L.*

Conard, Nicholas J. [93] *see Miller, Christopher E. [93] see Julien, Marie-Anne [93] see Serangeli, Jordi*

Condon, Peter (Geo-Marine, Inc.) and Calvin Smith (Western Heritage Museum Complex, New Mexico Junior College, Hobbs, New Mexico)

[84] Examining Clovis in the Context of Southeastern

New Mexico and Far West Texas: A Discussion on Current Evidence and Interpretation

The early Paleoindian period for New Mexico and far West Texas is closely associated with Blackwater Draw and the Mockingbird Gap site. Beyond these two sites, Clovis-aged components are ephemeral and defined primarily by surface finds or identified in mixed-assemblage context. When viewed comprehensively across a landscape; however, location date derived from these singular or palimpsest assemblages can still provide insight towards understanding demographic trends in Clovis land use. This paper examines current distributions of Clovis-related finds across southeastern New Mexico and far west Texas to enhance our understanding of early Paleoindian adaptation in this region of the southwest.

Conkey, Margaret (UC-Berkeley)

[238] *Social Theory and Feminist Inspired Commitments: A Consistent Hallmark*

While many people might consider that Christine A. Hastorf's work can be characterized as paleoethnobotanical—a key feature, to be sure—this methodological and interpretive expertise has long been situation in an embedded structure of a dynamic and often original use of social theory. In this paper, I intend to demonstrate the ways in which much of Christine's work, especially since the 1990's, has drawn upon various themes and theoretical approaches in social theory, many of which can be linked to some basic epistemic principles derived from feminist theory and feminist practice.

[105] *Discussant*

Conlee, Christina (Texas State University)

[59] *The Role of Atypical Mortuary Practices in Understanding Life and Death in Nasca, Peru*

In the Nasca region of Peru changes in ancient mortuary patterns have provided insight into broad cultural shifts in the region over time. However, it is atypical funerary rites that have offered some of the most important glimpses into people's views of life, death and the supernatural. The practice of human sacrifice through decapitation, and the interment of the body in a sacred location were part of rituals that were critical for the continued life of the community. This rare practice provides information on the ancient Nasca that could not have been obtained solely through examination of typical burials.

Connell, Samuel [52] see Norman, Scotti M.

Conner, Michael (Illinois State Museum-Dickson Mounds) and Alan Harn (Illinois State Museum-Dickson Mounds)

[196] *Cultural Continuity and Conservatism at Dickson Mounds*

Dickson Mounds in Fulton County, Illinois, was continuously used as a burial center from the initial appearance of Mississippian in the region around A.D. 1100 until about A.D. 1250. Recent work confirms that the site was probably a regional center with no substantial adjacent habitation areas; it was associated with two sites that contained large nondomestic buildings. Although nonceramic burial artifacts indicate only Mississippian relationships, the ceramic sequence exhibits a significant frequency of Late Woodland

characteristics that persists after such material had all but disappeared from local domestic ceramic assemblages.

Connolly, Robert (University of Memphis) and Natalie B. Tate (University of Illinois at Urbana-Champaign)

[24] *The "Public" in Archaeology as Mission Driven and Essential*

Typical of archaeological institutions, museums, and organizations, the SAA Mission Statement mandates that the organization "... seeks the widest possible engagement with all segments of society, including governments, educators, and indigenous peoples, in advancing knowledge and enhancing awareness of the past." This paper explores the application of this mandate, focused on long-term sustainability of the engagement. As well, through case studies, the paper argues for the essential participation of the public in exhibit preparation and interpretation as a vehicle for developing stakeholders invested in their community's cultural heritage.

Connolly, Thomas J. [161] see Dexter, Jaime L.

Conolly, James (Trent University) and Andrew Bevan (University College London)

[200] *Spatial and ecological modelling of archaeological survey data: an analytical example from the Antikythera Survey Project*

We here consider a case study in spatial and ecological modelling of data arising from our recent survey of the Aegean island of Antikythera. We focus specifically on methods used for the identification of artifact clusters and the definition and comparative analysis of significant environmental covariates for cluster groups that date between the Neolithic and Early Modern periods. The identification of meaningful ecological characteristics for each period of occupation allows us to develop a more general model of locational persistence across discontinuous occupation histories which we define as an example of long-term niche construction.

Conolly, James [63] see Carleton, William C.

Constantine, Angelo

[231] *Early lithic technology from hunters and gatherers of the Tropical Rainforest*

Study of lithic technology from early occupations in Ecuador show differences in their manufacture. One such difference has been observed between lithic assemblages from Tropical Rainforest sites and sites in the Andes. Lithic technology during the late Pleistocene and early Holocene in general remained the same, though a qualitative and morphological difference has been observed. An industry characterized by higher manufacturing quality and better-defined shapes (e.g., bifacially flaked spearheads) is evident in the high Andean mountains. In contrast, artifacts found in both the Tropical Rainforest and Tropical Dry Forest settlements lack these characteristics, and instead are mostly expedient blades with few shaped artifacts.

Conway, Meagan (Cultural Landscapes of the Irish Coast), Casey McNeill (Boston University) and

Ian Kuijt (University of Notre Dame)

[244] *Beneath the 'Silent' Stones: Excavations at the McGreal House, Inishark, Co. Galway*
Excavations at the historic village on Inishark, Ireland help us understand the use of space within and around households on remote islands during the 19th and early 20th century. The McGreal house is one of the oldest standing structures on the island, appearing on the Ordnance Survey maps of 1838 and 1898. Excavations on the exterior and interior of the two room stone structure revealed the central hearth, exterior drainage systems, and a flagstone path. These features and extensive ceramic collection help us understand islanders' access to economic goods, shifting systems of property, and social relationships within the community.

Conway, Meagan [244] see *Shakour, Katherine E.*

Cook, Anita (Catholic University of America) and Joan Gero (American University)

[238] *Ethnobotany in Andean archaeology and how Christine Hastorf has promoted, improved and altered its basic practice*

In this paper we review the gendered development of paleoethnobotany in Andean research, specifically as undertaken by North Americans. As we trace the study of ancient plant remains and how it has changed our understandings of ancient Andean societies, we recognize Hastorf's significant role, not only in popularizing the study of ancient Andean flora, but also in changing the gendered practices that have characterized Andean ethnobotany through time.

Cook, Anita [59] see *Tung, Tiffany A.*

Cook, Della (Indiana University) [94] *Discussant*

Cook, Reese (Epsilon Systems)

[44] *Prehistoric Woodwinds: Experimental and Musical Scale Analysis of Flutes from the US Southwest*
Analysis and replication of multiple indigenous prehistoric and historic flutes of the US Southwest offered insight into possible manufacturing technologies, cultural attributes, and the contact of western music. Accurate measurements and physical analysis of woodwind flutes dating from A.D. 365 to the historical era, identified compositional materials and potential manufacturing processes. Replication and comparative analyses recognized octave and musical scale properties independently unique to temporal and cultural affiliation. Comparative analysis further indicated that the musical scale and construction of the flutes altered with contact and introduction of western music.

Cook, Robert (Ohio State University) and B. Scott Aubry (Ohio State University)

[239] *Assessing Movement Into and Within the Miami Valleys: Preliminary Biodistance Results from the FARM (Fort Ancient Regional Movement) Project*

The movement of people in archaeological contexts is often considered but rarely directly assessed. In this paper, we use a Fort Ancient subregion to address this issue, building on previous research that was suggestive that the region received outsiders. Specifically, we examine this possibility with cervicometric dental data to estimate levels of genetic heterozygosity for the region

with which several sites could be compared to determine the extent to which extralocal gene flow affected their individual structures. Results indicate several outliers, some of which coincide with unusual mortuary treatments, lending support for several hypotheses.

Cooksey, Robert (University of Louisville Graduate Student) and Dr. Jonathan Haws (University of Louisville)

[109] *Archaeometric analysis of four primary chert sources in Portuguese Estremadura*
Macroscopic attempts to establish provenance of lithic artifacts have proven unreliable in many areas due to the wide variations found within single nodules and geographic sources. Despite this, relatively few archaeometric studies have been undertaken to establish provenance based on geochemical fingerprinting. In the present study, we analyzed 4 primary chert sources in Portuguese Estremadura using LA-ICP MS. Here we present the data on rare earth elements and stable isotope ratios measured from the different cherts. We then use these results to interpret Upper Paleolithic raw material procurement in the region.

Cooney, Gabriel (UCD School of Archaeology), Torben Ballin (Lithic Research, Scotland) and Graeme Warren (UCD School of Archaeology, University College Dublin, Ireland)

[46] *Axes from islands: the role of stone axeheads from insular sources in the Neolithic of Ireland and Britain*
Neolithic (4,000-2,500 BC) people of northwest Europe exploited lithic sources on islands for the production of stone axeheads and other artifacts. Island stone quarries and the distribution of axeheads from these sources are important aspects of the introduction of farming and the development of Neolithic societies in the Irish Sea Zone and North Atlantic. Key issues include the dates when organized quarrying commenced, production processes, and the spatial location of different stages of production. These are linked to the examination of the extent and character of the distribution of axeheads from these sources and the social networks involved.

Cooper, Angela

[124] *Hopewell Interactions in the Illinois River Valley*
Studying the Hopewell Interaction Sphere provides a unique opportunity for understanding culture and culture change. Many of the Hopewell sites in the Illinois River Valley excavated by Greg Perino for the Gilcrease Museum have provided insights into Hopewell life and culture. Researchers have studied the culture, social change, and mortuary practices of these and other sites of the area. However, a comprehensive study of community interaction of the Perino Hopewell excavations has not been pursued. This paper will discuss the potential evidence of community interaction of selected Hopewell sites by studying mound burials and burial goods.

Cooper, H (Purdue University) and Carol Handwerker (Purdue University-School of Materials Engineering)

[159] *Technological Choice and the Greening of Electronics*
Rapid innovation, decreasing productions costs, and aggressive marketing have resulted in the production of millions of electronic devices (computers, cell phones,

LCD televisions) in a short time span. These electronics contain a number of materials known to have serious negative impacts on human health. As electronic devices are discarded in ever increasing quantities, the e-waste problem continues with no end in sight. This paper discusses the impacts of legislation banning the use of lead and other materials in electronic devices and issues surrounding the resultant technological choices.

Cooper, Jago (Institute of Archaeology, UCL)
[86] *Constructing Sustainable Island Communities: Comparative perspectives from the Pacific and Caribbean Islands*

Island communities face challenges in trying to build sustainable societies in the face of demographic pressures, climate variability, and environmental change. This paper will present results from recent archaeological fieldwork in Rapa Nui and Cuba that focuses on how water management techniques, food procurement strategies and landscape geoengineering affect the relative vulnerability and resilience of past human communities. By providing comparative perspectives on the time depth of human experience in Rapa Nui and Cuba it is possible to discuss the temporal relationship between key hazards, identified human mitigation strategies and the relative long-term sustainability of past island societies.

[165] *Discussant*

Cooper, Jago [193] see Valcarcel Rojas, Roberto

Cooper, Leslie [67] see Galle, Jillian E.

Cooper, Martin [192] see Carnevale, Andrea

Cooper, Randall [90] see Quick, Russell S. [127] see Martin, Andrew V.

Copeland, James (Bureau of Land Management)
[53] *Old Stone Towers, Ranches, and Springs: The General Land Office Surveys*

General Land Office (GLO) surveys completed by the United States government are a significant resource for information on the nature and character of lands prior to or shortly after historic settlement. With homestead and census data, the information offers insights to former land use often lost with the passage of generations. Examples from northwest New Mexico are used to identify and characterize now largely abandoned Native American, Hispanic, and Anglo rural landscapes. The use of GLO data to measure environmental degradation from unrestrained late 19th to early 20th century grazing practices in the Largo and Gobernador watersheds is also demonstrated.

Corbett, Debra (Us Fish & Wildlife Service)

[204] *The Interior is Irrelevant to Their Way of Life*
Received wisdom in Aleutian Island archaeology is that the island interiors were useless to the prehistoric Aleuts. As a result all archaeological survey focused on the coastline and excavations were limited to large permanent villages. Beginning in 1997 a systematic effort has been made on Adak Island in the Central Aleutians to identify and characterize prehistoric inland sites. Over 30 prehistoric inland sites have been recorded and a number tested. Patterns of use are beginning to emerge.

In addition to obvious economic uses inland sites are beginning to reveal unknown dimensions of social interactions among and between island settlements.

Cordell, Ann [270] see Livingood, Patrick C.

Cordell, Ann S. [162] see Herbert, Joseph M.

Cordero, Maria-Auxiliadora (University of Pittsburgh), Martha Romero (Instituto Nacional de Patrimonio Cultural, Ecuador) and Richard Scaglion (University of Pittsburgh)

[235] *North Andean Ritual Vessels: A Chemical Analysis of Piartal Pottery*

Over the last few years Cordero and Scaglion have analyzed a pottery collection at the Carnegie Museum of Natural History in Pittsburgh. A group of bowls affiliated with the Piartal complex of northern Ecuador displaying red overpainting led them to suggest prehispanic curation of bowls associated with funerary rituals. We present the results of chemical and X-ray fluorescence analyses performed at the lab of Ecuador's Institute of Patrimony (INPC) on a number of Piartal vessels from a similar collection in Ecuador to determine whether the ideas proposed earlier about rituals of renewal derived from the Pittsburgh collection are supported.

[235] *Third Organizer*

Cornelison, John (National Park Service)

[34] *Fort Rosalie, Natchez, Mississippi – A site of conflict between cultures: The history, archeology, and future plans for this French Fort*

The location of Fort Rosalie has been presumed by generations of Natchez citizens. Prior to WW II J.D. Dixon built a western fort on the suspected location. It was uncertain if Dixon's fort was at the correct location, and if so, did anything remain. Since the NPS acquired the land the Southeast Archeological Center has conducted seven seasons of testing. During that time much evidence has been recovered indicating that this is the correct location, and that important features are still present. This paper describes the history of the site, the recent investigations, and plans for the future.

Cornelison, John [193] see Persons, A. Brooke

Cornish, Travis [131] see Walling, Stanley L.

Coronado-Ruiz, Anabella (University of Texas)

[191] *Implementing a more Integral Methodology to Analyze Preclassic Lowland Maya Architecture*

This presentation will discuss the ways in which various methodologies can be successfully integrated in studies of Maya Lowland architecture. Traditional methods emphasize chronology, material and iconographic analysis, as well as the spatial and structural aspects of Maya buildings. By combining these modes of analysis with current trends in architectural theory and construction technology, we aim to move beyond mere aesthetic concerns. Instead, we propose to focus on identifying technologies of building, differentiating phases of construction, and the shifting circumstances in which they took place. As a result, we will be better able to understand the significance of Preclassic Architecture.

Coronel, Eric [128] see Terry, Richard E.

Corrales Ulloa, Francisco [205] *see Benitez, Alexander V.*

Corrales-Ulloa, Francisco (Francisco Corrales-Ulloa) and Adrian Badilla (National Museum of Costa Rica) [122] *Recent research of chiefdom societies in the Diquís Delta, Southeastern Costa Rica.*

As part of the study of chiefdom societies and their archaeological indicators, the results of recent archaeological research in the Diquís Delta, in southeast Costa Rica are presented. The sites have mounds with river stone retaining walls, paved areas and accretional stratigraphy. Many of these sites also have stone spheres. The excavations conducted at circular mounds and their associated porches and ramps at the Finca 6 site have shed light on construction techniques of the Chiriquí Period (AD 800-1500). New areas with in situ stone spheres were discovered and a rectangular burial mound with over one hundred offerings was excavated.

Cortegoso, Valeria (CONICET-UNCuyo-Argentina), Martin Giesso (Northeastern Illinois University), Victor Durán (CONICET-UNCuyo), Lorena Sanhueza (Universidad de Chile) and Michael D Glascock (Research Reactor Center-University of Missouri)

[112] *Ten years of analysis in obsidian procurement from the Early to the Late Holocene on both sides of the temperate Andes*

Trace element analysis has been performed on more than 1000 samples from 106 archaeological sites dating between 9000 and 300 BP, and six sources. Analyses were conducted to determine the spatial distribution of sources and to test models of mobility and exchange in the region. Different devices were used to characterize the obsidian samples (Elva-X table top and Bruker III-V portable X-ray fluorescence spectrometers, and NAA). This poster discusses how the increase in the number of samples and the improvement in our knowledge about obsidian source distribution changed our interpretations about obsidian circulation since the first 2002 NAA results.

Cortegoso, Valeria [153] *see Giesso, Martin*

Corteletti, Rafael and Paulo DeBlasis (Universidade de São Paulo)

[277] *A study of the Jê presence in the plateau of Santa Catarina, Brazil*

At the highlands of the upper Canoas valley, Santa Catarina, twelve different kinds of archaeological sites associated to Southern Jê populations seem to refer to different patterns of occupation through time, approximately between 2000 BP until the present day. The analysis of spatial and temporal dispersion of archaeological sites on the landscape should allow the perception of the diachronic relations among them and explore aspects of the territoriality and social organization of this society before conquest, thus helping to build the history of their own culture and perception of the world.

Cortes-Rincon, Marisol (Humboldt State University)

[131] *Dos Hombres to Gran Cacao Archaeology Project: Inter-site Organization and Settlement Patterns*

Recent fieldwork in the Dos Hombres to Gran Cacao Archaeology Project, located in northwestern Belize, has revealed occupation with intact architecture yielding ancient spatial patterning. Initial efforts focused on the mapping and clearing of architectural structures and the excavation of test pits. Preliminary mapping results suggest careful planning and a complex design. Here, I examine the spatial distribution of structures documented during the 2009-2011 field seasons. Utilizing cluster analysis of structure type and size, this research aims to identify social differences within the area covered thus far. In particular, the relationship between architecture and social stratification is considered.

Cortes-Rincon, PhD, Marisol [70] *see Boudreaux, Sarah N.*

Cortez, Constance (Texas Tech University)

[152] *"Aca y Alla": A Presentation on the Rightness of Trans-Temporal Puddle-Jumping*

One of the more salient qualities of Virginia Field's scholarship was her ability to transcend the boundaries of chronology and cultural specificity. This is particularly true in her inclusion of contemporary Chicano/a art in her exhibitions. For these artists, living daily, the notions of aca y alla ("here and there") and nepantla negates canonical notions of history, laying bare the fallacy of institutionally-sanctioned constructions. The void left is easily filled with re-visioned pasts that make clear the realities of the present. This paper examines some of these Pre-columbian re-visioned pasts via the hands of contemporary artists.

Cossich, Margarita [30] *see Arroyo, Barbara*

Costion, Kirk (Oglala Lakota College)

[104] *Huaracane Production and Consumption of Chicha de Molle at Yahuay Alta: An Example of Indigenous Agency in a Colonial Landscape*

This paper will review evidence from the Huaracane site of Yahuay Alta that demonstrates its residents produced chicha de molle in both public/ceremonial and domestic contexts during the early Middle Horizon. Although, production of this beverage, which is closely associated with Wari identity, implies close interaction with Wari colonists, the evidence suggests that this beverage was incorporated into existing Huaracane practices. The rejection of Wari consumption practices and material culture indicates that even though there was cultural exchange between the Wari and Huaracane, the community at Yahuay Alta actively maintained a relatively traditional cultural identity in the face of colonization.

Costopoulos, Andre [279] *see Collard, Mark*

Cothren, Jackson (CAST, University of Arkansas)

[12] *Discussant*

Cothren, Jackson [64] *see Casana, Jesse [191]* *see Fisher, Kevin D.*

Coughenour, Chance [131] *see Walling, Stanley L.*

Coupland, Gary [207] *see Clark, Terence*

Couture, Nicole [28] *see Bruno, Maria C.*

Cowan, Ellen [107] *see Seramur, Keith*

Cowgill, George (Arizona State University) [21]
Discussant [73] Discussant

Cowie, Ellen (Northeast Archaeology Research Center), Robert Bartone (Northeast Archaeology Research Center, Inc.), Gemma Hudgell (Northeast Archaeology Research Center, Inc.) and Michael Brigham (Northeast Archaeology Research Center, Inc.)

[268] *The Grand Lake Outlet Site: An Early Paleoindian Encampment on the St. Croix River, Maine/New Brunswick Border*

Recent archaeological research at the outlet of Grand Lake in the St. Croix River drainage of Washington County Maine has resulted in the identification of a newly recorded Paleoindian site on the Maine, New Brunswick border. The site is comprised of at least three activity loci, one of which has been intensively investigated. Although no fluted points were identified, other evidence including flaking technology and extant tools indicates a general Paleoindian attribution and strongly suggests a specific chronological/temporal relationship to the Vail-Debert type sites. How the site fits into regional chronologies and broad scale settlement pattern is explored.

Cowie, Ellen [268] *see Bartone, Robert N.*

Crabtree, Pam (New York University)

[157] *The Role of Dogs in Anglo-Saxon Society: Evidence from Eastern England*

This paper will examine the roles that dogs played in Anglo-Saxon (420-1066 CE) society, drawing on data from the Late Roman site of Icklingham and the Anglo-Saxon sites of West Stow, Brandon, and Ipswich in Suffolk. The archaeological context of these finds will be examined, along with the zooarchaeological data on dog size, ages at death, and paleopathology. The data suggest that Early and Middle Anglo-Saxon dogs are less varied than Late Roman dogs, but that Late Saxon dogs from Ipswich reveal an increasing diversity, suggesting that they are playing multiple roles in Late Anglo-Saxon urban sites.

Crabtree, Stefani (Washington State University)

[272] *Why can't we be friends? Exchange, alliances and aggregation*

Understanding exchange is important for understanding archaeological societies. However, previous studies within archaeology have focused on exchange of material goods, such as ceramics or prestige items, and, understandably, have ignored day-to-day exchanges of food items. In this paper I build on the framework of the VEP's agent-based simulation and examine the social interactions of our agents through exchange networks. Analyzing the social-networks that develop from the exchanges, how these networks change through time, and how they inform the aggregation we see in the archaeological record help us understand the day-to-day occurrences for the Ancestral Puebloans of Southwestern Colorado.

[272] *Second Chair*

Crabtree, Stefani [85] *see Reese, Kelsey*

Craib, Donald (Cultural Heritage Partners, LLC) [81]
Discussant

Craig, Heather [140] *see Byers, David A.*

Crandall, John (University of Nevada, Las Vegas), Debra Martin (University of Nevada, Las Vegas) and Ryan Harrod (University of Nevada, Las Vegas) [105] *We Didn't Know We Were Poor: Rethinking Marginality and Gender Relations at Black Mesa (AD 900-1150)*

The Black Mesa Archaeological Project (BMAP) represents 15 years of study by archaeologists who often referred to the inhabitants as "poor cousins" of their wealthier contemporaries at Chaco Canyon and Mesa Verde. Data on skeletal health and activity patterns, taken together, reveal that physically strong women worked alongside male counterparts. Our interpretation provides an alternative view to stereotypical models of gender hierarchy and complementarity - topics that feminist archaeologists have recently critiqued. Instead, this project highlights the link between gender relations, political economy and ecology.

Crane, Eli (TrioVerse, LLC), Christopher Begley (Transylvania University) and Laurence Hassebrook (University of Kentucky)

[41] *Structuring Light in the Darkness: 3-D Imaging in Underwater Caves*

This presentation explores the benefits and possibilities of a three-dimensional (3-D) imaging technique that can be used in submerged cave environments. 3-D imaging has already become commonplace in terrestrial archaeology for topographical representations of objects. However, due to added challenges, 3-D imaging has yet to be fully utilized when working in underwater caves. Collected 3-D data can be used to improve accuracy in measurement, provide easier in situ documentation, and can be acquired without disturbing the material culture. The technique presented uses a hand-held 3-D scanner allowing for minimal impact on a diver's maneuverability.

Cranford, David (UNC-CH) and Mary Elizabeth Fitts (UNC-CH)

[232] *Tracing Persistence through Coalescence: Cheraws in the Catawba Nation*

Studies of coalescence, one strategy for survival pursued by populations experiencing severe demographic decline, usually emphasize how multiethnic communities establish cohesive identities. The Catawba Nation has been described as a multiethnic polity that emerged in the early 1700s and was fully integrated by 1760. While subsequent references to its constituent groups are rare, evidence of one such group – the Cheraws – can be traced into the 1840s. Using data from sites that pre- and post-date the presumed completion of Catawba coalescence, we examine whether the persistence of Cheraw identity can inform analysis of pottery, dress, settlement, foodways and coalescence more broadly.

Crawford, Gary (University of Toronto)

[163] *Early through Late Neolithic Plant-Based Economy and Human Ecology in the Lower Huanghe Basin, China*

Significant developments in both food production and sociopolitical systems occurred during the Neolithic in Eastern Henan and Shandong provinces, China. Data from the Houli ca. (8000 cal. BP) through late Longshan cultures (ca. 4000 cal. BP) indicate that human-plant interactions had developed into an agroecology by the beginning of the sequence and four millennia later was highly productive and supported substantially urbanized populations. The data are compared to a published sequence from the Yiluo valley to the west. Both Houli and Longshan cultures had rice, millet and legumes (soybean and adzuki) with a wide range of weeds including a variety of wild grasses. The differences and similarities are explored and questions for further research are raised.

Creamer, Winifred (Northern Illinois University), Jonathan Haas (Field Museum), and Henry Marcelo Castillo (Archaeology Museum, UNJFSC, Huacho, Peru)

[150] *A Culturescape Built over 5000 Years, from Late Archaic archaeology to the pageant of Vichama Raymi* In Peru's Norte Chico, an Independence Day pageant retells the myth of Vichama. Collected by Antonio de Calancha in 1639, the tale was popularized during the 20th century during waves of internal migration. Participants come from the highlands, yet Vichama remains popular. Themes stress immutability of social classes, the fundamental importance of agriculture and worship of monoliths (huanacas) as ancestors. Archaeological research demonstrates social classes, irrigation agriculture and huanacas during the third millennium BC, earlier than elsewhere in the New World. This contemporary culturescape combines archaeological fact with performance by immigrants who today perceive themselves within this ancient regional tradition.

Creamer, Winifred [150] see *Creamer, Winifred*

Creasman, Pearce Paul (University of Arizona) [257]
Discussant

Creel, Darrell (University of Texas at Austin)

[17] *Caddo Pottery in Central Texas: Implications for Late Prehistoric and Early Historic Interaction* Late prehistoric and early historic Caddo pottery occurs widely and consistently in hunter-gatherer sites in central and west central Texas. Using neutron activation analysis, temper and stylistic differences, much of this Caddo pottery can be linked to specific production areas in northeastern Texas; but some appears to have actually been made in central Texas. The implications of these occurrences are considered in light of ethnohistoric documentation of Caddo Indians among the Jumano and other mobile groups in central Texas.

Creese, John (University of Cambridge)

[23] *Doing the Unspeakable: Wendat Art and Performances of the Self*

'What is the artist trying to say? What does it really mean?' These are the perennial questions posed by contemporary gallery goers, culture-critics, and archaeologists when confronted with an unfamiliar work. Here, I challenge these discursive preoccupations with the proposal that, in 'making society', art necessarily

does the unspeakable. A study of historic Wendat ritual drama illustrates art's profound power to forge emotionally loaded associations between persons and things, and so to reconfigure social life. I use Knappett's models of 'networking' and 'layering' to interrogate artistic performances that did not simply communicate – but constituted and transformed – Wendat personhood.

Creger, Cliff [234] see *Hockett, Bryan*

Crews, Christopher (Texas A&M University)

[249] *Practicing Lithic Manufacture: Lithic Analysis at Hummingbird Pueblo*

Lithic assemblages from midden deposits and excavated units from Hummingbird Pueblo have been analyzed using the tenets of practice theory to determine the cultural continuity at the pueblo. The findings will be compared with similar investigations that have been implemented on the ceramic and faunal assemblages from the same excavated contexts. These studies show a definite change in cultural identity and communal practices. However, the lithic assemblage results are not so straight forward.

Crider, Destiny (Arizona State University), Deborah L. Nichols (Dartmouth College) and Christopher Garraty (Gila River Indian Community/Arizona State University)

[54] *Inspired by Stark: Ceramic Exchange and the Postclassic Political Economy of the Teotihuacan Valley* Among Barbara Stark's important contributions to Mesoamerican archaeology are her studies of exchange. Building on her work, we take both a regional and diachronic approach to look at ceramic exchange over the long course of the Postclassic in the Teotihuacan Valley, Mexico, from the Epiclassic until Early Colonial period, through episodes of political fragmentation and centralization. We draw on stylistic and source (INAA) ceramic data from both urban and rural settlements and integrate them with regional settlement patterns.

Cristiani, Emanuela and Dusan Boric (University of Cardiff (UK))

[202] *Differences between the Mesolithic and Neolithic technological traditions in the osseous industries of the Danube Gorges*

The region of the Danube Gorges in the north-central Balkans is one of few regions in Eurasia with well-documented archaeological sequences for understanding transformations from hunting and gathering to farming. Our analyses of techno-functional traits on bone, antler and ivory identified a typical Mesolithic technological and functional tradition throughout the Early Holocene in this region. At the end of the 7th millennium BC, these foragers came into contact with Neolithic groups, and new, Neolithic morphologies and manufacturing techniques were being adopted in this region, coming from different technological traditions. These changes also suggest an introduction of new daily routines.

Crock, John (University of Vermont) and Francis Robinson, IV (University of Vermont)

[268] *Maritime Mountaineers: Paleoindian Settlement Patterns on the West Coast of New England*

Data obtained from recently identified higher elevation Paleoindian sites in Vermont indicate early use of east-

west travel corridors through the Green Mountains between the Champlain Sea Basin and the Connecticut River Valley. These sites also document the use of a specific Vermont quartzite quarry by Paleoindians and the transmission of materials between the Champlain Valley and sources to the east in what is now northern New Hampshire and northern Maine. We explore the correlation between these and other confirmed early, middle and late Paleoindian sites in Vermont and major environmental changes such as the recession of the Champlain Sea.

Cross, Kathryn (James Madison University)

[36] *Challenging Traditional Settlement Models: GIS Cost-Path Analysis and Hunter-Gatherer Mobility in the Virginia Blue Ridge*

Traditional Middle Atlantic settlement models portray Archaic and Woodland hunter-gatherer mountain sites as small, short-term, and auxiliary to a lowland-based lifeway. Recent archaeological research in the Central Virginia Blue Ridge Mountains challenges these generalized models, demonstrating that mountain sites were intensively used over extended periods of time, and may have been places of social aggregation. A Geographic Information Systems (GIS)-based approach, and specifically cost-path analysis, was implemented to develop an alternative method for settlement interpretation centered on hunter-gatherer mobility. Six hunter-gatherer sites located in the Wintergreen Resort Community and two known Antietam formation quarries were selected for this analysis.

Croucher, Sarah (Wesleyan University)

[92] *Local Consumption in a Global Society*

In the majority of historical archaeological models, local production of goods for local markets unfolds as the continuity of tradition against the consumption of novel foreign goods. In this paper, I suggest that we need to draw out more variability within this kind of standardized models. On nineteenth century Zanzibari clove plantations I suggest that possibly the opposite was true: Locally produced goods whilst "local" to Zanzibar specifically were novel for a number of regional (slave and free alike) migrants, who utilized these in the ongoing negotiation of new identity practices, whereas imported goods were often drawn into ongoing traditions of commensurability between different social classes.

Cruz, Clarence [65] *see Jolie, Ruth B.*

Cruz, M. Does (University of Denver)

[230] *From Domestic to Sacred Landscapes: tales of memory and archaeology in Southern Mozambique*
Pre-colonial and colonial indigenous settlements in Southern Mozambique were of little permanence, almost invisible in the archaeological record. However, contemporary populations maintain a close relationship and understanding of physical and spiritual landscapes of memory, power and resistance. I discuss how archaeology can overcome dilemmas of ephemeral occupations through the use of multiple sources and an approach to contemporary landscapes. Memories of local political elites are mapped and materialized through the cult of ancestors and the sacralization of archaeological sites, particularly fortified residences of political leaders that defied the Nguni occupation, while equally

interplaying with interpretations of local modern, anti-colonial heroes.

Cruzado Carranza, Elizabeth Katherine (PIARA, Proyecto de Invest. Arq. Reg. Ancash (Peru))

[215] *A New Typology of the Huaura Ceramic Style from the North-Central Coast of Peru*

The Middle Horizon (AD 600-1000) ceramic style known as Huaura is found in several coastal valleys spanning 150km of the north-central Peruvian coast, yet it has not received proper investigation by archaeologists. This study presents the first attempt to create a typology of the Huaura style via an analysis of complete vessels found in six local museums in four coastal valleys: the Chancay, Huaura, Pativilca and Fortaleza. While these collections are unprovenienced, this analysis provides a starting point for defining and understanding this widely distributed ceramic style on the ancient Peruvian coast.

Cueto, Manuel [231] *see Skarbut, Fabiana*

Culleton, Brendan (University of Oregon)

[167] *The Geoarchaeological Record of Landscape Change at the Maya Polity of Uxbenká, Belize.*

Geoarchaeological research demonstrates that the ancient Maya adapted to local conditions of soil fertility, seasonal drought, and social organization to produce multiple landuse strategies. I report results of geoarchaeological investigations at Uxbenká in southern Belize, which provide a record of Late Holocene landscape responses, from the Middle Preclassic and Classic Periods. Multiple episodes of geomorphic change are identified and discussed in relation to local climate and cultural histories. The soils around Uxbenká develop rapidly from bedrock and accumulate in faults that trap sediment without terracing. Thus, Uxbenká may be an example of persistent Maya urbanization without large-scale soil management efforts.

Culleton, Brendan [32] *see Garcia, Oretó*

Culleton, Brendan J. [43] *see Lohse, Jon C. [123]* *see Kennett, Douglas J.*

Cummings, Linda (PaleoResearch Institute, Inc.), R.A. Varney (PaleoResearch Institute, Inc., Golden, Colorado) and Charles Musiba (University of Colorado, Denver)

[113] *A Pollen Record of Vegetation Associated with Hominid Remains from the Laetoli Beds in Tanzania, Africa, Approximately 3 Million Years Ago*

Recovery and identification of pollen from Tuff sediments near the site of Laetoli in Tanzania, Africa, provides valuable information on the composition of the local scrubland vegetation. Challenges in recovery of pollen from these types of sediments have led to examination of termite mounds in the past and also a search for phytoliths. This recovery has broken the ground for continued examination of the environmental record through pollen analysis in the sediments that have yielded evidence of early hominids in east Africa.

[113] *First Chair*

Cunnar, Geoffrey (WCRM)

[163] *Looking at Crafts Under the "Archaeological Radar" in Late Neolithic China: An Examination of the Evidence*

for Hide Working, Lumber Production and Boat Building. The "Haidai" or seacoast area of Shandong Province has seen the excavation of a number of large late Neolithic settlements. Excavations at one of these sites have yielded hundreds of stone tools. In this paper, I summarize the stone tool production technology and organization at Liangchengzhen and discuss this in a regional context. The paper will focus on crafts associated with stone tool production that have fallen under the "archaeological radar", but could have played a significant role in the local and regional economy. This paper will address the evidence for hide working, lumber production and boat building.

Cunnar, Geoffrey [159] see Stoner, Edward J.

Cunningham, Jerimy (The University of Lethbridge) [265] *Marxism as Theory Pluralism*

In the last 30 years, Marxian perspectives have offered many archaeologists a middle-of-the-road antidote to the binary thinking that generated the processual-postprocessual debate. I suggest that Marx's holistic vision of cultural ontology and epistemology might now equally enable the wider discipline to convert its current theoretical eclecticism into a more productive form of theory pluralism. To illustrate my position, I introduce case studies drawn from ethnoarchaeological research on capitalism and craft production in Mali and archaeological investigations of households in the Chihuahua Culture from Northern Mexico.

[265] *First Chair*

Curet, L. (The Field Museum) [165] *First Chair*

Cureton, Travis (University of Mississippi, Oxford)

[7] *Gradiometer survey of Cohonina sites in the San Francisco Mountain Volcanic Field, Arizona*
Magnetometry is an underutilized tool in Southwest American archaeology. Recent gradiometer surveys conducted in the San Francisco Volcanic Field of Northern Arizona indicate that it is a viable method of archaeological prospection in that region despite high remnant magnetism attributable to local geologic conditions. In this poster I focus on gradiometer surveys over sites near Pittsburg Fort, a Cohonina site located on an extinct cinder cone. The integration of pedestrian survey, targeted gradiometer survey, and minimal excavation proved highly successful in mapping and examining the distribution and structural organization of features at previously unknown Cohonina sites associated with Pittsburg Fort.

Curry, Ben (University of Arizona)

[18] *Wilder Ranch at Home and Abroad: the day to day life and global connections of a Mexican Rancho*
During the mid-nineteenth century Wilder Ranch California State Park was a Mexican Land Grant Rancho. Like many Mexican Ranchos it participated in the global hide and tallow trade while providing a subsistence base for its owners. Because cattle had this dual use as both food and global market commodity, patterns in their use and butchery can simultaneously illuminate both larger economic patterns and localized daily practices. This paper summarizes thesis work on these animal use patterns, along with material cultural indicators of global market participation, local subsistence practices, and

continuing indigenous labor regimes.

Curta, Florin [237] *Discussant*

Curtis, Caitlin (University at Buffalo) and Christina Luke (Boston University)

[99] *Viewing Bin Tepe through Olive Branches: A GIS Approach to Presenting Lydia*

In Central Lydia, western Turkey, overlapping eco-cultural features—including the burial mounds of Bin Tepe, the Marmara Lake wetland zone, and a village-based organic agriculture industry—present an ideal opportunity for holistic preservation of a living heritage landscape. Our paper discusses how the application of GIS (Geographic Information Systems) is one critical element in planning viewscales for touristic development in Bin Tepe. This approach sets the stage for future collaboration with farmers and municipal planning offices to optimize the scenic potential of burial mounds, agricultural fields and Marmara Lake, and takes a positive step toward an integrated management strategy.

Curtis, Tiffany (University of Alaska Anchorage) and Robin Mills (Bureau of Land Management)

[27] *Dendroarchaeology on the Fortymile River, Alaska or "Get the Yeti!"*

The Eastern Interior Field Office, BLM initiated an ambitious project for the Summer of 2011: to build live tree chronologies of White Spruce for the entire Fortymile Wild and Scenic River, beaver Creek Wild River, and Birch Creek Wild River corridors, totaling 550 river miles. These chronologies are to be used to date the numerous historic cabins and other structures found within these corridors. Many of these are significant to Interior Alaska's gold mining and trapping heritages that continue to this day. A total of 1,687 core samples were taken representing live trees and 77 historic sites.

Cuthrell, Rob [238] see Farahani, Alan

Cutright, Robyn (Centre College), John Rucker (Centre College), William Spradlin (Centre College) and Gabriela Cervantes (University of Pittsburgh)

[243] *Coastal Politics in the Middle Valley: Ventanillas as a Lambayeque Political Center in the Middle Jequetepeque Valley, Peru*

This poster presents new data on Ventanillas, a Lambayeque political and ceremonial center in the middle Jequetepeque Valley, Peru. This site, which was occupied during the early Late Intermediate Period, contains extensive residential areas and terraces surrounding a core of monumental architecture, including chamber and fill platform mounds and large plazas. During the 2011 field season, mapping, limited excavations, and surface collections yielded spatial and ceramic data revealing overlapping coastal and highland influences. Ventanillas likely acted as an administrative outpost and locus of interaction between coastal Lambayeque (Sican) and highland Cajamarca polities in the multiethnic middle valley region.

Cutright-Smith, Elisabeth (University of Arizona)

[85] *Ancestral Hopi Landscapes and Cultural Resources Preservation from the Vantage Point of Homol'ovi [Ruins] State Park, Arizona*

I investigated the Cottonwood Wash drainage and integrated the results of archaeological survey with data derived from the Homol'ovi Research Program's survey of the HRSP and Hopi cultural advisors to reveal overlapping patterns of prehistoric land use materially visible today, and juxtaposed this with Hopi migration traditions and landscape concepts. I situate my research within the current struggle to manage and protect the HRSP. Utilizing my findings regarding the role of the Homol'ovi region within the ancestral Hopi archaeological, I consider the implications of cultural resources legislation and litigation for the preservation and management of off-reservation cultural resources.

Cutright-Smith, Elisabeth [171] *see Adams, E. Charles*

Cybulski, Jerome [207] *see Clark, Terence*

Cyr, Howard (University of Tennessee), Jeremy Blazier (Weaver and Associates, LLC), Anna Lunn (Weaver and Associates, LLC) and Guy Weaver (Weaver and Associates, LLC)

[173] *Floods, Fans, and Families: Prehistoric occupations of stable landforms along a dynamic Southeastern river system.*

The Elvis Riley site (40PY288), central Tennessee, is a deeply-stratified site along the Buffalo River occupied from Late Paleoindian to Mississippian times. Geoarchaeological investigations revealed that 40PY288 occupies a stabilized alluvial fan. Prehistoric occupation occurred during periods of extended landscape stability, marked by weakly developed soils and midden deposits. Dominated by increased surface runoff within ephemeral drainages, changes in fan stability may be tied to changes in Holocene precipitation patterns across the Southeast. Although rarely discussed in Southeastern archaeology, alluvial fans may represent the types of landforms that should be targeted when looking for sites of great antiquity.

Czapiewska, Ewa (University College London)

[66] *Understanding social, economic and political change: The analysis of ceramics from El Zotz*

This paper presents the results of ceramic analysis of the assemblage recovered by the Archaeological Project El Zotz. The sites represented in the collection: El Zotz, El Palmar and Bejucal, all share various regional traits within their material culture along with unique characteristics attributed to their individual course of spatial and temporal development as indicated in their ceramic assemblages. With the aid of the Type-Variety and Modal analyses it will be discussed how the production, consumption as well as trade and exchange practices reflect the changes of political, economic and social dynamics operating at El Zotz and in the region.

Czaplicki, Jon (Bureau of Reclamation)

[115] *Is Pot-hunting a Crime or a Hobby? Utah and the Summer of 2009*

In the Summer of 2009, federal agents broke up a large artifact trafficking ring in Utah. Dozens of people were arrested and two committed suicide. Utah's two U.S. senators called for an investigation of the entire incident. How did the press see this major artifact trafficking bust and the pot hunting that fueled it? How did people in Utah and elsewhere view the bust and the pot-hunting

that for many in the Southwest is a hobby? Do the feds own everything?

[257] *Discussant*

Czaplicki, Jon S. [245] *see Hull-Walski, Deborah A*

Czechowski, Kate [60] *see Pike-Tay, Anne*

Daggett, Adrienne (Michigan State University)

[140] *Preliminary spatial analysis of early agricultural settlements at Sowa Pan, Botswana*

Although settlement patterning figures significantly in current understanding of the sociopolitical traditions of prehistoric agricultural societies in southern Africa, many of these patterns have yet to be subject to the higher-level spatial analyses possible with use of a GIS. This is particularly true for the northern Kalahari in Botswana, where research has focused mainly on linking local cultural horizons with contemporary state-level polities. This project asks what analysis of spatial characteristics of resource utilization, trade volume, and settlement density can add to understanding of these traditions as they are represented on the margins of Sowa Pan in Botswana.

Da-Gloria, Pedro [158] *see Strauss, André*

Dahdul, Mariam (University of California, Santa Barbara)

[146] *Resource Stress and the Emergence of Formal Cemeteries in Hunter-Gatherer Societies: A Case Study from the Coachella Valley, California*

The emergence of formal cemeteries in hunter-gatherer societies has been attributed to environments that provide a productive and predictable subsistence base, which encourages sedentism, resource competition, and defense of territorial boundaries. Cemeteries are a means of communicating ancestral links to territory and rights to use critical resources. I consider the conditions under which formal cemeteries appear in the Coachella Valley, California, which coincides with the transition from a lacustrine to desert environment and a decrease in the abundance of the subsistence base. The predictability of key resources was the impetus for territoriality, with cemeteries signaling ownership of these resources.

Dalan, Rinita [7] *see Greenlee, Diana M.*

Dale, Darren S. [192] *see Jordan, Kurt A.*

Dale, Emily (University of Nevada-Reno)

[18] *Ordinance 32, Spring Street, and Aurora's Chinese*

Despite the racially charged overtones of the late nineteenth-century, Chinese immigrants in Aurora, Nevada survived and thrived from the town's founding in 1861 until its final mining bust in the 1890s. This presentation incorporates research from historical records and documentation, as well as recent archaeological survey and excavation data to increase our understanding of the lives, jobs, consumption habits, and residential patterns of Aurora's Chinese population. This research contributes to the knowledge base of Chinese immigrants in mining towns and allows for comparison to be made with other populations across the Western United States.

D'Alpoim Guedes, Jade (Harvard University)**[95]** *Millet, Rice, Social Complexity and the Spread of Agriculture to Sichuan*

Sichuan played an important role in the spread of agriculture to Southwest China and ultimately Southeast Asia. Local ecology and the crops grown had a profound effect on trajectories towards social complexity in this region during the late Neolithic/Bronze Age. Both millet and rice agriculture played important roles in the transmission of agriculture to this region. We will examine the evidence for the early spread of millet agriculture to the highlands surrounding the Sichuan Basin and the Tibetan Plateau. We will then discuss the spread of rice agriculture to the Baodun culture (c. 2700-1700 BC) sites of the Chengdu Plain.

Dalton-Carriger, Jessica [197] *see Koerner, Shannon***D'Altroy, Terence (Columbia University)****[262]** *The Epistemology of Empire*

Like other rulers of early empires, the Inkas undertook two intermeshed imperial projects: 1) the domination and exploitation of millions of people and their resources, and 2) an intellectual argument for their place in the cosmos and history, which asserted their legitimacy as rulers of the known world. Neither could have been fully successful without the other. This paper explores some of the logic unpinning the Inkas' efforts to develop a canon of imperial knowledge. It asks how the Inkas might have assessed novel propositions, focusing on how notions of time, being, and the past were employed in the process. The interplay of materiality, immateriality, and performance are assessed in this context.

[238] *Discussant***Dancey, William (Ohio State University)****[241]** *Siteless Survey: Yesterday, Today, and Tomorrow*

The siteless survey strategy contains four ideas central to Bob Dunnell's thinking about data recovery: the artifact as the minimal unit of observation and recording, the bounded unit of space as the sampling unit, the surface as a source of primary data, and adaptability. This paper looks at these central concepts in light of criticisms, innovations, and applications since siteless survey was introduced. Illustrations are drawn from the author's work in central Washington and Ohio. The paper ends with speculation about the role of siteless survey in the archaeology of tomorrow.

D'Andrea, William (LDEO of Columbia University),**Yongsong Huang (Brown University), Sherilyn****C. Fritz (University of Nebraska - Lincoln) and N.****John Anderson (University of Loughborough)****[51]** *The impact of past temperature change on societies of West Greenland: Evidence from a new paleoclimate proxy*

West Greenland has had multiple episodes of human colonization over the past 4,500 years, including the Norse from ca. 980 to 1450 AD, and climate change is often cited as a major driver of migration and cultural transition in the region. Using a new quantitative paleotemperature indicator from lakes near past settlements, we show that abrupt temperature changes indeed correspond to observed transitions in the archaeological record of West Greenland. Our temperature reconstruction, together with other

paleoclimate records, reveals changes in spatial climate patterns in the North Atlantic sector similar to those of the modern day North Atlantic Oscillation.

Danielson, Brent [96] *see Otárola-Castillo, Erik***Danti, Michael (Boston University)****[103]** *Putting the "Pastoral" in "Agropastoral": Modeling Small Ruminant Production in the Near East*

Small ruminant diets and seasonal fluctuations in nutritional needs are seldom considered in models of ancient Mesopotamian subsistence economies despite the acknowledged role pastoral production plays in promoting resilience and stability in harsh and unpredictable environments. This paper examines the crucial role of conserved fodder in herd management strategies, and how it provides a means for archaeologists to model ancient agropastoral systems. The long-term archaeological project at the Early Bronze Age urban center of Tell es-Sweyhat, located in the agriculturally-marginal Syrian Jezireh, serves as a case study.

Darling, J Andrew (Gila River Indian Community)**[205]** *Face Casts and the Materialization of Experience in early Americanist Anthropology*

Facial casting at one time was a principal technique for transforming human beings into the material manifestations of anthropological data. Casts assembled by Ales Hrdlicka for the 1898 Hyde Expedition in northern Mexico mark a significant transition in the study of physiognomy as a diagnostic science (of external facial signs and inner character) to the objectified face as a record (of experience and human variation). Coupled with the artifacts of "primitive" cultures, indigenous visages fossilized in plaster facilitated the physician turned anthropologist in his quest to become a scientist of social progress.

Darling, J Andrew [25] *see Eiselt, B. Sunday***Darras, Véronique (CNRS - University Paris 1****Pantheon-Sorbonne) and Laure Lodeho****[98]** *Intersecting histories of Chupicuaro, Ucareo-Zinapécuaro, and the prismatic blade. Technical skills and obsidian procurement during the Late Preclassic: techno-cultural choices versus ethnic control?*

Recent studies on obsidian at Chupicuaro (600-100 BC) bring a new light on its relationship with the close Ucareo-Zinapécuaro sources. Physico-chemical analyses show a preference for the local source of Los Agustinos. The unawareness of the prismatic blade technology and its extreme rarity as a manufactured product, revive the issue of distinctiveness of Ucareo-Zinapécuaro and its probable position at the interface between two cultural areas. This information suggests that Ucareo was not integrated into Chupicuaro territory and was clearly exploited by other populations of distinct ethnic origin. Various hypotheses are explored, from the techno-cultural choices to a possible ethnic control.

Darvill, Timothy (Bournemouth University, UK)**[90]** *Down, Down, Deeper, and Down: Matching excavation methods and recording systems in commercial and research investigations*

In recent decades there has been a tendency to promote

'standard' methods of excavation and associated recorded systems regardless of the nature of the site under investigation or the questions being asked of the archaeological data. Such methodologies have become enshrined in guidance and documents issued by professional bodies. Here it is argued that we need to take one step back from these rigid frameworks and instead develop systems that are closely aligned with the tasks they are expected to assist with, whether for application in the commercial sector or for academic research projects.

[90] *Second Organizer* [90] *First Chair*

Darwent, Chris [204] see *Mason, Owen K.*

Daugherty, Sean (Bureau of Land Management), Michael Papirtis (USDO/BLM) and Cynthia Herhahn (USDO/BLM)

[53] *Finding Good Land in the Malpais: the Role of Resources and Knowledge in Homestead Selection*
El Malpais NCA is today a patchwork of designated wilderness and wilderness study areas. In the 1930s, it was a dispersed but bustling community of homesteaders, only some of whom were locals. By WWII, most homesteads had failed. This paper explores the distribution of key resources such as arable soils, grazing lands, timber, and surface water in determining the location of homestead entries, and attempts to identify which factors contributed to homesteaders' success in patenting entries. GLO records, historical documents, and GIS are used to infer past land use decisions and discern the legacy of those decisions for BLM today.

Davenport, Anna (Glyndwr University and University of Chester) and Karl Harrison (Cranfield University)

[14] *Operation Ballan: A forensic archaeological example of a clandestine burial in a UK back garden*

The role of the forensic archaeologist has developed as a specialism separate to that of the forensic anthropologist in the UK. Specific techniques have been discussed in a number of core text books and have resulted in training courses and the foundation of a professional forensic archaeology organisation. As this discipline has developed in the UK it has brought with it undergraduate and master's level students and professional training courses for crime scene investigators. It does, however, rest on a narrow base of published research literature produced by a small number of experienced and operational forensic archaeologists. A range of characteristics have been associated with clandestine graves including the use of grave markers, the use of cover to provide the offender with shelter from potential witnesses, and the use of obstacles to discourage further investigation. Likewise, a series of grave signatures have been described such as the slumping of graves over time. In this presentation we seek to demonstrate how these characteristic features and set of behaviours present themselves within a UK based case study.

Davenport, Bryce (Brandeis University) and Charles Golden (Brandeis University)

[19] *Landscapes, Lordships, and Sovereignty in Mesoamerica*

The colonial record of Mexico and Guatemala is replete with concerns about the nature of sovereignty in the fluid

political situation during and after the Conquest. As indigenous rulers negotiated through Spanish institutions to maintain their prerogatives, they consistently defined authority in terms of territory. Questions remain, however, about whether such concerns represent colonial innovation or indigenous continuity. In this paper we draw on ethnohistoric, epigraphic, and archaeological case studies from across Mesoamerica to explore how notions of power and authority firmly embedded rulers as features of the landscapes they governed, and the deep history of this political practice.

Davenport, James (University of New Mexico)

[77] *Inka Ceramics from the Sun Temple at Pachacamac: Preliminary Results of Characterization Studies*

The site of Pachacamac, on the central coast of Peru, has long been regarded as an important ritual and pilgrimage center. The site was notable as a center of heavy Inka presence during the Late Horizon, with the construction or modification of many buildings including the Temple of the Sun. This study looks to examine the role of ceramic production during Inka administration at Pachacamac through neutron activation analysis of Inka and pre-Inka ceramics excavated at the Temple of the Sun.

Davidson, Iain (IDHA Partners, Australia), Mark Moore (University of New England, Australia) and Kimberlee Newman (University of New England, Australia)

[89] *Warranting artefact types*

Lew Binford's first foray into the empirical evidence of world archaeology was his work with Sally Binford on the Mousterian. Many of his admirers would say it was not his most successful because he uncritically accepted the categories in the Bordes typology. Such a critique may highlight the difficulties associated with interpreting an artefact typology created from exclusively archaeological data. But, more importantly, Lew's later work shows that there is very little warrant in the ethnographic record for the interpretation of any artefact types. The Nunamut were certainly not making Mousterian stone tools. This paper will consider the question of the appropriate interpretation of some classes of artefact from Australia generally said to be projectile points but for which ethnographic support is, at best, ambiguous. We discuss how Lew might have approached this problem in light of work he did after that initial work on the Mousterian artefacts.

Davies, Diane (Tulane University)

[56] *Out with the Old and in with the New: A Consideration of New Age Archaeology*

In recent years there has been an increase in websites and agencies that offer a 'new' sort of archaeology. These 'new' archaeologists state that old and traditional archaeology, that is field methods and excavation, is wanting, and that they are able to tap into 'real' ancient knowledge. Archaeologists commonly dismiss these claims, however, it is in the archaeologist's interest to set the archaeological record straight. In the same way that nationalism has skewed the archaeological record, so does New Age archaeology. In eschewing scientific reasoning, these 'new' theories reflect a great misuse of the past.

Davies, Gavin (University of Kentucky) and Marion Popenoe de Hatch (Universidad del Valle, Guatemala)

[87] *Backwater or Crossroads? Investigating the Political and Economic Relations of the Western Lake Atitlan Basin, Guatemala*

Archaeological reconnaissance along the shores and volcanic slopes of western Lake Atitlan identified several Classic to Postclassic period sites, a diverse rock art tradition and a potentially significant Classic period ceramic assemblage from San Juan La Laguna. Taken together these elements suggest that, far from being an isolated backwater, this corner of the lake was fully integrated into local and regional political and economic networks and may have acted as a pivotal node in trade between other parts of the lake and the Pacific Coast. Settlement pattern and ceramics data are presented together with the results of ethnohistorical investigations.

Davies, Gavin [267] see *Hutson, Scott R.*

Davies, Matthew

[108] *Stone cairns and related structures across Eastern Africa*

A wide range of non-domestic drystone structures are found across Kenya, northern Uganda, The Southern Sudan, southern Ethiopia and Somalia. These structures are often (but not always) associated with human burial, but they take on a great diversity of structural forms. This paper will review the distribution and typology of these features and make some suggestions as to both commonalities and divergences. Finally I will consider the context of cairn construction and meaning and whether such features should be considered 'monumental'.

[108] *Second Organizer*

Davies, Sarah [21] see *Metcalfe, Sarah E*

Davila Cabrera, Patricio (INAH)

[137] *Siete señoríos huastecos.*

La región Huasteca, en el noreste de México, está considerada como un área cultural arqueológica, homogénea y continua. Nada más lejano a la realidad, ya que a lo largo de su historia prehispánica, y en las diversas porciones de su territorio, habitaron distintas culturas. Examinaré las principales zonas arqueológicas, de los siglos XV y XVI, en el norte de la región Huasteca, hablaré sobre: Antiguo Tamuín, Cebadilla, Cozahuapan, Tamohi, Tantoc, Tepantitla y Texupezco. Destacaré sus principales correspondencias, e importantes discrepancias, en los patrones constructivos y urbanos que utilizaban cuando ocurrió la conquista europea.

Davis, Jeremy (University of Alabama)

[266] *Hearing Meaning: Towards an Audible Iconography*

The great majority of Mississippian effigy vessels express their subject matter only in visual ways. A minority, however, impart a richer sensory experience through sound. Their rattling or whistling parts were careful additions that may be counted as iconographic components in a more comprehensive structural analysis. They also provide clues to the contexts and manners in which the objects were used. This paper explores the audible dimension of iconography with case studies from Moundville and other Mississippian sites.

Davis, Loren (Oregon State University) and Samuel Willis (Oregon State University)

[225] *Early Lithic Technology at the Cooper's Ferry Site, Idaho*

Excavations at the Cooper's Ferry site since the 1960s produced a large collection of lithic tools and debitage, which has not yet been fully reported. The Cooper's Ferry collection contains a rich view of Western Stemmed Tradition (WST) reduction sequences leading to the production of stemmed and foliate projectile points, blades, and flake tools. We explain the WST reduction sequence at Cooper's Ferry by highlighting key examples of core, flake, blade and projectile point products. The differences in technological organization indicate clear separation from Paleoindian technological traditions and a more complex record of early New World peopling.

Davis, Loren [37] see *Nyers, Alex J. [37]* see *Holcomb, Justin A.*

Davis, Loren G. [20] see *Jenkins, Dennis L.*

Davis, Mary (UW-Madison)

[217] *Evaluating Factions and Neighborhoods at Harappa using Chipped Stone Tools*

The site of Harappa, Pakistan (3500-1700 BC) was one of the first major urban centers of ancient South Asia and is one of the largest and best-studied sites of the Indus Civilization. The city was segmented into walled and un-walled divisions. Here a model that these segments were spatially competing factions is proposed and tested through examining spatial patterns of stone tools. New hypotheses concerning the nature and composition of these spatially based factions, neighborhood membership and identity at Harappa are presented based upon patterns of variation and commonality in the material culture within and between different city sectors.

Davis, Richard [112] see *Speakman, Robert J.*

Davis, Stephen, Will Megarry (University College Dublin), Conor Brady (Dundalk IT) and Kevin Barton (LGS Ltd.)

[9] *Remote sensing and archaeological prospection in Brú na Bóinne World Heritage Site, Ireland*

The Brú na Bóinne WHS is home to Europe's largest concentration of megalithic art and is Ireland's most important archaeological landscape. LiDAR data were acquired for the WHS in 2007 and have recently been complemented by the addition of WorldView 8-band satellite imagery. This paper focuses on the exploration of these data sources utilising a range of developments in visualisation to enhance low-profile features within the LiDAR. Selected low-profile sites identified through LiDAR survey were ground-truthed using multi-method geophysics. We present some of the results of these surveys, discuss the applicability of current methodology to similar archaeological landscapes.

Dawdy, Shannon (University of Chicago)

[13] *Creole Markets and Public Intimacies*

The site of St. Anthony's Garden preserves a dense palimpsest of urban life in New Orleans. Lying in the rear shadow of the Vieux Carré's centerpiece, St. Louis Cathedral, the space has served as a campground, a

kitchen garden, a colonial era market, a busy streetscape, an antebellum flowermart and pleasure garden, and a stage for religious observances. While providing an overview of the larger collaborative project of "The Roots of Creole New Orleans," the paper will also consider the productive tension between our ideas of public space and the intimate activities that the artifactual record reflects.

[13] *First Chair*

Dawson, Peter (University of Calgary), Richard Levy (University of Calgary), Rozhen Mohammed-Amin (University of Calgary) and Kamanan Noori (University of Calgary)

[129] *Preserving Heritage and Mobilizing Traditional Knowledge using Virtual and Augmented Reality.*

Virtual heritage environments are simulations that evoke sensations of being transported to another time and place. The concept of "presence" – the subjective impression of being immersed in and surrounded by a virtual world – can enhance feelings of connectedness to objects and places among users. Consequently, the meanings attached to artifacts and archaeological sites in the real world are sometimes transferred to their digital copies. We examine how these transferences might be used to increase awareness of at-risk heritage sites, as well as aid in the repatriation of traditional knowledge among indigenous groups.

Day, Peter (University of Sheffield)

[201] *Ceramic Ethnography and the Development of Analytical Approaches to Archaeological Ceramics*

Detailed ceramic ethnographies, especially comparative studies such as those highlighted by Dean Arnold, have been important in informing chemical and mineralogical studies of archaeological ceramics. While most commonly analysts have used raw material exploitation thresholds to help define what comprises 'local' in provenance studies, ethnography has also contextualized a whole range of factors which affect ceramic production, setting the basis for an understanding of technological choices and social approaches to ceramic technology. In investigating the interplay between these two areas of research championed by Dean, the paper will examine variability in thin sections of ceramics sourced from ethnographic studies.

Day, Peter [270] see Burke Davies, Clare T.

Day, Peter M. [270] see Gilstrap, William

De Anda Alaniz, Guillermo (Universidad Autonoma De Yucatan)

[208] *The cave in the Hill. A preliminary interpretation of cave "Mul" Yucatan.*

As part of a 5 year research project in caves and cenotes in Yucatan known as the "Proyecto el Culto a Cuevas y Cenotes de Yucatan", we explored a singular cave in the region known as the Puuc Hills south of the State of Yucatan named Suhuy Mul. In this paper we will present our preliminary interpretations of the unique features contained in the cave, which include stone houses, geographical markers and an exceptional collection of cave art never reported before for this region of Yucatan.

de Gregory, J (Mississippi State University) and Nicholas Herrmann (Mississippi State University)
[76] *Bioarchaeological Analysis of Burials Recovered From Rolling Fork Mounds*

During Phase III excavations of the Rolling Fork Mound Site (22SH506) in Sharkey County, Mississippi, nine burials containing a minimum of 15 individuals were recovered. The burials represent a small but demographically diverse sample. The interpretive analysis focuses on the examination of oral health, developmental dental defects, congenital traits, and adult stature. A comparative bioarchaeological analysis examining Mississippian and Woodland populations from Mississippi and Alabama is presented to contextualize the Rolling Fork individuals. The results of the analysis indicate that the Rolling Fork sample was similar to contemporary Late Mississippian populations of the Lower Mississippi valley.

De Leuien, Cherrie (Flinders University, South Australia)

[28] *Where is gender in archaeology?*

This paper will examine how gender and feminist archeologies have impacted archeological literature. Are androcentric views of gender still the dominant narrative across the discipline, or is there an emergence of other, more nuanced narratives of the past that have gender and feminist theory at their core? What has been the actual impact of gender and feminist archeologies across publications? Have concepts of gender archeology permeated and influenced major journals? This paper offers an analysis that correlates language, gender and archeology. I apply linguistic methods of corpus analysis, concordance and collocation to archeological literature to uncover the discourse on gender.

De Leon, Jason (University of Michigan) and Anna Forringer-Beal (Greenhills High School, Ann Arbor, MI)

[102] *The Violent and Disappearing Roads to Modern Aztlán: Archaeology of the Contemporary, Undocumented Migration, and the Politics of Conservation*

In this paper we present data from the Undocumented Migration Project, a long-term study of the contemporary migration of Mesoamerican people across the U.S.-Mexico border. We argue that the artifacts left by undocumented migrants in the deserts of Arizona are an important historical record of a violent social process created by institutionalized border enforcement practices. We discuss how this record of migration is being destroyed by conservation efforts and how these artifacts can improve our understanding of both ancient migration patterns and the social experiences of the local people who are often employed as laborers on Mesoamerican archaeological projects.

[188] *Discussant [102] Second Chair*

De Leon, Jason [18] see Forringer-Beal, Anna L.

De Micco, Celeste [158] see Lanata, Jose Luis

De Santis, Adriano

[22] *Technological differentiation in C-shaped structures in the Yucatan peninsula*

During the Terminal Classic period (A.D. 900-1100), C-shaped architectural structures begin to appear across the Yucatan peninsula. Their presence persists through the Early and late Postclassic periods. Though they are thought to be horizon markers for the Classic to Postclassic transition, their variation is still not understood. In this paper I apply Michael Schiffer's concept of technological differentiation to C-shaped structures to reveal spatio-temporal patterning in architectural variation.

De Smet, Timothy, D. Bruce Dickson (Texas A&M University) and Mark E. Everett (Texas A&M University)

[7] *Archaeological and geophysical investigations of a frontier military campsite on the Concho River near Paint Rock, Texas*

A series of fords along the Concho River between Fort's Chadbourne and Mason was used as a military crossing point from approximately 1851 to 1874. The area also has an overhanging limestone bluff and springs, which made it an ideal cavalry campsite. Magnetometry (Geometrics G-858) and time-domain controlled-source electromagnetic induction (Geonics EM63) data were gathered from subareas of the site after an initial handheld metal detection survey. This data was then subject to point pattern statistics in order to find significant cluster patterns in the data, with which to guide excavations. Ground-truthing at the site confirmed the success of these methods.

De Souza, Patricio (Universidad Católica del Norte)

[231] *Diferencias between early and middle holocene lithics technologies in the Atacama highlands*

This research looks for the differences between early and middle holocene lithics technologies in the Atacama Highlands (Northern Chile). This differences are related to palaeoenvironments conditions and the changes in the settlement patterns.

De Souza, Patricio [39] *see Kowler, Andrew*

de Vore, Steven [9] *see Vawser, Anne Wolley*

Dean, Jeffrey [183] *see Rosenstein, Dana Drake [183]*
see Towner, Ronald

Dean, Rebecca [75] *see Valente, Maria Joao*

Deaver, William (WestLand Resources, Inc.)

[85] *Archaeomagnetic Dating Applications: Antler House Village Settlement Patterns and the Hohokam Pioneer Period in the Northern Periphery*

Archaeomagnetic data are used to model the settlement history. Results reveal nine occupation episodes and confirm occupation from the late Pioneer through the Sedentary periods (ca. A.D. 700-1100). Typical population was two or three households. Peak population of five households occurred in the penultimate episode at around A.D. 1050. Comparison with other archaeomagnetic data sets reveals that late Pioneer period cultural traits appear synchronously at Antler House Village and in the Hohokam heartland. These data also suggest the need for revisions to the current archaeomagnetic dating curves in the A.D. 700-800 period.

Debebe Seifu, Abiyot [108] *see Brandt, Steven A.*

DeBlasis, Paulo (Museu de Arqueologia-USP) and Cristina Bruno (Museu de Arqueologia e Etnologia-USP)

[209] *Cultural Heritage Management Education in Brazil*

Although CHM has become a legal and effective concern in Brazil since the eighties, professional training as regards its legal and methodological specificities is still at its beginnings, within few educational institutions, basically universities. The approach is rather theoretical, with a strong focus on legal background and little concern for methodological issues. Legal diplomas, albeit well intentioned, have created a sort of "cake recipe", a report formula that (re)produces rather innocuous results from a scientific standpoint. To overcome that, CHM education must be expanded to encompass a fully humanistic, as well as technical, professional formation for archaeologists and heritage managers.

DeBlasis, Paulo [277] *see Corteletti, Rafael*

DeBoer, Warren (Queens College CUNY)

[201] *Pots for Tots: The Ceramic Art of Shipibo and Mimbres Children*

Information concerning the learning of culturally-specific art styles in non-Western settings is surprisingly scant. This paper compares children's ceramic art of the contemporary Shipibo of the Peruvian Amazon with the eleventh to twelfth century Mimbres of New Mexico. The ontogenetic mastery of angles, layout, symmetry, and other design features as well as various guidelines and teaching aids employed by adult artists are outlined. The two cases display interesting contrasts while neither entirely conforms to Jungian, Freudian, or Piagetian claims for universal developmental stages.

DeBruin, Renne [114] *see Bailey, Anne S.*

DeBry, Robert (New Mexico State University)

[141] *Archaeofaunal Investigations at Kipp Ruin, Southwest New Mexico*

What changes in faunal usage occur over time within southwest New Mexico's Mogollon culture? Did changing environmental and social processes contribute to temporal variation in faunal assemblages? This poster presents faunal analysis from the Kipp ruin, a multi-component Mogollon site (A.D. 200-1450) located on the banks of the lower Mimbres River. In particular how might the uses of large and small mammals have changed from the pit house period component through the Mimbres and post Mimbres Pueblo periods? Were late prehistoric Cliff Phase (A.D. 1300-1450) people more reliant on larger game than earlier Mimbres peoples?

Dedrick, Maia (University of North Carolina at Chapel Hill)

[131] *Agricultural Production at a Late Classic Maya Household: Off-Mound Excavations at the Medicinal Trail Site, Belize*

The organization of agricultural production is key in understanding changing ancient Maya economies. Research presented here examines the role of Maya farmers at a Late Classic household within a small hilltop agricultural site. This paper analyzes activity, disposal

and garden areas on and off the household's platform and compares the artifacts and spatial layout of this household to others at the site. Results contribute to evidence that residents of small households participated economically within a corporate structure led by ritual facilitators living in nearby larger households. Artifact residue analyses document the first maize starch grains identified in the area.

Deeb, Rebecca (University of Illinois at Chicago)

[137] *West Mexican Metal and Obsidian at Maya Sites at Lake Mensabak, Chiapas, Mexico, in the Late Postclassic to Contact Periods*

The Late Postclassic in the Maya Lowlands is characterized by increased trade activity, particularly with Central and West Mexico. Excavations at Lake Mensabak in eastern Chiapas have unearthed evidence of Late Postclassic to Contact Period trade with West Mexico, in the forms of copper and obsidian artifacts. This paper presents the results of visual and chemical sourcing analyses, and suggests potential trade routes for West Mexican goods. The data further elucidate the degree of interaction between the Maya world and West Mexico, as well as social and political relationships of lowland Chiapas with Gulf coast communities.

Deeb, Rebecca [233] see *Palka, Joel*

Deemer, Michael

[170] *Heating it up at the Johnston Site*

This experimental study examines the use of heat treatment on raw materials found in the Johnston Site assemblage, the attributes of heated flakes from these materials, and their presence in the collections. The Johnston Site is a Late Prehistoric site located in Indiana County, near Blairsville. Excavations have yielded several samples from tool manufacturing, though little research has been conducted on how heat treatment had been used at this site. This study examines if heat treatment was used during tool manufacturing, how raw materials are affected by heating, and if heat treatment is recognizable.

deFrance, Susan (University of Florida)

[13] *Animals and Creole Roots: Faunal Remains from French Quarter Sites*

Faunal remains from St. Anthony's garden and the Rising Sun Hotel site provide a record of animal use spanning from early French and Spanish colonial occupations of the eighteenth century to the American period of the late nineteenth century. The zooarchaeological analysis examines changing food habits, provisioning, and the roles of markets in providing diverse foodstuffs to French Quarter residents and hotel guests. Animal provisioning during the various time periods consisted of contributions from hunting, fishing, and animal husbandry. Diachronic analysis of the faunal remains demonstrates how European and other occupants created distinct patterns of animal use.

[166] *Discussant*

Dega, Michael (Naga Research Group) and D Kyle Latinis (University of Cambodia)

[182] *The Social and Ecological Trajectory of Prehistoric Cambodian Earthworks*

This presentation briefly discusses how prehistoric

occupants of the terra rouge earthworks of eastern Cambodia shaped the land around them over a 2,000 year period. Study of the ecological landscape has further revealed village settlement spaces across a circumscribed environment. Also discussed is how early floodplain settlers provide a direct contrast to the earthwork populations as the imprints left on the landscape, biology, and ecologies of the area are exceptionally different between the two neighboring groups.

Degryse, Patrick [159] see *Fenn, Thomas*

DeHaven, Lydia, Meghan Pace (Indiana University of Pennsylvania) and Beverly Chiarulli (Indiana University of Pennsylvania)

[170] *Investigation of the Squirrel Hill Site and other Late Prehistoric Sites in the Conemaugh Watershed in western Pennsylvania*

While IUP archaeologists have investigated the Johnston Phase of the Monongahela culture since 2005, the focus of current research is to establish the occupation history and cultural affiliations of the Squirrel Hill site, a village not investigated since the 1950s. This investigation began with a geophysical survey designed to define the internal arrangement of the village and to identify areas for test excavations to collect samples for analysis and dating. While our results are not complete, we have a better understanding of the internal organization of this village as well as its relationship with nearby communities.

DeHaven, Lydia [170] see *Snyder, Amanda C.*

Delaney-Rivera, Colleen (Cal State Channel Islands) and Andrew Kinkella (Moorpark College)

[126] *Living on the Edge of Momentous Times: The Coastal Chumash of CA-VEN-1691*

The transition from the middle to late Holocene in coastal south-central California was a momentous one: populations densities increased, subsistence exploitation was more varied with an increasingly marine focus, and social, political, and ceremonial organizations became more complex. Site CA-VEN-1691 exemplifies these activities. While the settlement is oriented to the interior, subsistence activities focused on the sea. Our work indicates that resources exploited at the site include shellfish, terrestrial and sea mammals, and fish. The importance of the site lies in its location, age, and emphasis on marine resources.

Delay, Kirsten [5] see *Schneider, Anna E*

Delvaux, Thomas

[165] *Evidence for Regional Trade at the Storr's Lake Site, San Salvador Island, Bahamas*

Since the mid 1990's archaeologists from Youngstown State have been excavating at the Storr's Lake site on San Salvador Island. The artifacts recovered have contributed to the storehouse of knowledge about the Lucayan Indians that occupied the Storr's Lake area. Some of the more important artifacts are those made from materials that originated in other areas of the Bahamas and the Greater Antilles. Though small in number they point to the well established trading practices enjoyed by the Lucayans.

DeMaio, Justin (Desert Research Institute/UNLV)

[161] *Investigating Changing Prehistoric Landscape Use on the Nevada National Security Site*

The Nevada National Security Site is a vast area of land in the southern Great Basin which has evidence of human occupation stretching back to the first inhabitants of North America. Differential landscape use was a key adaptation to living in this environment throughout the Holocene and previous archaeological research has identified the zones that were attractive to these prehistoric populations. However, neither the climate nor the people were stagnant throughout this long period. This investigation utilizes GIS techniques along with current landscape perspectives to understand how these adaptations changed not only across space but also through time.

Demarest, Arthur (Vanderbilt University)

[151] *Classic Maya Ideological and Political Mechanisms for Long-Distance Exchange*

Historical events, sourcing of materials, and comparison of artifactual sequences indicate intensive interaction and exchange throughout the Classic period along the river systems of the western Peten and the connecting highland-lowland land routes. The challenge is identifying the mechanisms involved. Evidence indicates that both highland-lowland and riverine exchange used specific ideological and political institutions for both general interaction and for the actual movement of materials. While conquest and alliance solidified lowland route relations, highland-lowland exchange emphasized the ballgame, religious ritual, and pilgrimage, rather than conquest or hegemony. This contrast affected both the rise and disintegration of the economic system.

[151] *Second Chair*

Demarest, Arthur [151] see *Barrientos, Tomas J. [151]* see *O'Mansky, Matt*

DeMarrais, Elizabeth (University of Cambridge)

[23] *Art Makes Society*

To introduce this symposium, I argue that art makes society. Art is action; it involves what people DO as well as what they VIEW. Because people act together, with or against others, art can create or evoke the group; it also draws attention to settings, facilitating participation or collective action. While its visual properties have long been studied, archaeologists can also investigate art as performance, participation, and action. Examples from the Americas are presented illustrating how art is (1) a site of activity, (2) a model for social relations, (3) cultural capital, as well as (4) a means for exclusion.

[23] *First Chair*

Dematte, Paola (RISD)

[101] *Red Images: the rock art of the Zuo River in Guangxi, southern China.*

One of the largest concentration of painted rock art in southern China is on the steep cliffs of the Zuo River (Guangxi). There are large concentrations of painted red figures interspersed with animals and ritual objects. These images are visible both from river boats and nearby villages suggesting that, like at other rock art sites, the landscape played a dominant role in the creation and fruition of the Zuo River rock art. If

elsewhere land shaped the choices of painters, here it was the water that led the way.

Demel, Scott (Northern Michigan University)

[240] *Fishermen and Farmers: An Archaeological Look at Life on Beaver Island, Lake Michigan during the mid-19th century.*

This paper compares two archaeological sites recently tested by the Northern Michigan University archaeology field school on Beaver Island, Lake Michigan. The Cable's Bay Site was a coastal fishing village that disappeared after only two decades of operation. Artifact density, distribution, and displacement in this dunal environment are discussed. The Burke/Egbert Farmstead Site is an inland farm first created by a Mormon family and taken over by Irish immigrants. Artifacts from the farmstead shed light on the daily life of these residents.

Demetradze, Irina (Ilia State University, Tbilisi, Georgia) and Zurab Janelidze (Ilia State University, Tbilisi, Georgia)

[206] *Rethinking Materiality: Urbanized Landscapes of Hellenistic Iberia*

Revision and reconsideration of archaeological sites of the Hellenistic period, identified in Southern Caucasus, provided new insights and advanced our understanding of urbanization process in the historical province of Iberia. Previously excavated archaeological materials have been analyzed in terms of settlement patterns and landscape studies. Application of methodologies of settlement pattern and landscape archaeology aiming at provisional modeling of different function settlements, turned out to be innovative for Georgian archaeology. As a result, new light has been shed on the fortified city of Harmozice, mentioned by Strabo, and on urbanization sequence as a whole.

Demirergi, G. Arzu [238] see *Twiss, Kathryn C.*

Dengel, Craig [90] see *Shanks, Jeffrey H. [97]* see *Russo, Michael A.*

Denham, Sean (Museum of Archaeology, University of Stavanger), Mads Ravn (Museum of Archaeology, University of Stavanger), Paula Utigard Sandvik (Museum of Archaeology, University of Stavanger), Hege Hollund (Museum of Archaeology, University of Stavanger) and Laura Van der Sluis (VU University Amsterdam)

[176] *Commingle human remains from beneath Stavanger Cathedral*

In 1968, a number of human burials were recovered from beneath Stavanger Cathedral, Stavanger, Norway. During their handling (analysis, transport, storage) over the past decades, these remains have become heavily fragmented and commingled. In 2010 a project was undertaken to address these issues, using methods borrowed from forensic anthropology. Further, these remains have been subjected to modern standardized recording and analysis, as well as chemical analyses. The present talk will discuss the results of these various analyses, their place in the history of both Stavanger and southwestern Norway, and the use of modern methods to address problems in museum collections.

Dennett, Carrie (University of Calgary) and Geoffrey

McCafferty (University of Calgary)**[259] *Social Change and Continuity in the Bagaces to Sapoá Transition at El Rayo, Nicaragua***

Historical sources suggest that migrant groups from central Mexico arrived in Pacific Nicaragua "7 or 8 ages of an old man" before the Spanish Conquest, around A.D. 800. In archaeological terms, the transition between Bagaces and Sapoá phases also occurs at roughly A.D. 800, marked by changes in ceramics and settlement patterns. In 2009/2010, we had the opportunity to excavate a multi-component site at El Rayo, near Granada, Nicaragua. Deep excavation made possible the recovery of cultural materials from both phases, allowing for comparison and a clearer view of the social transformations that occurred with the arrival of foreign groups.

Dennison, Rory (University of Illinois at Chicago)**[212] *Chinese Porcelain Trade into Pre-Contact Philippines: Comparison of Compositional Analysis Techniques***

This study seeks to better understand how the relationship of trade distribution patterns during pre-contact periods between China and the Philippines were organized through examination of porcelain exchange. The nature of porcelain distribution patterning is examined through compositional analysis utilizing both X-Ray Fluorescence and LA-ICP-MS. Initial findings of samples taken from the Tanjay region of the Philippines are used to test the comparability of these techniques in porcelain. Though preliminary in nature, this work offers insights into long distance maritime trade and exchange as well as offering a side-by-side comparability study of the chemical composition of porcelain.

DePratter, Chester [92] see Cobb, Charles R.

D'Eredità, Astrid**[28] *Donna e archeologa: an Italian perspective.***

Being a woman today in Italy is not easy. With even more difficulty now facing Italy's female archaeologists working in the field of the preservation of Italy's cultural heritage, after years of studies and training at one of the State Universities, today Italy still refuses to recognize archaeologists as a professional workforce. The "Archeologhe che (r)esistono", the Italian National Association of Archaeologists gender related project, will outline the important roles of several women archaeologists as pioneers, in the history of Italian archaeology, and their contemporary experiences.

Dering, J. Phil [17] see Boyd, Carolyn E.

Derr, Kelly (Washington State University), Doug Beyers (Washington State University) and Colin Grier (Washington State University)**[141] *Of Sea Urchins and Sea Lions: Analysis of a Mass Consumption Feature in a Late Period Northwest Coast Plankhouse***

Materials recovered from a central roasting feature in the recently excavated Late period plankhouse at the Dionisio Point archaeological locality suggest a mass roasting event or series of events potentially related to feasting activities. We analyze various data streams to characterize the feature constituents, the resource collection activities involved and the scale of labor

represented. We explore the implications of these data in relation to the organization of the plankhouse economy, the production of status and solidarity-enhancing feasts, and the seasonality and subsistence practices of Gulf Islands plankhouse villages dating to the last millennium.

Des Lauriers, Matthew (California State University, Northridge)**[278] *Visualizing the Ephemeral: Reconstructing the social and technological fabric of indigenous Coastal California fishing communities***

In Coastal California, archaeologists have relied almost entirely on the more taphonomically durable items like shell hooks, beads, and boats to reconstruct complex social relations and resource exploitation strategies. While admittedly more difficult to recover archaeologically, ancient fiber technologies are essential components that literally and figuratively held these fishing economies and societies together. Through the use of archaeological remains from Isla Cedros, Baja California, ethnohistoric accounts, experimental archaeology and ethnographic analogy, we propose that a more complex picture of fishing societies is possible—one that incorporates the agency of both women and men.

[74] Discussant

Desailly-Chanson, Yann [151] see Canuto, Marcello A.

Deskaj, Sylvia (Michigan State University), Maria-Grazia Amore (International Centre for Albanian Archaeology), Lorenc Bejko (University of Tirana, Albania), Michael Galaty (Millsaps College) and Zamir Tafilica (Ethnographic Museum, Shkodër, Albania)**[119] *The 2011 Field Season of the Projekti Arkeologjikë Shkodrës (PASH), Northern Albania***

The Projekti Arkeologjikë i Shkodrës (PASH) is a multi-year, regional archaeological survey focused on the northern Albanian province of Postrribë. In 2011 we continued work on the Shkodra Plain and in the surrounding hills, and extended survey to the Castle of Drisht. We defined the western extent of the tumulus field of Shtoj. We again found numerous lithics and a possibly Middle-Upper Paleolithic open-air site. Finally we discovered further evidence for proto-urban social change beginning in the Bronze Age and extending through the Roman conquest. The role of migration during this period will be examined.

[119] First Chair

Deter-Wolf, Aaron [159] see Peres, Tanya M.

DeTore, Kathryn and Rebecca E. Bria (Vanderbilt University)**[8] *iArchaeology: Explorations in In-Field Digital Data Collection***

During 2011 in the rural highlands of Peru, the Proyecto de Investigación Arqueológico Regional Ancash was able to successfully integrate a procedure of 100% in-field digital data collection during archaeological excavations, made feasible by recent advances in the portability, durability, sophistication and affordability of consumer-line tablet computer hardware and software. Using a system that incorporates iPads, a variety of applications and FileMaker databases, this methodology allows for

greater consistency and efficiency in the recording of archaeological data. These preliminary explorations in paperless archaeology demonstrate the power of technology in streamlining the collection and processing of data from archaeological excavations.

Detry, Cleia (Uniarq - Archaeology Center, Univ. Lisbon), João Luís Cardoso (Uniarq – Centro de Arqueologia da Faculdade de Letras da Universidade de Lisboa), Catarina Ginja (Grupo de Biologia Molecular, Instituto Nacional Recursos Biológicos and Centro de Biologia Ambiental, Faculdade de Ciências, Universidade de Lisboa, P), Catherine Hanni (Paleogenomics and Molecular Evolution group, Institut de Génétique Fonctionnelle de Lyon, UMR 5242 CNRS/Université Claude Bernard Lyon/ENS IFR128 Bio) and Ana Elisabete Pires (Grupo de Biologia Molecular, Instituto Nacional Recursos Biológicos and Centro de Biologia Ambiental, Faculdade de Ciências, Universidade de Lisboa, P)

[157] *Pre-Historic domestic dogs from Portugal. What's up in the European far west?*

The oldest dog remains from Portugal come from Mesolithic sites in contexts of inhumation as in similar prehistoric cultures. In order to analyze the origins and evolution of the domestication process of dogs and their relationship with humans in pre-historic Iberia, we studied archaeological remains from Mesolithic, Neolithic and Calcolithic Portuguese sites. We combined zooarchaeological data and archaeological context, with ancient DNA information based on multiple markers. DNA was successfully retrieved from dog remains from Iberia as old as 8,000 years. The palaeogenetic analysis of 21 bone or teeth remains allowed us to disclose the genetic variation of these dogs.

[75] *First Chair [75] Second Organizer*

Detry, Cleia [75] see Dupont De Sousa Dias, Rita

Deviese, Thibaut [213] see McEwan, Colin

DeWitte, Sharon (University of South Carolina)

[138] *Sex differences in periodontal disease in catastrophic and attritional assemblages from medieval London.*

Numerous studies in living and archaeological populations have found sex differences in periodontal disease, and most demonstrate higher frequencies in men than women. This study examines sex differences in periodontal disease in two cemeteries from medieval London: 1) East Smithfield (c. 1349-1350), a Black Death, catastrophic assemblage, and 2) St. Mary Graces (c. 1350-1538), an attritional assemblage. The results reveal a higher frequency of periodontal disease among men in St. Mary Graces, but no significant difference between the sexes in East Smithfield. These results are discussed in light of what is known about selective mortality and sex differences in frailty.

Dexter, Jaime (University of Oregon), Thomas J. Connolly (University of Oregon Museum of Natural & Cultural History) and Christopher L. Ruiz (University of Oregon Museum of Natural & Cultural History)

[161] *Nourishing Tradition: The Macrobotanical Evidence*

for Cultural Preservation at a Pre-Allotment Native Homestead, Beatty, Oregon

Archaeological research at the Beatty Curve site (35KL95), located on the upper Sprague River within the former Klamath Indian Reservation of southern Oregon, documented thousands of years of occupation. An especially interesting component of the research pertains to the occupations dating from formation of the reservation in the mid-1860s to the assigning of allotments in the early 20th century. Recovery and analysis of several traditionally important plant food remains associated with a pre-allotment homestead cabin suggests that while the household(s) adopted imported material goods and accommodated imposed federal policies, Native cultural traditions are strongly persistent, resulting in culturally-hybridized daily practices.

Diaz, Gina [188] see Navarro-Farr, Olivia C.

Diaz-Granados, Carol [266] see Duncan, James R.

Diaz-Zabala, Hector J [193] see Nieves Colón, Maria A

Díaz-Zorita Bonilla, Marta [138] see Waterman, Anna J. [32] see García Sanjuán, Leonardo

Dibble, Harold (University of Pennsylvania) and Mohamed el Hajraoui (INSAP, Morocco)

[117] *The Recent Excavations at Contrebandiers Cave*
In 2007 new excavations at Contrebandiers Cave were undertaken under the direction of M. A. el Hajraoui and H. Dibble. This introductory paper will present a brief overview of the history of the site, along with a discussion of the strategies of excavation, the major goals of the research, and a brief summary of the results to date.
[55] *Discussant*

Dibble, Harold [274] see Goldberg, Paul [117] see Rezek, Zeljko [117] see Blackwell, Bonnie A. B.

Dickau, Ruth (University of Exeter) and José Iriarte (University of Exeter)

[277] *Archaeobotanical Evidence of Crop Diversity in Pre-Columbian Llanos de Mojos, Lowland Bolivia*
Although sparsely populated today, the Llanos de Mojos, Bolivia, sustained large sedentary societies in the Late Holocene (ca. 500 to 1400 AD). In order to gain insight into the subsistence of these people, we undertook starch grain and phytolith analyses of artifacts and sediments from four large habitation sites. Results show the widespread use of maize (*Zea mays*), along with manioc (*Manihot esculenta*), squash (*Cucurbita* sp.), and yam (*Dioscorea* sp.). Combined with previous macrobotanical evidence of peanut (*Arachis hypogaea*) and cotton (*Gossypium* sp.), these results reveal the diversity of plants used by pre-Columbian people in the Bolivian Amazon.

Dickau, Ruth [39] see Iriarte, Jose

Dickson, D. Bruce [7] see De Smet, Timothy S.

Dickson, Ephraim [42] see Nelson, Shaun R.

Diehl, Michael

[247] *Late Prehistoric Farming and Food Harvesting along Mule Creek, New Mexico.*

Flotation samples from the 3-Up, Fornholt and Gamalstad sites indicate that 14th-11th century prehistoric subsistence depended primarily on local farming. Maize occurred in most samples. Beans and squash were also present. Commensal wild plants including goosefoot and pigweed, and nut and fruit masts of acorn/walnuts, juniper berries, pinyon nuts and walnuts were important secondary resources. As compared with other, contemporary sites along tributaries to the Gila River, the Mule Creek paleobotanical assemblages lacked diversity. Near Mule Creek, the emphasis was on plants that offered high energy returns and with good storage properties. Other potentially useful wild foods were apparently ignored.

Dignam, Darcy (AMEC Environmental & Infrastructure), Susan Blair (University of New Brunswick) and Christopher Blair (Stantec Consulting Ltd.)

[268] *The Preliminary Assessment of Site BgDq-38, New Brunswick's First Intact Palaeoindian Site*

During preliminary work related to a highway project in southern New Brunswick, Canada, consulting archaeologists discovered a small scatter of lithic artifacts. These artifacts resemble in technological and material attributes those recovered from early or classic Palaeoindian period sites elsewhere in the Northeast. The site was subsequently delimited in 2010, which resulted in the recovery of further artifacts consistent with the initial assemblage. The authors of this paper will present on the discovery and delimitation of the site and the nature of the assemblage, and provide a preliminary assessment of its significance and implications for regional analysis.

Dillane, Jeffrey (McMaster University)

[124] *Mortuary patterns in the Trent Valley, Ontario, Canada: Emerging Complexity, or Complexity made visible?*

Recent hunter-gatherer research has called complexity into question. I examine fundamental shifts in the long-term development of mortuary patterns using examples from the Trent Valley. A number of transformations occurred beginning with the initial appearance of cemeteries, the development of burial mounds and inclusion of objects associated with the Hopewell Interaction Sphere, and the use of burial pits. While many of these transformations could be viewed as evidence of emerging or changing social complexity, I suggest that the changes in the mortuary record reflect shifting patterns in inter/intra regional interaction while still reflecting structural continuity in mortuary practice.

Dillehay, Tom (vanderbilt university)

[225] *Emerging Settlement, Subsistence and Social Patterns During the Late Pleistocene/Early Holocene in South America and Beyond: A Critical Assessment*
Studying the lifeways of the first humans in South America entails the discovery and interpretation about various issues, including settlement strategies, subsistence patterns, information and resource exchange, technological organization, social structure, mortuary patterns, and other behaviors inferred from the archaeological record. In recent years, a host of new

archaeological discoveries and local and regional interpretative models have taken place in the Americas. Here, I briefly recount some recent discoveries, patterns, and models that have developed to interpret the late Pleistocene/early Holocene archeological record in South America and relate them to wider issues in the discipline at large.

[158] *Discussant*

Dillehay, Tom [52] see Sauer, Jacob J.

Dillian, Carolyn (Coastal Carolina University)

[162] *Local Resources and Prehistoric Regional Interaction at Waties Island, South Carolina*

Waties Island is an undeveloped barrier island along the South Carolina coast that contains evidence of multiple prehistoric occupations. This dynamic environmental setting provided a range of habitats for the exploitation of terrestrial and marine resources, with a specific emphasis on the use of shellfish available locally and seasonally. Yet Native American occupants of the area were part of a larger network of regional interactions and exchange, demonstrated through artifacts made of non-local materials. This project marks the initial investigation of the use of local, coastal resources and non-local exchange items along the South Carolina coast.

[162] *First Chair*

Divito, Nathan [33] see Munoz, Cynthia M

Dixon, Boyd (TEC Inc) and Dennis Jones (Louisiana State Division of Archaeology)

[128] *The Economic Role of the Crossroads Complex as a Possible Market at the Site of El Mirador, Guatemala*

One of Bruce Dahlin's many goals investigating the Formative Period site of El Mirador in the Guatemalan Peten was to explore the possible role that the Crossroads Complex played as a market, situated at the junction of three sacbe crossing the bajos from distant neighbors.

Dixon, Christine (University of Colorado, Boulder)

[253] *First Chair* [253] *Second Organizer*

Dixon, E. (Maxwell Museum)

[180] *Shuká Kaa: 10,200-Year-Old Man Provides Evidence of Early Maritime Adaptations and Coastal Migration*

Human remains and artifacts dated to c. 10,200 calendar years ago from a cave on northern Prince of Wales Island, Southeast Alaska, provide new insights into early Holocene maritime adaptation and inferences about colonization of the Americas. Analysis of the skeletal remains indicate Shuká Kaa died in his early twenties and subsisted on high trophic level marine species. Contemporaneous artifacts from the cave indicate that people living in the Alexander Archipelago were coastal navigators with well-developed trade networks or procurement strategies for obtaining lithic material from distant sources that required the use of watercraft.

[180] *First Chair*

Dizon, Eusebio [177] see Smith, Cecilia A.

Dobbs, Kevin [37] see Johnson, William C.

Dobereiner, Jeffrey (Harvard University) [57] *Second Organizer [57] Second Chair*

Dobereiner, Jeffrey [57] *see Fu, Janling L.*

Dockrill, Stephen (University of Bradford) and Julie Bond (University of Bradford)

[263] *The Prehistoric Village Old Scatness, A Research Study in Longevity*

The dating programme at this settlement mound facilitated the accurate dating of the structural and depositional sequence within a more precise chronological framework. This provided an understanding of the economic exploitation both of the surrounding landscape for arable agriculture, animal husbandry and other economic resources and of the sea and seashore. The control of wealth and status within past social systems is seen as an important economic driver leading to power. The evidence from indicators such as craft specialisation and trade has contributed both to our understanding and to the reconstruction of past social systems.

Dockrill, Stephen [86] *see Bond, Julie M.*

Dodge, Robyn (The University of Texas at Austin)

[131] *Hun Tun Complexity*

Maya household archaeology focuses on understanding how households contribute to a "broader Maya social universe." Commoners constitute the majority of ancient Maya civilization. Commoner rituals and household archaeology are important aspects of hinterland complexity because rituals are often practiced at the household level. This paper examines data collected at the Maya settlement, Hun Tun. Architecture, stone monuments and a chultun are among the features discussed. Ceramics, lithics, obsidian, grinding stones, seashell, greenstone, and lithic eccentricities are among the recovered artifacts. They are discussed in context and are presented as preliminary interpretations aiding to understand hinterland complexity.

Doershuk, John (University of Iowa), Joe Artz (University of Iowa), William Whittaker (University of Iowa) and Cynthia Peterson (University of Iowa)

[67] *The Archaeological Context of the Original Fort Madison Battlefield and Black Hawk's Ravine (13LE10)*

The Fort Madison Site (13LE10) is without doubt the premiere Iowa preservation locus for the War of 1812. Recent investigations demonstrate archaeological deposits exposed in several excavated trenches represent the fort era (1808–1813), including War of 1812 battlefield activities and a specific landscape feature described in historical documents as "Black Hawk's ravine," having been used by Native American forces as a strategic area of cover from which to conduct military actions against the fort. This investigation provides the basis for refining the 13LE10 site boundaries to more accurately encompass the battlefield as well as the associated fort.

Dolan, Patrick (Washington State University) and Grier, Colin (Washington State University)

[110] *The Socio-Economic Organization of a Complex Hunter-Gatherer Village*

Recent research on the Northwest Coast has

emphasized the household as an economically and socially differentiated unit. Yet, to pursue this question we also need to see villages as the context for the planning and executing of household strategies. Alternative village-level economic structures embody different sets of social relations between emerging elites and commoners with different implications for the emergence of institutionalized inequality. I present data on patterns of resource consumption at the Dionisio Point site in Gulf of Georgia region of British Columbia, Canada to evaluate whether individual households benefited from village-level economies of scale.

Dolan, Sean (Crow Canyon Archaeological Center) and Jeffrey R. Ferguson (University of Missouri Research Reactor)

[153] *Diachronic investigations of obsidian along the Lower Mimbres River*

Obsidian sourcing has become an important tool for understanding social interaction in the American Southwest. This paper details an analysis and synthesis of the obsidian assemblage at multiple sites along the Mimbres River which indicates that there is a switch in obsidian procurement after the pithouse to pueblo transition in southern New Mexico. Kipp Ruin, a multi component site clearly details these diachronic trends. This paper also investigates the increase and decrease in social interaction between Sierra Fresnal and Mule Creek obsidian in southern New Mexico. Population aggregation, kinship ties, and exchange systems will also be discussed.

Dolphin, Alexis (The University of Western Ontario), Katharina Lorvik (Norwegian Institute for Cultural Heritage Research) and Anne Karin Hufthammer (Bergen Museum)

[138] *Exploring the effects of urbanisation on children's health and nutrition in early medieval Bergen, Norway*

During the 12th and 13th centuries Bergen, Norway, was quickly developing into a major urbanised trade centre. At the heart of Bergen's development were the Bryggen wharf and St. Mary's church. Osteological analyses of 76 individuals (1170–1198) from the St. Mary's cemetery found that no children under 6 years of age at the time of death were present in the excavated area. However, by combining trace element and microstructural analyses of teeth from 24 of the adult individuals with excellent contextual data it is possible to comment on the health of children growing up in this new socio-political landscape.

Domenech, Maria Teresa [58] *see Vazquez De Agredos Pascual, Maria Luisa*

Domenici, Davide (University of Bologna (Italy)), Lorenzo Zurla and Arianna Campiani

[233] *El Higo Sector I: A Late Postclassic Zoque Household in Western Chiapas, Mexico.*

Surveys carried by the Río La Venta Archaeological Project in the area of El Ocote Biosphere Reserve in the Zoquean region Western Chiapas allowed the identification of a previously unreported Late Postclassic occupation. Architectural analysis of surface remains led to the identification of various household compounds or patio-groups composed by various platforms and other structures arranged around one or more central patios. In the paper we describe the formal characteristics of these

household compounds, their spatial and functional relationship with the larger sites, as well as the result of the partial excavation of the household compound named as Sector 1 in the El Higo site, where a GIS-based spatial analysis has been carried out in order to define activities and function associated with the various structures of the compound.

Domenici, Davide [185] *see Kelly, Lucretia S.*

Dominey, Erna and Jack Brink (Royal Alberta Museum)

[234] *Stone drive lanes for pronghorn communal hunting on the plains of Alberta, Canada*

Pre-Contact pronghorn drive lane systems are rare on the North American Plains. Three sites in southeastern Alberta have short, converging wings of stone lines leading to a steep drop or an excavated pit. The rock lines are nearly solid, not individual cairns. Rock distribution along the lines reveals consistent patterns of construction, which must reflect knowledge of how animals will respond under specific predation threats. Reviewing antelope biology, behaviour, and the ethnographic record it is concluded that antelope were not likely "driven" into communal traps; rather they were "lured" by people possessing a deep understanding of how to manipulate antelope.

Dominguez, Miriam (University of Florida)

[175] *Dynamic communities in a dynamic littoral: Spatial Modeling of an Early Holocene Mangrove Formation in the Santa Elena Peninsula, South Western Ecuador*
Las Vegas sites dated between 10,800 and 6,600 B.P. present a unique adaptation of generalized hunters and gatherers. The faunal and floral remains suggest that people occupied an area of the peninsula that included between 5 and 10 km of land which, based on GIS models, is now below sea level. This environmental change that, the marine faunal record suggests, was caused by tectonic uplift and eustasy altering the littoral, may have, in conjunction with shifting social dynamics, elicited the inhabitants to seek replacement subsistence strategies and spurred subsistence innovations such as plant cultivation.

Dominguez, Victoria [235] *see Pennycook, Carlie*

Domínguez, María del (Universidad Autónoma de Campeche), Eric Reyes (Benemérita Universidad Autónoma de Puebla), Efraín Rubio (Benemérita Universidad Autónoma de Puebla) and William J. Folan (Universidad Autónoma de Campeche)

[58] *Characterization Of Ceramic From Oxpemul, Campeche: Their Cultural Ties Among The Mayan Of The Regional States Of Rio Bec And Calakmul*
Will present the results of physicochemical analysis performed on ceramic samples of Oxpemul site, Campeche in order to conduct a comparative study with chemically analyzed materials from the site of Calakmul and thus understand the ties that linked culturally Oxpemul with the Regional State of Rio Bec at north and Regional State of Calakmul at south. These analyses include material from the Middle Preclassic to the Terminal Classic period. Our main interest focuses on the Late Classic period when Oxpemul was a secondary center depended on Calakmul.

Domínguez Carrasco, Ma. del Rosario [22] *see Folan, William J.*

Dong, Yu (University of Illinois At Urbana-Champaign), Stanley Ambrose (University of Illinois at Urbana-Champaign), Fengshi Luan (Shandong University), Liugen Lin (Nanjing Museum) and Mingkui Gao (Shandong Provincial Institute of Cultural Relics and Archaeology)

[60] *Food Choices and Social Stratification in Late Neolithic Northern China*

Dawenkou (ca. 4300-2600 BC) is well known for its extremely elaborate burials indicating incipient social stratification and changing gender relationships. During this era, rice was introduced from southern China to northern China, where millet was the traditional staple, and presented more food choices for Dawenkou people. We used stable isotope analysis to study human remains from three Dawenkou sites for dietary reconstruction. This research will explore how people may have chosen different staple foods to represent their identity, how political and economic factors might influence food choices, and how food choices may reflect the process of developing social stratification.

Dongoske, Kurt (Zuni Heritage and Historic Preservation Office) and Kelley Hays-Gilpin (Northern Arizona University)

[194] *Parks, Petroglyphs, Fish and Zuni*

The Pueblo of Zuni protested massive killing of non-native fish in the Colorado River through Grand Canyon. Zuni perceives familial relationships to aquatic life. Migrating ancestors created petroglyphs along their riverine route from Grand Canyon to the Zuni River. This "umbilical cord" route ensures persistence of vital human-land-water connections. Consultations between the National Park Service and Pueblo of Zuni cultural resource advisors demonstrate how petroglyphs link Grand Canyon National Park, the Pueblo of Zuni, and El Morro National Monument. We demonstrate how petroglyphs are compelling evidence that support Zuni positions in consultation with the National Park Service.

[72] *Discussant*

Dongoske, Kurt E [31] *see Jackson-Kelly, Loretta*

Donofrio, Gregory [209] *see Hayes, Katherine H.*

Donop, Mark (University of Florida) and Meghann O'Brien (University of Florida)

[276] *A Residue Analysis of Suazan Griddles from the Friendship Site on Tobago*

Plant use during the Late Ceramic Age (AD 600-1450) in the southeastern Caribbean is poorly understood. Although griddles had been indirectly associated almost exclusively with bitter cassava processing, recent evidence demonstrates that griddles were multifunctional tools used to process a variety of plants in the Greater Antilles and South America. Eight fragmented griddles were excavated from two 1x1 meter units from the Suazan Troumassoid site (TOB-15) on Tobago dated to the Suazan Troumassoid period (AD 1010-1270, calibrated). A "piggy-back" residue analysis designed to extract both starch grains and phytoliths was used to test 24 samples.

Doonan, Owen [212] *see* Casson, Aksel

Dorenbush, Wendy

[203] *Settlement Patterns of the Southern Periphery at Cahal Pech, Belize*

In the summer of 2011, I conducted a settlement survey, mapping cultural features along the southern periphery of Cahal Pech, as part of Belize Valley Archaeological Reconnaissance (BVAR) under direction of Dr. Jaime Awe. Cahal Pech, situated in the southern hills of the Belize River Valley, has the longest occupation within the Belize Valley, spanning the period from approximately 1000 B.C. to about 800 A.D. My research focused on commoner settlement patterns within the Cahal Pech boundary. My survey discovered dense settlement in the southern part of the site to at least 2 km from the acropolis.

Doronicheva, Ekaterina (University of Pennsylvania) and Marianna Kulkova (Herzen State Pedagogical University, St.-Petersburg, Russia)

[84] *Lithic Raw material exploitation in the Northwestern Caucasus Upper Paleolithic*

The authors present data on lithic raw material exploitation, obtained from petrography analyses and studies of archaeological collections from four stratified Upper Paleolithic sites in the Northwestern Caucasus: Mezmaiskaya, Korotkaya and Kosojskaya caves and Gubs I Rockshelter. Regional flint outcrops were examined by us during special field surveys in 2007-2011. The study shows significant differences in raw material strategies of Early Modern Humans compared to those used by the Neanderthals. Raw material characteristics, primarily quality and availability, contributed to differences in acquisition, procurement, transportation and use of stone at the Upper Paleolithic sites in the region.

Douglas, John (University of Montana)

[154] *Behavioral archaeology, Bayesian statistics, and chronology: The need for explicit a priori assumptions in building Paleoindian chronology*

Behavioral Archaeology was prescient in accepting that hypothesis testing is not an isolated event, but rather interpretation involves prior knowledge—a view not embraced by all archaeologists. In this case study, Bayesian modeling of radiocarbon dates is employed to make explicit a priori assumptions about the Clovis occupation span. The argument here is that the explicitness of Bayesian statistics results in a more convincing reconstruction than the alternatives: a “mass approach” of accepting and summation up of all relevant dates or reliance on experts to cull radiocarbon dates based on generalized, often implicit, a priori assumptions.

Douglass, John (Statistical Research, Inc.) and William Graves (Statistical Research, Inc.)

[25] *Transformations during the Colonial Era: Divergent Histories in the American Southwest*

This introductory paper to this symposium offers a theoretical and regional overview of colonialism in the American Southwest and compares it to colonialism in other parts of North America. Certainly, the colonial period was a time of complex negotiations between and among indigenous groups and Spanish intruders. Social,

political, economic, and religious transformations occurred during this period in response to these new interactions and intrusions, forever changing the course of history throughout the region. This paper offers a background and context to the subsequent case studies to help understand the divergent histories that communities experienced through colonization.

[25] *First Chair*

Douglass, Matthew [110] *see* Napier, Tiffany

Doumanoff, Iakov [131] *see* Walling, Stanley L.

Doutriaux, Miriam [152] *see* Pillsbury, Joanne

Dowd, Anne (ArchæoLOGIC USA, LLC)

[269] *Maya Architectural Hierophanies*

When and where is visual information dramatized by the play of light and shadow on Maya buildings? A famous example is that of El Castillo pyramid at Chichén Itza, where the sun illuminates a serpent balustrade on March 20, the spring equinox, and on September 22, the fall equinox. The range of events displayed in the context of architectural space, such as solstice sunrise and sunset in E Group-type complexes (or possibly the completion of the Maya cycle on the winter solstice) will be discussed. How and why did agents or architects celebrate and observe solar movements in urban planning?

Dowd, Elsbeth (University of Oklahoma)

[196] *Ceremony and Leadership in Small-Scale Societies: Archaeology of the Mountain Fork Caddo*

The ancestral Caddo were the westernmost people of the Eastern Woodlands during the Mississippian period (about A.D. 1000-1600). Although these societies have traditionally been categorized as chiefdoms, this paper presents an alternative model to sociopolitical organization that focuses on the role of ceremonial practices in maintaining a society characterized by decentralized leadership and political negotiation. Using stylistic analyses of material culture, paleobotanical analysis, and a GIS analysis of landforms and soil types to study the potential for maize production, I examine the history and sociopolitical dynamics of Caddo communities living along the Mountain Fork of southeastern Oklahoma.

Downes, Jane [86] *see* Mainland, Ingrid L.

Downs, Mary (National Endowment for the Humanities) [81] *Discussant*

Downum, Christian (Northern Arizona University)

[120] *Behavioral Archaeology in a Tribal Setting*

Material culture complements knowledge of the past contained in oral traditions. When modern tribal and traditional archaeological views of the past are syncretized, Native people sometimes conditionally accept the contributions of archaeological research. This acceptance, however, is often accompanied by abundant skepticism regarding archaeologists' knowledge claims about past cultural events and processes. In such cases, behavioral archaeology offers a useful formal, transhistorical language for discussing the study of past material culture. The Footprints of the Ancestors project, a multi-generational learning program, provides

instructive examples of how the principles of behavioral archaeology can help legitimize archaeologically-based understanding in tribal settings.

Doyle, David (Barry M. Goldwater Range, USAF, Arizona) and Adrienne Rankin (Barry Goldwater Range (East))

[222] *Agriculture in Native Economies in Western Papagueria, Arizona*

Native American subsistence adaptations to the hot, arid Sonoran Desert in southwestern Arizona included hunting, gathering, and agriculture. Multiple large village and agricultural sites have been recorded in divergent environmental contexts. Overall, however, the history and intensity of agriculture and the diversity of strategies used are poorly documented. Utilizing field observations and inferences derived from the 1,300 site records in the GIS database for the Barry Goldwater Range (East), this paper explores the role of agriculture in settlement and economic systems in Western Papagueria. Multiple methods are proposed to further assess and document the role of agriculture in the region.

Doyle, James (Brown University) and Rony Piedrasanta (Universidad de San Carlos de Guatemala)

[66] *The Preclassic Maya, Sui Generis: New Evidence from the Buenavista Valley, Petén, Guatemala*

This presentation presents recent research on the Preclassic Maya (ca. 1000B.C.E - 250C.E.) from the Buenavista Valley. The valley, located directly to the west of Tikal, is home to many sites with Preclassic occupation, namely El Palmar and La Avispa. Evidence from these sites suggests new interpretations on the rise of social complexity in the Maya Lowlands, and also sheds light on the factors contributing to the abandonment of sites at the end of the Preclassic period. The presentation evaluates available evidence on Preclassic Maya society within its own context rather than searching for earlier expressions of "Classic" civilization.

Drake, Lee (University of New Mexico)

[134] *Sea Surface Temperatures and Archaeology: Identifying Climatic Change in Bronze Age Greece*

An extensive global record of sea surface temperatures exists for the Holocene, as reconstructed by alkenones, warm species foraminifera/dinocysts, and Mg/Ca ratios. As large volumes of precipitation results from evaporation from the ocean surface, this combined record provides a critical insight into a key component of climate. The collapse of Palatial civilization in the Eastern Mediterranean - a region encompassing Greece, Crete, Anatolia and the Levant - provides an example of the importance of sea surface temperature dynamics. A rapid collapse of polities at the end of the Bronze Age occurs contemporaneously with a drop in sea surface temperatures.

Drake, Stacy

[65] *Making History Important Again: Finding Ways to Reincorporate Archaeology into American Public Education*

Despite the broad applicability of archaeology to multiple foci in education, public schools in the US focus on standardized testing and rigid curricula that leave little

bandwidth for lessons that might incorporate anthropological study. Archaeology benefits education by encouraging students to develop methods of critical thinking and explore concepts of multiculturalism and cultural heritage. In this presentation, I will explore this stifling environment in public education and discuss the trend of marginalizing lessons in social studies and history. I will compile suggestions from the field of archaeology education for ways to better incorporate local historical examples in everyday education.

Drew, Brooke (University of Wisconsin-Milwaukee)

[168] *Individual Skeletal Identification: A Comprehensive Analysis of the Milwaukee County Institution Grounds Cemetery, Wauwatosa, WI*

In 1991 and 1992, 1,649 burials were excavated from the unmarked Milwaukee County Institution Grounds (MCIG) cemetery. The remains and associated artifacts are presently curated within the University of Wisconsin-Milwaukee Department of Anthropology. This author is attempting to incorporate historical documentation such as a register of burials, coroner's inquests, and death certificates with spatial archaeological data, grave goods, and osteological demography in an attempt to facilitate identification of individuals. More specifically, an integrated document database will be utilized in conjunction with ArcGIS and digitized osteological assessments such as sex, age, pathologies, and trauma to assign probable identifications.

Drew, Rose [176] *see Warmlander, Sebastian*

Driver, Jonathan (Simon Fraser University) and David Maxwell (Simon Fraser University)

[234] *Implications of age structure at bison mass kill sites*

Analysis of age at death of bison at kill sites in North American often shows lower frequency of younger animals than would be expected for a catastrophic kill. Two hypotheses for this are poorer preservation or selective removal of young bison. We reject taphonomic explanations and propose that most mass kills of bison occurred after numbers of young animals had already been removed from the population by predation and other natural factors. We examine the implications of bison age structure for analysis of mass kills in other times and places.

Driver, Jonathan C. [272] *see Schollmeyer, Karen Gust*

Brooker, Penelope (New York State Museum)

[192] *Redstone, Shell, and Copper/Brass in Late Prehistoric and Protohistoric Fort Ancient Contexts*
Artifacts made of red stone are not particularly common at Late Fort Ancient (ca. AD 1400-1650) sites, although a source of red pipestone is locally available. This paper summarizes data on types and contexts of redstone artifacts, discusses potential sources and distribution patterns, and compares this information with previously reported distribution patterns of European-derived and marine-shell artifacts from the same sites.

Druc, Isabelle (University of Wisconsin-Madison) and Inokuchi Kinya (University of Saitama)

[270] *Looking for the right outcrop: ceramic petrography in the Peruvian Andes*

Petrographic analysis of Andean ceramics from the 1st

millennium B.C. revealed intrusive rock fragments as temper in the paste of several ceramics of the site of Kuntur Wasi, in the northern Peruvian province of Cajamarca. This is in contrast to many ceramics of that site, with a volcanic composition in accordance to local geology. Ethnoarchaeological studies of local, traditional ceramic production also highlight the use of volcanic material as temper. So where does this intrusive rock composition come from? Petrography and SEM are used to tackle this question. This study is undertaken with the help of the University of Saitama and the Japanese Kuntur Wasi project.

Du, Andrew (The George Washington University), J. Tyler Faith (University of Queensland), Anna K. Behrensmeyer (National Museum of Natural History, Smithsonian Institution), David B. Patterson (The Center for the Advanced Study of Hominid Paleobiology, The George Washington University) and Amelia Villaseñor (The Center for the Advanced Study of Hominid Paleobiology, The George Washington University)

[96] *Paleoecological implications of sampling methodology in landscape fossil assemblages*
Surface collection of vertebrate fossils in open-air sites is often limited to a subset of taxonomically informative specimens (e.g., teeth, horn cores), which may bias paleoecological reconstructions. Here we examine the effects of collection protocol on paleoecological variables. Systematic surface bone transects in which all fossil specimens are documented were conducted in the Ileret Tuff Complex (1.53–1.51 Ma) of the Okote Member (Koobi Fora Formation, East Turkana). Comparison of ecological variables (diversity, body size distribution, etc.) based on the comprehensive faunal sample vs. selectively collected bone assemblages reveals important effects of sampling protocol on paleoecological variables.

DuBarton, Anne (NewFields Environmental Planning and Compliance)

[161] *Grinding Stones and Roasting Pits: Subsistence at Eldorado Dry Lake*

Playas, or dry lakes, are familiar features on the western landscape. They are typically dry basins, but after heavy rains may fill with shallow bodies of water that last for considerable periods of time. From the 1930s to the 1970s archaeologists focused on late-Pleistocene utilization of these water bodies but little attention was paid to the way people may have used them after this period. Survey around the Eldorado dry lake in southern Nevada provides data indicating these temporary water bodies were a focus of subsistence activities for thousands of years after the end of the Pleistocene.

DuChemin, Geoffrey (University of Florida)

[193] *Pre-Columbian Animal Use in South-Central Puerto Rico: Local and Regional Trends*

Results of the analysis of faunal remains recovered from three archaeological sites in South-Central Puerto Rico are presented. Remains of vertebrate and invertebrate animals from these sites provide important information regarding the procurement of animal resources, how food was distributed, and the relationship of humans with their natural environment. Moreover, data are interpreted contextually within temporal and spatial parameters.

Animals recovered from ceremonial contexts indicate the association between particular animal taxa and ritual activities. Patterns of animal use through time and space reflect the changing trends in social, political, and economic relationships within and between groups living in the area.

Duches, Rossella [202] *see Peresani, Marco*

Dudgeon, John [177] *see Meredith, Clayton R. [109]*
see Peterson, David L. [109] *see Holmer, Nicholas A.*

Dudgeon, John V. [111] *see Nelson, Aimee M.*

Dudzic, Beatrix [180] *see Echeverry, David*

Dudzic, Mark [187] *see Nicholls, Brian*

Duff, Andrew (Washington State University)

[198] *Interacting with History: Chaco Canyon and Southern Colorado Plateau Great House Communities*
Developments at Chaco Canyon were undeniable and widely influential facts that echoed across Southwest a millennium ago and reverberated for centuries. Populations located some distance south of Chaco—"hinterland" communities—incorporated elements of Chaco materially in architecture and behaviorally in ritual action, though many local traditions persisted. Southern Chaco-era communities show that the salience of Chaco varied, providing a venue for co-participation and shared experience among otherwise diverse groups. Unity was fleeting; life was situated in places with their own histories. How Chaco was experienced differed substantially, suggesting components of the process of regional articulation of wider importance.

Duffy, Christopher [102] *see French, Kirk D.*

Duffy, Paul (University of Toronto) and William A. Parkinson (Field Museum)

[190] *From Societal Types to Comparative Regional Trajectories: The Long-Term Dynamics of Prehistoric Villages on The Great Hungarian Plain*

Despite the fluorescence of regional studies over the last fifty years, few attempts have been made to compare long-term regional trajectories or model their dynamics for cross-cultural comparison. This paper uses the rich archaeological dataset of the prehistoric Great Hungarian Plain to discuss the long-term dynamics of early agricultural villages from the Neolithic through the Bronze Age. By focusing on the dynamics of regional trajectories – as opposed to more normative societal typologies – it is possible both to embrace regional variability as well as to compare long-term patterns.

Duffy, Paul [200] *see Parkinson, William A.*

Dufton, Andrew (Brown University), Guy Hunt (L - P : Archaeology) and Jessica Ogden (L - P : Archaeology)

[64] *Reflexivity in context: the role of new data technologies in a theoretically informed field practice*
Although recent theoretical discourse has highlighted the benefits of reflexive excavation techniques, limited project resources and a need for standardisation in recording have often inhibited the implementation of

reflexive field practices. A look at the underlying problems of data structure in excavation methodology will lead to a consideration of the role of Open Source, web-based technologies in achieving a more reflexive data integration. Through the consideration of the successful implementation of the Archaeological Recording Kit (ARK) in both an academic and non-academic context the potential for emerging digital tools in facilitating a more theoretically informed site practice will be considered.

Dugas, Lisa [78] *see Mitchell, Seth T.*

Dugmore, Andrew (University of Edinburgh), Jette Arneborg (Danish National Museum) and Orri Vesteinsson (University of Iceland)

[86] *Resilience, Path Dependency, and the Limits of Adaptation in Norse Greenland*

The end of Scandinavian settlements in Greenland (ca 985-1450 CE) remains a classic example of extinction following long term human-environment interaction, changing climate, culture contact and world system impacts. While some popularizations have depicted the Norse Greenlanders as a rigid and maladapted temperate zone society that "chose to fail" during a period of climate cooling, recent International Polar Year field research, laboratory work, and modeling combined with high resolution proxy climate records produce a different understanding of a society that was well adapted and resilient in the face of significant climate change yet proved ultimately unable to sustain itself.

[51] *Discussant*

Duke, Daron (Far Western)

[46] *Wasting Stone Instead of Time: A Look at the Exploded Basalt Quarries of the Desert West*

The use of basalt and related volcanic rocks in the western deserts as primary toolstone sources contradicts many notions of reduction efficiency held by archaeologists. Quarries exhibit massive amounts of waste seemingly at odds with the types and quantities of tools found locally. Some early studies considered the quarries evidence of a pre-projectile point cultural phase, and recent work generally views them as atemporal given the absence of diagnostic artifacts. In this paper, I explain the patterns in terms of how people shifted reduction investments between quarries and residences based on economic factors that are often temporally diagnostic.

Duke, Guy (University of Toronto)

[106] *Consuming Identities: Culinary Practice in the Late Moche Jequetepeque Valley, Peru*

This paper will explore how the political, economic, and environmental conditions of the Late Moche Period (AD 500-750) were reflected in cuisine of the Jequetepeque Valley, Peru. The regional cultural variation combined with the commonalities and continuities in cultural reproduction have been analyzed on many levels, yet the discussion of local, and regional cultural identities has only scratched the surface of its diversity and interconnectivity. I will discuss the connections between the practical acts of food production and consumption and the political nexus of identity, social distinction, and gastronomy and how food preparation and consumption variably constituted Moche subjectivities through time.

Dukeman, Casey [96] *see Boehm, Andrew*

Duncan, James (Lindenwood University) and Carol Diaz-Granados (Washington University)

[266] *Circling with the Stars: Dhegihan Dance Rituals and the Cosmic Order*

In the last two decades, there has been increasing attention paid to both rock art and to celestial phenomena and patterning. The complexities of comparing the parallel invisible worlds to the visible world have only recently been identified in the rock art (and various cultural materials). This paper explores a selected number of connections between Dhegihan ceremony and the cosmic order as reflected in the rock art and other associated cultural materials.

Duncan, William (East Tennessee State University) and Kevin Schwarz (ASC Group, Inc.)

[94] *Operationalizing fragmentation theory in mass graves*

Fragmentation theory considers the likelihood and meaning stemming from the idea that incomplete objects and individuals in the material record were intentionally broken and distributed. One of the standing challenges confronting fragmentation theory is identifying intent. Here we analyze a Postclassic (AD 950 – 1524) Maya mass grave from site of Zacpetén in northern Guatemala via a Ripley's K analysis. The analysis demonstrates that the mass grave exhibits statistically significant differences of long bone distributions and indicates intentional manipulation of elements on the basis of their side.

Dungan, Katherine (University of Arizona)

[247] *Mule Creek and the Great Kiva Tradition of the Mogollon Highlands*

The Fornholt site, located in Mule Creek, NM, was occupied during the 13th and early 14th centuries. Despite its comparatively southern location, the architecture, floor features, and ceramic assemblage strongly resemble contemporary Tularosa Phase sites to the north and west, although some southern ceramic types rarely found at more northern sites are also present. Summer 2011 excavations at Fornholt in a presumed great kiva suggest that this feature may differ substantially from ceremonial structures to the north. This poster examines Fornholt's architecture and ceremonial structure in the context of the regional Tularosa Phase tradition.

[247] *First Chair*

Dunham, Sean (Michigan State University & CCRG, Inc.)

[124] *Late Woodland Landscapes in the Eastern Upper Peninsula of Michigan*

This paper explores pre-European settlement ecosystems in Michigan's Upper Peninsula. Pilot studies have shown that Late Woodland peoples used certain environments more extensively than others and also modified landscapes through their activities. Likewise, there is evidence that Native Americans used fire for landscape modification in the eighteenth and nineteenth century. While forest and understory clearing for horticulture has been viewed as the primary rationale for this burning, evidence for habitat improvement for other

resources is presented. Finally, the evidence is considered in relation to prehistoric land use in the region.

Dunn, Stacy (Tulane University)

[166] *Ritual Use and Meaning of Foodstuffs in Contact-Period Coastal Peru*

How do situations of colonial contact affect the cultural meanings of food? I address this through contact-period excavations at Quipico, a site located in the North-Central Coast of Peru. After the site's abandonment, a hacienda was built nearby and the old structures reused as storerooms for local and introduced foods. During remodeling, two offering pits were placed as part of a pre-hispanic-style construction ritual. I focus on the incorporation of specific introduced foods in traditional rituals. I argue in the case of colonial Quipico that staple crops, rather than luxury goods, are the most salient foodstuffs for rituals.

[166] *First Chair*

Dunning, Nicholas (University of Cincinnati), Kenneth Tankersley (University of Cincinnati), Robert Griffin (NASA - Huntsville), Timothy Beach (Georgetown University) and Sheryl Luzzadder-Beach (George Mason University)

[167] *Akalche: On the Origins and Maya Use of Peten Bajo Soils*

Bruce Dahlin directed a pioneering study of bajos near the ancient Maya city of El Mirador and became enmeshed in a debate concerning Maya land use in bajos. Dahlin came to strongly oppose the once tantalizing idea that bajos were the Maya Lowlands "breadbasket." We review information available on the origins of, and Maya interactions with the bajo soilscape in the Peten and adjacent areas. Our findings suggest that while large areas within bajos were likely poorly suited for agriculture, these widespread depressions included important tracts of arable land and other vital resources including water and timber.

[66] *Discussant*

Dunning, Nicholas [87] *see Tankersley, Kenneth B. [22]* *see Weaver, Eric M.*

Dupont, Catherine [75] *see Tresset, Anne*

Dupont De Sousa Dias, Rita (University of Algarve), Cleia Detry (UNIARQ - University of Lisbon) and Nuno Bicho (University of Algarve)

[75] *The Epipaleolithic-Mesolithic transition: Changes in small vertebrates exploitation dynamics*

The Pleistocene-Holocene transition (10-8 Ka BP), largely influenced by environmental and climatic conditions, is marked by evidence of fundamental changes in the ecology of the last Hunter-Gatherers communities in the western Iberian Peninsula. These changes led to a new settlement adaptation, intensification and diversification in resources exploitation. This paper summarizes new zooarchaeological evidences, mainly from the viewpoint of change in dynamics on what regards small game, birds and aquatic resources exploitation during this transition.

[75] *Second Chair*

Dupont-Hébert, Céline [263] *see Woollett, Jim M.*

Durán, Victor [112] *see Cortegoso, Valeria [153]* *see Giesso, Martin*

Durand Gore, Kathy (Eastern New Mexico University) and David Batten (Eastern New Mexico University)

[218] *Migration to Paquime on the Chaco Meridian: the Dental Evidence*

The movement of populations across the prehistoric landscape is often problematic to trace archaeologically because of the difficulty in determining whether material culture was traded or brought along during a move. Discrete dental traits can be used to estimate genetic distances and more directly reveal migration processes. After documenting regional relationships among small and Great Houses in the Chaco region, we use discrete dental traits to test the proposed movement of people from Aztec Ruin south to Paquimé, Mexico. The distinctiveness of the dentitions of these two regions helps to clarify the relationship between the two populations.

[218] *First Chair*

Duwe, Sam (University of Arizona)

[85] *Building the Tewa World: Cosmography and Settlement in the Northern Rio Grande Region, New Mexico*

In the fourteenth century, ancestral Tewa villages in northern New Mexico underwent dramatic social and cosmological transformation in the context of intense population coalescence. Previous research demonstrates that architectural and ceramic data, as well as the ritual landscapes immediately surrounding each site, reflect this fundamental change. This project uses GIS methods to demonstrate how the Tewa actively shaped their world by situating villages in relation to ethnographically important natural features such as rivers, sacred peaks, springs, and other archaeological sites. I argue that the Tewa world recorded historically was the result of competition and negotiations during the late prehispanic era.

Dwyer, Benjamin (SHUMLA)

[101] *Where We're Going, We Don't Need Roads: A Look at the SHUMLA Rock Art Database*

The Lower Pecos Rock Art Recording and Preservation Project was launched in 2009, and represents one of the most intensive rock art recording projects in the United States. To date, SHUMLA has archived nearly 200,000 pieces of information on over 2,000 pictographic elements, thousands of pages of notes, and more than 15,000 photographs. To manage this information, SHUMLA developed a robust front-end/back-end system utilizing Microsoft Access and SQL Server to run complex queries and identify patterns in motif association and their distribution across the landscape. Our ultimate goal is to make this data available to the general public and researchers.

Dye, David (University of Memphis)

[266] *Mississippian Warfare and Soul Capture*

Mississippian iconography is replete with imagery that documents the capture of souls through trophy taking behavior. Perhaps the most explicit example is the

bellows-shaped apron that prominently exhibits scalplocks within a scalp pouch. Ethnographic documentation further supports the idea that soul capture was a major stimulus for violence. In this paper I suggest that the capture and manipulation of life forces was pervasive throughout eastern North America and may have had great time depth based on the early occurrence of human body parts as trophies.

[197] *Second Chair* [10] *Third Organizer*

Dye, David [197] *see Moore, Michael C.* [197] *see Hawley, Marlin F.* [189] *see Hammons, Catherine* [127] *see Swihart, George*

Dyson, John (Department of Chickasaw Language, Chickasaw Nation)

[80] *Chickasaw Horses, Plums, Roses and.....Potatoes?*

Chikashsha ahi' was a plant widely esteemed by Native Americans in today's states of Mississippi, Louisiana and Arkansas. It is an aquatic whose medicinal properties were included in early texts of materia medica and whose tastiness and nutritional value still endure. It is unknown why this "potato" was sourced to the Chickasaw people or to their territory, yet the Choctaw tribe so admired it as to have named not only one of their chief towns after it but also the very river that led to that town. This paper will identify Chikashsha ahi' scientifically and describe its traditional properties.

Earle, David D. [278] *see Wiewall, Darcy L.*

Earley, Caitlin (University of Texas at Austin)

[30] *Not So Quiet on the Western Front: The Comitán Valley in the Early Postclassic Period*

Unlike Maya cities of the southern lowlands, cities in the Comitán Valley of highland Chiapas flourished through the Terminal Classic period and beyond. Changes in the regional material record during the Early Postclassic period, however, including different ceramic forms and burial methods, indicate major cultural shifts in this area. Using ceramic, archaeological and art historical data, this paper investigates how sites like Tenam Puente and Chinkultic used art and architecture to adapt to a rapidly changing world, providing insight into the nature of the Terminal Classic "transition" and the diversity of western Maya cities in the Early Postclassic Period.

Early, Ann (Arkansas Archeological Survey)

[252] *Caddo Pottery in Carden Bottoms Assemblages: Forging Social Relations Through the Display of Mutually Understood Design and Symbolism*

Caddo ceramics were highlights of Carden Bottoms assemblages since they were unearthed in the 1920s. Since then they have been fodder for debates about Caddo land boundaries and the identity of Arkansas River Valley residents. A database of several thousand vessels, including 1000 from Carden Bottoms, and a new approach to analysis of ceramic designs, reveals links between specific protohistoric Caddo communities and artifacts in the Carden bottoms settlements. Caddo vessels chosen for transport to Carden bottoms have specific design motifs that facilitated social networking by displaying mutually shared core cosmological beliefs. Pots really do talk.

Eberl, Markus (Vanderbilt University)

[56] *Forgeries and systems of scientific knowledge. Identifying a forged manuscript on early Colonial Maya* Forgeries fit to a body of knowledge created by scholarly research. Their identification requires an epistemological approach that specifies the methods and theories implied in the body of scientific knowledge. Among the holdings of UNESCO's World Digital Library was a Spanish manuscript on early Colonial Maya. As a historical document the Pintura manuscript was examined from six angles: pedigree, physical properties, penmanship, linguistics, content, and sources. Analysis shows that it belongs to the Canek group of forged manuscripts. Scholarly engagement with forgeries like the Pintura manuscript promises insight into systems of scientific knowledge and their perception by the general public.

Eberl, Markus [151] *see Levithol, Sarah A.*

Ebert, Claire (Pennsylvania State University), Douglas J. Kennett (Pennsylvania State University) and Keith M. Prufer (University of New Mexico)

[70] *Household Group Variation at the Classic Period Maya Site of Uxbenká, Belize*

The Classic Period Maya site of Uxbenká has a dispersed settlement system extending over 4km² with 60 documented household groups. Excavations at two groups adjacent to the site core (SG 22 & 37) illustrate different architecture and artifact assemblages between households. Small ephemeral house-mounds possessing relatively few artifacts characterize SG 22. However, at SG 37 excavations uncovered prestige items including jade, polychrome ceramics, and an eccentric axe in addition to more formal architecture. We explore the variation between architecture and assemblages. Comparisons may demonstrate chronological, functional, or wealth differences between household groups, perhaps related to proximity to the site core.

Echeverry, David (University of Tennessee) and Beatrix Dudzik (University of Tennessee)

[180] *The Peopling of the Americas: Reconciling Conflicting Lines of Evidence*

Among the vast array of questions concerning the peopling of the Americas, we focus on the possible geographic origin(s) of the population(s). Recent craniometric studies have observed a high degree of human variation, and subsequently have offered hypotheses suggesting multiple migrations from distinct populations. In this study, we test the hypothesis that the extensive differences in cranial morphology between the early Native Americans and their more recent counterparts indicate that there is not an ancestor-descendant relationship between them. Our analysis fails to support this hypothesis, and we offer alternative explanations that better incorporate the evidence from morphometrics, genetics, and archaeology.

Echeverry, David [84] *see Yerka, Stephen J.* [197] *see Sullivan, Lynne P.*

Eckert, Suzanne (Texas A&M University) and Kari Schleher (Crown Canyon Archaeological Center)

[270] *Integrating Petrographic and Chemical Compositional Analyses: Santa Fe Black-on-white Ceramic Production and Distribution in the Española*

Basin

Because both petrographic temper types and INAA compositional groups are ultimately tied back to geology, it is a reasonable assumption that there would be a relationship between the two. However, this relationship is rarely a one-to-one correlation. Our analysis of Santa Fe Black-on-white suggests that the lack of correlation is related to two common -- but inappropriate -- assumptions. We combine the datasets and argue for at least 6 different "production traditions," representing a minimum of 2 production provenances. Combined analyses provide a richer interpretation of ceramic production and distribution in the 13th and 14th centuries in the Española Basin.

Eckert, Suzanne [211] *see Welch, Daniel R.*

Edwards, Matt (HDR and UCSB)

[26] *Ritual Practice at the End of Empire: Evidence of an Abandonment Ritual from Pataraya, a Wari Outpost on the South Coast of Peru*

This paper reports on evidence for planned abandonment at Pataraya, a small Wari installation in the Nasca valley of the south coast of Peru, at around AD 950, just as the Wari empire itself began to collapse. This evidence suggests that the abandonment of Pataraya was accompanied by a detailed, if not particularly elaborate, sequence of closing rituals and ceremonies. While detection of ritual practice in the archaeological record is a difficult task, abandonment events at sites that were not subsequently reoccupied, like those described here, provide rich archaeological correlates for ritual practice not readily apprehended in other archaeological contexts.

Edwards, Megan (University of Chicago)

[13] *In the Market for Meat: A Zooarchaeological Analysis in the Heart of New Orleans*

While many excavations in the French Quarter have explored private spaces, the archaeology of St. Anthony's Garden has revealed something of the public sphere-- and market culture-- of historic New Orleans. A preliminary zooarchaeological analysis of St. Anthony's material will be brought to bear on where and how the market for meat has functioned in the Crescent City. From earliest days of French colonization, to the more recent use of the garden by the Catholic community of St. Louis Cathedral-- the slaughter, butchery, and distribution of animal bodies in this urban space will be considered.

Edwards IV, Richard [78] *see Jeske, Robert J.*

Eeg, Holly [250] *see Gray, Jamie R.*

Eerkens, Jelmer (University of California, Davis) and Carl P. Lipo (California State University, Long Beach)

[160] *Cultural Transmission and Change in Pottery Technologies in the Western Great Basin*

Using luminescence dating, we track changes over time in brownware pottery technologies in the Western Great Basin, focusing especially on Owens Valley and Death Valley. We are particularly interested in the diversity of rim forms, temper types, thickness, and mouth diameter, and how innovations in potting spread over time and

space.

Egan, Rachel (University of Central Florida)

[70] *The Center and the Portal: New Perspectives on the Quatrefoil in Classic Maya Iconography*

The quatrefoil is generally described as a cave in Maya iconography. However, this definition has never been explicitly considered for the Classic Period Maya. As such, my research focused on the archaeological and iconographic contexts in which the quatrefoil was depicted during this period. In this poster I present the results of my research stating that the quatrefoil is better defined as a cosmogram that fundamentally conveyed information about how the Maya conceptualized space. Further, the appropriation of the quatrefoil by rulership transformed it into an ideological symbol that could reinforce and even legitimize political authority.

Egeland, Charles P. [96] *see Welch, Kristen R.*

Egitto, Antoinette (The University of Kansas) and Douglas Comer

[122] *Preliminary results of the use of IKONOS imagery at the archaeological site of Nuevo Corinto, Costa Rica*

Remote sensing technologies have been used to successfully identify archaeological remains in Latin America and beyond. However, this technology has been used to a limited degree in the study of Precolumbian Costa Rica. It is proposed that various analyses using high-resolution satellite imagery, such as IKONOS, can assist in the identification and spatial analysis of archaeological features not visible from the ground at the site of Nuevo Corinto in the Caribbean lowlands of Costa Rica. This paper presents preliminary results of the use of IKONOS imagery at the site of Nuevo Corinto.

Ehrhardt, Kathleen (Illinois State Museum)

[192] *Metals in Motion? Native Copper and European Copper-base Metals in the 17th Century Protohistoric North American Interior*

European-derived copper base metals first appear in interior Native North America primarily in ornamental form. However, little is known about when and where many of these forms originated or their temporal and spatial trajectories. In this research, native copper and European copper-base metal industries from late prehistoric and protohistoric sites in Illinois (Hoxie Farm, New Lenox, Palos), Missouri (Iliniwek Village), and Ohio (Indian Hills) are evaluated formally and stylistically to identify the range of forms and raw materials present. Industries are compared to provide insights into the emergence, frequency, and potential movement of select types in and through the midwest.

Einck, Andrea

[216] *Fort Selden, New Mexico: Ceramics and Ethnicity*

In this paper I analyze artifacts recovered from 1972 excavations at Ft Selden, New Mexico (1865-1892) to understand the negotiation of ethnic and social boundaries within the community. Ft Selden was the southernmost fort in a long line of frontier garrisons. Like the Spanish presidios (1750-1821), it was a multiethnic community, with both white and black units. The military also interacted with local Hispanic populations, which affected artifact assemblages, particularly ceramics. Unlike Spanish presidios, frontier forts of the 19th century

were dependent on the US for most commodities, but staple foodstuffs, such as beef, were supplied from the local area.

Eiselt, B. Sunday (Southern Methodist University) and J Andrew Darling (Gila River Indian Community, Cultural Resource Management Program)

[25] *Aquí Me Quedo: Vecino Origins and the Historic Settlement Archaeology of the Río del Oso, New Mexico*
The emergence of Vecino society after the 1750s was part of a larger process of frontier ethnogenesis that occurred throughout the northern Spanish borderlands following the Bourbon reforms. This paper traces the emergence of the "ranchero" cultural pattern within Vecino society from the 1730s to the 1830s using archaeological and ethnohistoric materials from the Río del Oso Valley above Espanola. The transformation of rural Hispanos from colonizers into endemic Vecinos is related to shifting economic policies, land grants, and the reoccupation of abandoned Puebloan agricultural and pastoral niches.

Ek, Jerald (Skidmore College)

[22] *The Formative Period in the Río Champotón Drainage, Campeche: Settlement Patterns and Ceramic Chronology*

This paper examines the rise of complex societies in the Río Champotón drainage, from the initial settled coastal communities in the Early Middle Formative Period through the formation of nucleated urban centers in the Late Formative Period. Analysis of the earliest ceramic assemblages reflects both modal similarities with contemporary pre-Mamom ceramic complexes as well as distinctive regional characteristics, which reflect a general pattern of high regional diversity between early Maya ceramic traditions. The ensuing centuries saw rapid expansion of inland settlement as well as participation in more widespread ceramic spheres during the Late Middle and Late Formative Periods.

el Hajraoui, Mohamed [117] see Dibble, Harold L.

Ellenberger, Kate [24] see Fink, Andrea

Ellenberger, Katharine (Binghamton University)

[218] *Visibility at a Chacoan outlier: Directed inward or projecting outward?*

The focus of most archaeological research on visibility is on inter-community communication and warfare; I think that it is just as fruitful to investigate how visibility might play a role in defining individual communities. The long-term intervisibility between habitations in the Kin Klizhin community, long considered a Chacoan outlier, suggest that people living there were focused more on social relations within than signaling outward to Chaco. In this case, and I argue in many more, visibility can provide a window into how people in the past positioned themselves in relation to near and distant points of reference.

Ellick, Carol (Archaeological and Cultural Education Consultants)

[24] *Public Outreach and Education: A Line-item in the Budget*

Assume that the agency won't fund it and they won't. It's a self-fulfilling prophecy. Outreach is not an extra; it's

mandated by federal (and some state) laws. The more that CRM firms include outreach and education in technical and cost proposals (required or not), the more it will be included in RFPs. But, the type of outreach, who does it, and the cost must be in line with the overall CRM project. How can you make the process and the product beneficial to the agency, CRM firm, and the audience? Come see the possibilities.

Ellis, David (Willamette Cultural Resources Associates) and Craig Skinner (Northwest Research Obsidian Studies Laboratory)

[111] *Social Dimensions of Obsidian in the Portland Basin, Columbia River*

XRF provenance studies of obsidian artifacts from archaeological sites in the Portland Basin of northwestern Oregon have identified over 20 different sources from western, central, and eastern Oregon. Although small pebbles of obsidian may be found in the Willamette River in the Portland Basin, direct acquisition of most identified sources would require substantial travel. It is therefore likely that Portland Basin residents obtained obsidian through exchange. Patterning in the distribution of obsidians from different sources in these sites can potentially shed light on exchange networks. This poster provides an initial definition of those procurement processes and what they may express about social networks.

Elston, Robert (University of Nevada, Reno - Dept. of Anthropology) [46] *Discussant* **[46]** *First Chair*

Emery, Kitty [70] see Thornton, Erin Kennedy

Emery, Kitty F. [166] see Sharpe, Ashley E.

Engelbrecht, William (Buffalo State College)

[40] *Rethinking Palisades in the Northeast: Evidence from the Eaton Site*

Eaton is a multi-component site in western New York. The major component consists of an Iroquoian village dating to the mid-sixteenth century. There is a high ratio of expedient lithic tools to debitage in the area of the palisade. A possible explanation for this is presented and the implication for the construction and maintenance of the palisade is discussed.

Enloe, James (University of Iowa) and François Lanoë (Muséum National d'Histoire Naturelle, Paris)

[202] *Spatial Organization in the Terminal Mousterian: Taphonomy and Neanderthal Behavior at the Grotte du Bison, Arcy-sur-Cure*

Spatial data have been collected for the terminal Mousterian occupation level E at the Grotte du Bison, Arcy-sur-Cure, France. This level includes abundant indications of occupation by large carnivores and scavengers as well as by Neanderthals. Taphonomic investigations explore differential distribution patterns of flint tools, debitage, animal bones and splinters, and burned bone and charcoal as indicators of the agents of accumulation and modification. Residual structural patterning may indicate some modes of human deposition and discard of artifactual material with inferences for cultural behavior. Patterning is contrasted with Châtelperronian spatial distributions in the overlying

final Neanderthal occupation of the cave.

[132] *Discussant*

Eppich, Keith (Collin College), David Freidel (University of Washington in St. Louis), Damien Marken, Michelle Rich and David Lee Stanley Guenter

[151] *The Flag follows Trade: Material correlates from El Perú-Waka' indicating political and economic interaction in Classic-era Western Petén.*

This paper examines multiple indicators for political interaction uncovered during the 2003-2006 excavations at El Perú-Waka'. Epigraphy, lithics, and ceramics indicate that El Perú-Waka' held a key position in the Western Petén in the Classic period, straddling both an east-west and a north-south crossroads. We propose a model situating economic motivations behind the political actions of the great powers of the Classic Lowlands. This places the Classic political and military struggles alongside a series of commercial trade routes that crossed the Maya world with El Perú-Waka' as an active participant in those networks.

Epstein, Andrew (University of Georgia) [230]
Discussant

Eren, Metin (University of Kent, UK)

[261] *An Examination of Clovis Unifacial Stone Tool Edge Diversity in the Lower Great Lakes region*

This paper presents data on nearly 2,000 Paleoindian unifacial stone tools from seven base camps of early colonizers around the Lower Great Lakes. It establishes quantitative benchmarks for the amount of stone tool variability expected from different tool-design strategies. From quantitative assessments of artifact morphological diversity this paper suggests that the unifacial stone tools of human colonizers in the Lower Great Lakes possessed attributes exhibiting both "maintainable" and "reliable" tool-design strategies.

Erickson, Clark (University of Pennsylvania) [91]
Discussant

Erlandson, Jon [164] *see Glassow, Michael A. [126]*
see Reeder-Myers, Leslie A.

Erlandson, Jon M. [164] *see Braje, Todd J.*

Ermigiotti, Paul [216] *see Ryan, Susan C.*

Ernenwein, Eileen (University of Arkansas), Carla Klehm (University of Texas at Austin) and Katie Simon (Center for Advanced Spatial Technologies, University of Arkansas)

[7] *Ground-penetrating Radar and Electromagnetic Induction at Three Iron Age Sites in Botswana*

Geophysical surveys conducted at the African Iron Age sites of Nyungwe, Mmadipudi Hill, and Lose comprise the first archaeological geophysics application in Botswana. Spanning a period of CE 600-1600, these sites represent a period during which complex societies first emerge in the region, and trade develops and connects southern Africa with East Africa, the Middle East, India, and China. The geophysical data reveal kraals, houses, and housing clusters, and greatly enhance our understanding of these significant heritage sites. As they are situated in three

geologically distinct regions, they also serve as a test of these methods in Botswana.

Eronat, Kristina (UCLA & The University of Kansas) and Thomas Wake (UCLA)

[122] *Dietary & Health Status Reconstruction From the Prehistoric Panamanian Site of Boca del Drago*

The excellent preservation of both human and faunal remains recovered from Sitio Drago, a beachfront site in North Western Panama, offer the opportunity for a focused look at the link between subsistence models and social status and how these factor into the overall health status of the portion of the population represented at the site. The record at Drago indicates access to a diverse set of subsistence fauna, from a variety of fish to kinkajou, and the analysis of the human skeletal remains demonstrates how the prehistoric population may have benefited from this relatively broad diet.

Erwin, John [232] *see Holly, Donald H.*

Escamilla, Ricardo Zapata [227] *see Götz, Christopher M.*

Eschbach, Krista (Arizona State University)
[54] *Social Clustering in Spanish Colonial Urban Environments*

Inspired by Barbara Stark's participation in a transdisciplinary study of neighborhoods and urban organization, this paper will examine social clustering in Spanish colonial urban environments. I survey the top-down and bottom-up drivers of social clustering, including both the formal town plans of Spanish institutions and the informal construction of neighborhoods by marginal groups. I will use the Port of Veracruz as a diachronic case study to demonstrate how the combination of history and archaeology can contribute to our understanding of continuity and change in urban social patterns.

Eschbach, Krista [21] *see Stark, Barbara L.*

Espenlaub, Stacey [105] *see Geller, Pamela L.*

Espenshade, Chris [101] *see Ashcraft, Scott*

Espinoza Vallejos, Sandra [259] *see Williams, Michele*

Esposito, Paula [39] *see Stich, Kyle*

Espósito, Paula [166] *see Quave, Kylie E.*

Esterle, Allison [7] *see Mink, Philip B.*

Estrada, Javier [30] *see Paiz Aragon, Lorena*

Ethieson, Meeks (USDA, Ouachita National Forest) and Mary Beth Trubitt (Arkansas Archeological Survey)

[46] *Taking it to the River: Arkansas Novaculite Quarrying and Archaic Period Tool Production*

Arkansas Novaculite, outcropping on ridgetops in the southern Ouachita Mountains of Arkansas and Oklahoma, was a critical resource for Indians living in both mountains and coastal plain. This paper reviews research on novaculite quarries and the movement of

toolstone during the Archaic period. Toolstone procurement was intensive and extensive, as shown through mapping of quarry features at Spanish Diggings, a major quarry near the southeastern end of the novaculite region. Analysis of tool production debris at the Jones Mill site on the Ouachita River focuses on identifying heat treatment and biface reduction as novaculite was moved from source to habitation.

Ethridge, Robbie (University of Mississippi)

[50] *The Rise and Fall of Late Mississippian Chiefdoms in the Mississippi Valley*

This paper examines the rise and fall of the Late Mississippian chiefdoms along the middle and lower Mississippi River Valley. I attempt to place these chiefdoms in an historical framework for thinking about Mississippi Period geopolitics and leadership. I also propose that the geopolitics and patterns of leadership seen here help explain what happened to these chiefdoms after contact and how and why they fell.

Eusebio, Michelle (University of Florida), Philip Piper (Archaeological Studies Program, University of the Philippines, Quezon City, Philippines) and Victor Paz (Archaeological Studies Program, University of the Philippines, Quezon City, Philippines)

[212] *An Evaluation of Fatty Acid Residue Analysis in Philippine Pottery: Interpreting Earthenware Pots from 13th-14th Century Porac, Pampanga*

Four food items with cultural significance in the Philippines were experimentally cooked in modern earthenware vessels. Extraction and analytical procedures on the pottery were then tested for optimization of recovery of lipid residues, specifically targeting fatty acids. The procedures were then applied to the absorbed organic residues in earthenware pots excavated from a 13th-14th century settlement site in Porac, Pampanga, Central Luzon. Lipid residues were successfully recovered and detected with gas chromatography analysis. This work demonstrates that organic residue analysis in both modern and archaeological contexts is a viable procedure in tropical settings of the Philippines.

Evans, Amanda [113] see Varney, R. A.

Evans, Paul [157] see Mulville, Jacqui A.

Evans, Susan (Penn State University)

[19] *Aztec Royal Family Politics*

In its brief history, the Aztec empire expanded or stagnated, depending in part on the leadership skills of Tenochtitlan's successive rulers. This study compares the rulership styles of Axayacatl, Tizoc, Ahuitzotl, and Motecuzoma, and contrasts the Tenochca kings with their cousins, the father and son rulers of Texcoco, Nezahualcoyotl and Nezahualpilli. In all cases, piety was essential to the king's persona, but physical survival depended upon success at empire-building, requiring properly directed aggressiveness and careful deployment of diplomacy.

[195] *Discussant*

Evans, Susan T. [102] see Nichols, Deborah L.

Everett, Mark E. [7] see De Smet, Timothy S.

Everhart, Jennifer (Stony Brook University)

[141] *The Taphonomy of Mortuary Offerings: An Examination of Faunal Remains from Bronze Age Arabian Tombs*

Whereas settlement sites with abundant faunal middens are rare in the Arabian Peninsula, ancient pastoralists' stone monuments, stone chamber tombs, and tumuli dot the landscape, providing most of the material evidence for the lives of their creators. As a part of the Arabian Human Social Dynamics (AHSD) project, this poster will present the preliminary results of the analysis of the faunal contents from several types of above ground mortuary structures. This analysis will explore the early ritual relationships between people and domesticates and consider the role taphonomy has played in shaping our understanding of these mobile peoples.

Evershed, Richard [55] see Outram, Alan K.

Everson, Gloria (Lyon College)

[236] *Terminal Classic Residential Settlement at La Milpa, Belize*

Residential settlement surrounding the Maya site of La Milpa exploded during the Terminal Classic; however the degree to which the activities of the fringes were controlled by a central authority is not yet firmly established. The minor centers, predicted and discovered by Tourtellot et al., are imposed upon an already populated landscape. Understanding the organization of this region requires clarification of influence imposed by the site center on these minor centers. My excavations, sampling rural housemounds, combined with the research of others, provide insight concerning the urban-rural relations as well as the rise and fall of La Milpa.

Évora, Marina (Núcleo de Arqueologia e Paleoeecologia - FCHS-UAIG)

[135] *"Climatic changes and animal exploitation for bone tools industry in Southern Iberia during the Upper Paleolithic"*

During the Upper Paleolithic we see several climatic events that were recorded in some archaeological sites in the Iberian Peninsula. Our aim is to focus on the relation between those phenomena and the animal species hunted and used for manufacturing bone toolkits, including weaponry. In addition, we also want to check on the preference of raw materials between antler and bone for the production of organic utensils.

Fagan, Elizabeth (University of Chicago)

[130] *Political marginalization between Rome and Parthia: a problem of centrality*

In the later Iron Age, Armenia was politically marginalized, in the sense that interference by other powers in the region frequently effaced its autonomy. However, this 'marginalization' was in fact a product of Armenia's central geographic and strategic position, which made it particularly attractive to Rome and Parthia. Despite these foreign powers' attempts to manipulate its political landscape, Armenia was not a passive recipient of political and cultural transformations, and its leaders actively resisted external hegemony. This paper examines Armenia's epigraphic record as evidence of the struggle to legitimate foreign authority in the face of

opposition.

Faith, J. Tyler [96] *see Du, Andrew*

Falk, Carl [186] *see Picha, Paul R. [38]* *see Milideo, Lauren*

Falvey, Lauren (Desert Research Institute/UNLV)

[85] *Fossils and their role in Mimbres Mogollon Ritual Behavior at a Late Pithouse Period Village.*

Excavations at the Harris Site in southwestern New Mexico have recovered many specimens of fossil brachiopods, bryozoans, and crinoids from a variety of archaeological contexts. Fossils are not local to the site and must have been procured from outside the Mimbres Valley. While many of these fossils were unmodified, one was shaped into an ornament and several pieces of fossiliferous limestone were selected as raw material for tools. These artifacts are discussed with regard to their association with ritual and domestic activities and their significance to the inhabitants of the Harris Site.

Falvey, Lauren W. [67] *see Menocal, Tatianna M.*

Fang, Hui (Centre for East Asia Archaeology, Shandong University) and Fengshi Luan (Shandong University)

[163] *Political economy of the Neolithic and early Bronze Age China: a perspective from cinnabar*

With an increasing degree of social complexity and the emergence of state level societies, the political economy in late Neolithic and early Bronze Age China underwent dramatic changes. This presentation examines these changes from a comprehensive study of the use of cinnabar in mortuary practices in late Neolithic and early Bronze Age China.

Fanning, Mary Ann (UC Santa Cruz) and J. Cameron Monroe (UC Santa Cruz)

[114] *Political Vessels: Preliminary Perspectives on the Organization of Ceramic Production and Exchange in Precolonial Dahomey*

The kingdom of Dahomey on the Slave Coast of West Africa has been heralded as an example of an archaic state political economy, characterized by a sophisticated bureaucracy that organized most aspects of production and exchange, including pottery manufacture and circulation. This poster presents preliminary research on Dahomean ceramics from the eighteenth and nineteenth centuries, applying a broad range of analytical techniques, including stylistic and compositional (pXRF) analysis assisted by ethnoarchaeological observations. This research provides initial insights into the nature of ceramic production and exchange within Dahomey to understand better this particular aspect of the Dahomean political economy.

Farah, Kirby [150] *see Leventhal, Richard M.*

Farahani, Alan (University of California, Berkeley), Katherine Chiou (University of California, Berkeley), Rob Cuthrell (University of California, Berkeley), Anna Harkey (University of California, Berkeley) and Shanti Morell-Hart (The College of William & Mary)

[238] *Exploring Household Economies and Practices*

through GIS Modeling at La Joya de Ceren, El Salvador

In the 7th century CE, a volcanic eruption buried the site of La Joya de Cerén, El Salvador. The people of Cerén abandoned their community rapidly, leaving behind materials of daily use that were preserved by volcanic ash almost in situ. Under the guidance of Christine Hastorf and the Cerén excavators and specialists, our U.C. Berkeley team has spatially modeled these objects and ecofacts using GIS. This presentation describes how we have performed comparative spatial investigations of household economies at the site using multiple data sets from this comprehensive site inventory in GIS.

Farbstein, Rebecca (University of Cambridge)

[23] *Making art, making meaning: social insights from technological analysis of Paleolithic portable art*

This paper focuses on Paleolithic portable art production, rather than on more traditionally discussed characteristics of art, such as appearance and "style." Techniques of producing art in multiple media (e.g. bone, mammoth ivory, ceramics) will be discussed to build comprehensive understanding of how art production was a socially variable and meaningful activity during the Upper Paleolithic. Chaîne opératoire methodology enables recovery of Paleolithic craftspeople's practices; these technical data demonstrate how making art allowed individuals to actively negotiate, challenge, or reinforce social norms and traditions. Comparing art production across sites and regions situates prehistoric communities within their broader landscapes.

Fargher, Lane (CINVESTAV del IPN) and Verence Heredia Espinoza (El Colegio de Michoacán)

[190] *Ripping up the Stilts: Problematizing Romantic, Ethnocentric Legacies in Mesoamerican Archaeology*

We trace the legacy of ethnocentric thinking and its resultant social typologies from Romantics, like Lewis Henry Morgan, through Karl Marx, and into contemporary theory on pre-Hispanic Mesoamerica. Specifically, we outline how a history of repression theory enmeshed in outdated typologies has limited our understanding of land tenure, economics, and politics in Mesoamerica. We then offer an alternative perspective that considers native cosmology, agency (regardless of social status), and contingent political formations. Finally, we highlight the utility of our alternative by looking at how intermediate social units influenced political process in Postclassic Central Mexico and Oaxaca.

Farley, William (University of Massachusetts Boston)

[67] *Native and Euroamerican Subsistence Strategies in Nineteenth Century Southeastern Connecticut*

Nineteenth Century Southeastern Connecticut represented a setting in which Native Americans living on reservations were residing in close proximity to Euroamerican communities. This poster utilizes a comparative macrobotanical analysis to determine similarities and differences in subsistence strategies between two households, one located on the Mashantucket Pequot Reservation and a Euroamerican household in nearby North Stonington. By covering the analysis of the charred wood and seed remains from these sites, this poster clarifies the manners in which both native and Euroamerican communities in Southeastern Connecticut navigated the environmental and social stresses of everyday life.

Farmer, Reid (Tetra Tech) and Jenna Farrell (Tetra Tech)**[278]** *Late Pleistocene/Early Holocene Occupations at Ford Dry Lake, Riverside County, California*

As Schaefer and Laylander (2007) point out, an enduring research question in the prehistory of the Colorado Desert is the lack of solid evidence for human presence during the Late Pleistocene and Early Holocene. A series of inventories, test excavations and data recoveries undertaken between 2007 and 2011 for the Genesis Solar Energy Project have discovered surface remains of sites along the Ford Dry Lake shoreline that date to the Late Pleistocene/Early Holocene time period. The sites have been dated using diagnostic projectile point styles, Lake Mojave and Borax Lake. These sites contain assemblages of chipped stone and ground stone artifacts that reflect use of resources seasonally available at the playa lake, previously unknown in the region.

Farrell, Jenna [278] *see Farmer, Reid***Fast, Natalie (Washington State University) and William D. Lipe (Washington State University)**

[218] *Social Scale of a Southeast Utah Great House*
This paper utilizes recent (2011) block survey and other data to assess the social "reach" of a small late PII-PIII Chaco-style great house on Cedar Mesa, SE Utah. The four sq-km block survey found that contemporaneous residential sites occurred at a higher density close to the great house than is the average for environmentally similar portions of central Cedar Mesa. Along with evidence of feasting activity at the great house, this suggests regular access by an associated face-to-face community. More extensive cultural landscape features such as roads also indicate some involvement of a regional scale population.

Fast, Natalie [132] *see Lipe, William D.***Faugere, Brigitte (University Paris 1), Dominique Michelet (CNRS Paris) and Pereira Gregory (CNRS Paris)**

[21] *About the origins of Tarascan State: migration and settlement reorganizations on the borders of the Lerma Valley (Michoacan and Guanajuato) during Epiclassic and Early Postclassic periods.*

Ethnohistoric, biological and archaeological data compiled in two areas north and south of the Lerma valley, in Michoacan and Guanajuato states, indicate that migrations have played an important role in the history of this region. In this presentation, we will examine how, and up to what point, the mobility of population and settlement reorganizations that we identify in archaeological data can be related with the ethnohistoric tradition about the origins of Tarascan state.

Faugere, Brigitte [98] *see Lefebvre, Karine***Faught, Michael (Panamerican Consultants, Inc)**

[231] *From the Early Archaic to the Middle Archaic in Florida: population dynamics coincident with the "Archaic Gap" in Brazil?*

In Florida technological and cultural continuity can be traced from Paleoindian fluted points through Early Archaic notched points over some 3,000 years of time

(12,400 BP to 9,000 BP), but there are no radiocarbon dated sites between 9,000 BP and 8,000 BP to demonstrate human presence. Radiocarbon dated sites producing a different, stemmed point technology accrue later, in Florida, after 8,000 BP, and coincident with, and possibly related to the "Archaic Gap" in Brazil.

Faulseit, Ronald (Tulane University)

[269] *Mountain of Sustenance: Site Organization at Dainzú-Macuixóchitl and Mesoamerican Concepts of Space and Time*

Cerro Danush is a prominent solitary mountain at the northern end of Dainzú-Macuixóchitl in Oaxaca, Mexico. Between A.D. 400 and 600, its peak was transformed into a ceremonial complex that evidence suggests was associated with Cociyo, the Zapotec god of lightning, rain, and sky. At the other end of the site, lies Cerro Dainzú, with carved stone monuments that depict ball players and jaguar motifs, connecting it to warfare, death, and the underworld. I propose that this earth-sky "axis-mundi" connects the site's spatial organization with Mesoamerican concepts of space and time presented in Prehispanic drawings of the ritual calendar.

Fauman-Fichman, Ruth (University of Pittsburgh)

[62] *Affiliation and Variability in Postclassic Rural Tlaxcala*

Recent research in Postclassic period Tlaxcala has been stimulated by newer ideas about symbol sets and theories of collective action. These ideas, based in stylistic analysis and ethnographic research provide robust general structures to describe regional relationships in highland Central Mexico. During this time of political volatility and outright propaganda, it is an open question the degree to which rural settlement expressed affiliation or lack thereof with the larger polities around them. Data from a rural Tlaxcala settlement will be presented to assess the variability and robustness of these approaches.

Faus Terol, Eduard [6] *see Schmich, Steven***Fauvelle, Mikael (University of California, San Diego) and Geoffrey Braswell (University of California, San Diego)**

[61] *Political Integration in Southern Belize: A Perspective from the Ceramic Economies of Nim li Punit and Lubaantun*

With five contemporaneous centers packed into a remote and relatively circumscribed area, Southern Belize offers an excellent opportunity to study secondary state formation and political organization in a peripheral region of the Maya world. Because the various centers of Southern Belize do not mention each other in hieroglyphic texts, one of the best ways to explore how they were politically integrated is through material evidence of economic interaction. This paper compares the most recent ceramic data from two of these sites, Lubaantun and Nim li Punit, in order to explore how these neighboring centers were politically and economically related.

Favier-Dubois, Cristian [8] *see González, Mariela E.***Fayek, Mostafa [127]** *see Milne, S Brooke*

Fazioli, K. Patrick (University at Buffalo)**[173]** *Reconstructing Past Landscapes in Southeastern Austria: A Multidisciplinary Approach*

This paper presents results from the systematic reconstruction of past human landscapes along the middle Mura River valley in southeastern Austria. It considers the advantages and limitations of using an integrated multidisciplinary approach to explore long-term changes in the archaeological record. Pedestrian surface collection, soil phosphate analyses, targeted test excavations, ceramic compositional analyses, and historical research generated complementary, if occasionally incongruous, datasets. These results, when combined in a GIS program, helped trace shifts in human occupation and activity from the Late Neolithic through Early Modern periods within this small section of the eastern Alpine foothills.

Feathers, James (University of Washington)**[241]** *Conceptual issues in dating, Robert Dunnell and luminescence*

The luminescence dating laboratory at the University of Washington was established in 1986 under an NSF grant to Robert Dunnell and Thomas Stoebe. Although luminescence was a fairly new method, Dunnell felt that traditional archaeological dating methods were not sufficient to develop an absolute chronology for the surface ceramic assemblages he was studying in Missouri. He chose to explore luminescence because of its potential to date events—exposure to heat—that coincided with events of archaeological interest—pottery manufacture. This paper explores conceptual issues in dating that Dunnell raised and the success of luminescence dating in addressing them.

**Feder, Kenneth, Sonja Atalay (Indiana University),
Terry Barnhart (Eastern Illinois University),
Deborah Bolnick (University of Texas at Austin)
and Brad Lepper (Ohio Historical Society)**
[56] *Lessons Learned from "Lost Civilizations"*

We each were contacted individually in Spring 2009, by a video production company inviting our participation in a documentary about the ancient cultures of eastern North America, specifically "the Mound-builders." It turned out that this was a well-funded pseudoarchaeological initiative that may have been informed by religious doctrine and that produced a misleading and inaccurate film. We address the history and consequences of this fiasco as well as the ways in which we have attempted to deal with the fall-out from our well-intentioned public education outreach.

[56] *Discussant*
**Fedick, Scott (University of California, Riverside)
and Louis Santiago (University of California,
Riverside)**
[167] *Drought Resistance and Ancient Maya Agriculture*

Various scenarios of the impact of droughts on ancient Maya agriculture have depended almost exclusively on the drought response of maize. While it is generally accepted that maize was an important subsistence crop of the ancient Maya, it is less widely recognized that the Maya made use of over 500 indigenous species of food plants with a wide range of nutritional value, productivity, and resistance to drought. This presentation explores drought resistance in Maya food plants and develops

alternative models of crop selection and cultivation strategies available to the ancient (and modern) Maya, and implications for adaptive responses to drought.

Feeley, Frank (CUNY Graduate Center)**[263]** *Medieval Fishing at Gufuskálar, Snæfellsnes, Iceland.*

Recent excavations at the site of Gufuskálar on the far western tip of Iceland's Snæfellsnes peninsula are attempting to rescue valuable archaeological information from a quickly eroding coastline. With two meters of shoreline lost since 2008 this is an urgent project. The large medieval fishing station is the only excavated fishing station on the peninsula and its incredibly well preserved faunal material offers a chance at better understanding the medieval commercial fishing industry on Snæfellsnes and how the region connected to the rest of Europe."

Feinman, Gary M. [201] *see Carpenter, Lacey B.***Fengshi, Luan [159]** *see Stoner, Edward J.*
**Fenn, Thomas (Katholieke Universiteit Leuven),
Patrick Degryse (Centre for Archaeological Sciences,
Katholieke Universiteit Leuven, Leuven, Belgium),
David Killick (University of Arizona, Tucson),
Peter Robertshaw (California State University, San
Bernardino) and Ian Freestone (Institute of
Archaeology, University College London, United
Kingdom)**
[159] *Raw Material Selection in Locally Produced and Imported Glass from Ancient North Africa*

Recent research focusing on the identification of ancient raw glass production sources in North Africa has revealed, through elemental and isotopic compositional analyses, local and imported glasses from multiple locations in North Africa. These glasses originate from several temporal periods and so changes in production and utilization of differing raw materials is examined chronologically.

Fennell, Christopher (University of Illinois)**[162]** *Spatial Variables and 19th Century Pottery Communities in Edgefield, South Carolina*

The first innovation and development of alkaline-glazed stoneware pottery in America occurred in Edgefield in the early 1800s. These potteries employed enslaved and free African-Americans, and stoneware forms also show evidence of likely African cultural influence on stylistic designs. Edgefield potteries present fascinating research questions of understanding technological innovations and investigating the impacts of African cultural knowledge on a rural industry. I present spatial analysis and methodological frameworks for examining the cultural landscape of pottery production sites and residential districts of free and enslaved laborers. Approaches including LiDAR and remote sensing offer promising strategies for effective reconnaissance and analysis.

[257] *Discussant*
**Fenner, Jack (The Australian National University),
Daryl Wesley (The Australian National University)
and Fenja Theden-Ringl (The Australian National
University)**
[138] *Stable Isotope Analysis of Human Remains from*

Arnhem Land

Working closely with Aboriginal Traditional Owners, we analysed strontium, carbon and oxygen isotopes in human enamel recovered from three locations in Arnhem Land, Australia: a Macassan trepang site, an Aboriginal rockshelter, and a rockshelter mortuary. Despite small sample sizes, strontium ratios clearly distinguish the Macassan remains from Aboriginal Arnhem Land remains. The Aboriginal teeth have substantial strontium variation which indicates either extensive movement within the area or highly localised isotope geographic signatures. A larger Arnhem Land sample will be needed to resolve this and to help Traditional Owners evaluate repatriation of remains that have poor geographic or social provenance.

Ferdinando, Peter [139] *see Philmon, Kendra L.*

Ferguson, Jeffery [111] *see Pazmino, Audrey*

Ferguson, Jeffrey (University of Missouri), Donna Glowacki (University of Notre Dame), Winston Hurst (Blanding, Utah) and Catherine Cameron (University of Colorado)

[216] *Chacoan and Post-Chacoan Pottery Production and Circulation at Great Houses in the Comb Ridge Locality, Southeast Utah*

Raw clays, unfired sherds, and both corrugated and Black-on-white pottery from three Puebloan great house communities (Bluff, Comb Ridge, Cottonwood Falls) in the Comb Wash area of southeastern Utah were assayed using NAA to examine the organization of pottery production and to reconstruct social networks during the Chaco-to-Post-Chaco Transition. While there are clear compositional differences in the production of Black-on-white and corrugated ceramics, chemical differences between the PII and PIII are more subtle. We also address issues of production location, raw material selection, local and extra-local exchange, and the role of the great houses in the surrounding communities.

Ferguson, Jeffrey [216] *see Reed, Lori S. [216]* *see Ferguson, Timothy J. [254]* *see Ambrose, Stanley H. [112]* *see Whelan, Carly S. [254]* *see Slater, Philip*

Ferguson, Jeffrey R. [153] *see Dolan, Sean G. [68]* *see Venter, Marcie L.*

Ferguson, T (University of Arizona) [149] *Discussant [149]* *Second Organizer*

Ferguson, T. J. [150] *see Hedquist, Saul L.*

Ferguson, Timothy (University of Missouri), Karen Harry (University of Nevada-Las Vegas) and Jeffrey Ferguson (University of Missouri)

[216] *Examining the Production and Distribution of Shivwits Ware Pottery*

Shivwits pottery is one of the most common types found on both the Shivwits Plateau in Arizona and in the Moapa Valley in Nevada. Archaeologists assume that Shivwits pottery is local to the Shivwits Plateau; however, this hypothesis has not been validated chemically. Neutron activation analysis was conducted on plain utilitarian wares from the Shivwits Plateau and Moapa Valley. The results show that Shivwits ware is compositionally distinct

from any other Virgin River assemblage. Furthermore, the chemical data strongly suggests that the prehistoric peoples living in the Moapa Valley imported Shivwits wares and manufactured ceramics locally.

Fernandes Caromano, Caroline [28] *see Bezerra, Marcia*

Fernandez Souza, Lilia (Universidad Autónoma de Yucatán), Mario Zimmermann (Universidad Autónoma de Yucatan) and Lourdes Toscano Hernandez (Instituto Nacional de Antropología e Historia)

[58] *En busca de las cocinas reales. La Estructura 1C de Kabah, Yucatan*

En busca de las cocinas reales: La estructura 1C de Kabah, Yucatán Lilia Fernández Souza, Mario Zimmermann, Lourdes Toscano Hernández Una de las tareas por excelencia de los grupos domésticos es la elaboración y el consumo de alimentos. La información sobre lo que se cocinaba y consumía ofrece amplias posibilidades de discusión sobre acceso a recursos, diferencias sociales, económicas e incluso étnicas entre los habitantes de un asentamiento. Sin embargo, la naturaleza perecedera de la mayoría de los desechos procedentes de las áreas de elaboración y consumo de comida es una limitante indiscutible a la hora de tratar el tema en contextos arqueológicos.

[58] *Second Organizer*

Fernandez Souza, Lilia [58] *see Hernandez, Hector*

Fernández-León, Elisa (Universidad de Costa Rica) [259] *Exploring identity change in Nicoya through symmetry analysis*

This paper explores the possibilities of a technique that has been around since the seventies, and has yielded interesting results regarding identity issues. Symmetry analysis is used in a sample of complete and semi-complete ceramic vessels from two archaeological sites in Northwestern Costa Rica: La Ceiba and El Silo, to determine the symmetrical characteristics of Sapoia period designs in Nicoya. A sample of out of context Bagaces period vessels is also analyzed and compared with the former, looking for changes in decorative style. This analysis could become an important tool to explore the complex changes experienced by Greater Nicoya populations.

Fernandini, Francesca (Stanford University)

[26] *Formalization of Ritual Practice in Cerro del Oro during the Early Middle Horizon*

Cerro del Oro, located on the Peruvian south coast, was an important political center during the Early Intermediate Period (1-700 A.D.) and Middle Horizon (500-900 A.D.). While there appears to be a continuous occupation at the site, the transition is marked by changes in architectonic distribution, ceramics, and ritual practice. This new ceramic style and forms of ritual (e.g. camelid sacrifices, ceramic breaking) appear to be related to the expansion of Wari. Although certain activities such as ritual practice were formalized under Wari influence, this paper will demonstrate that the local culture maintained political autonomy.

Fernstrom, Katharine (Towson University)

[220] *Taxonomic Identification Of Aquatic Shell Using Genetic Methods And Assumptions: Can It Be Done?*
Identification of materials and their sources is central to studying exchange systems. Current experiments in identifying aquatic shell sources require knowledge of the shell's taxon prior to testing. Identifying taxa relies on visual identification of shell landmarks, thus limiting the specimens available for sourcing. This research asks the question: could methods and assumptions of genetic analysis improve taxonomic identification, and thereby increase the availability of shell samples for source analysis.

[220] *First Chair*

Ferring, Reid (University of North Texas)

[100] *The "Long" Clovis Chronology: Evidence from the Aubrey and Friedkin Sites, Texas*

Radiocarbon ages from the Aubrey Clovis Site date the occupations to 13,490 cal bp. This age is essentially identical to the 13,435 cal bp age for the Clovis occupations at the Friedkin Site. Together, these ages attest to a "long" Clovis chronology of at least 600 years, contrasting with the "short" chronology proposed by Waters and Stafford. Notable similarities between the Aubrey-Friedkin Clovis and the "pre-Clovis" assemblages at Friedkin suggest that the Clovis tradition may be even older. The "long" Clovis chronology has important implications for interpreting Clovis cultural ecology.

Ferris, Jennifer (Cardno ENTRIX and Washington State University) and William Andrefsky, Jr. (Washington State University)

[160] *An Assessment of Hafted Biface Morphometric Characters and the Information They Convey*
Cultural transmission theory has provided robust methods to identify variations in populations of stone tool makers. Hafted bifaces are thought to contain attributes specific to their makers and can offer explanations about human learning and transmission. Measurements collected on these artifacts can provide quantifiable patterns unique to specific groups of tool makers. This paper assesses how well these morphometric characters reflect temporal changes by applying them to a collection of hafted bifaces from the Birch Creek site. Our results show that some attributes are highly susceptible to life-history effects while others retain information about tool maker identities.

Ferris, Jennifer [127] see Andrefsky, William

Ferris, Neal [124] see Morris, Zoe H.

Fiedel, Stuart (Louis Berger Group)

[20] *Confessions of a Clovis Mafioso*
Contrary to an archaeological "urban myth," Vance Haynes is not the godfather of a sinister Clovis Mafia that has ruthlessly suppressed evidence of human occupation of the Americas before 13,500 cal BP. In fact, researchers touting supposed pre-Clovis sites enjoy the support of major public institutions, wealthy private donors, and a credulous media. Nevertheless, Haynes has always insisted that each pre-Clovis claim must withstand skeptical scrutiny. Under such critical evaluation, even the most plausible recent candidates (e.g., Cactus Hill, Paisley Caves, the Friedkin site, the Schaefer and Hebior mammoths, and Miles Point)

remain dubious.

Field, Julie [141] see Lipphardt, Jacqueline

Fields, Ross (Prewitt and Associates, Inc.)

[17] *Dee Ann Story and the Pine Tree Mound Project*
In 1975–1976, Dee Ann Story directed field schools at Deshazo, a protohistoric Caddo hamlet. A few years later, she developed a model of sociopolitical organization and settlement patterning to help interpret the site. Three decades later, Dee Ann was instrumental in the Archaeological Conservancy acquiring another site important to the Caddo people, Pine Tree Mound. This paper explains her contributions to the Pine Tree Mound (41HS15) project and explores how the model she developed in the 1980s, when coupled with excavated data from Pine Tree Mound, prompted rethinking of one of the best-studied Caddo spatial-temporal constructs, the Titus phase.

Fierer-Donaldson, Molly (Harvard University)

[57] *Eating with the Dead: Mortuary Feasting at Classic Period Copan, Honduras*

Significant work has been done showing how feasting can both recapitulate and reinvent social and political relations among actors and their community. Ceramic consumption vessels found associated with mortuary contexts are usually interpreted as feasting behavior. Looking at ethnographic and ethnohistoric sources in conjunction with royal funerary ritual at the Classic period Maya site of Copan, Honduras, this paper will show how successful funerary feasting can help a community make sense of the experience of death by fitting it into larger ritual patterns, negotiate periods of political transition, and help create new social identity for the recently deceased.

Figol, Timothy [64] see Malainey, Mary E.

Figueredo, Alfredo

[165] *Manioc Dethroned and Maize Triumphant*
Traditionally, the literature on the ethnohistory and archaeology of the Bahamas has emphasized the role of manioc in the prehistory of the islands; theories have been proposed regarding the settlement of the Archipelago based upon this premise. Evidence shows that the ethnohistoric and archaeological sources for the Bahamas argue that manioc was not all that important and also point out maize as a major staple. This agrees with the historical sources. Additional ethnographic material elucidates the relations of production in Bahamian prehistory, particularly in connection with the cultivation of maize and its elaboration for human consumption.

Figuroa, Antonia (University of Texas at San Antonio)

[131] *Cobbles and Quandaries: Prehispanic Land Use Strategies and Residence in Northwestern Belize*
This paper explores Prehispanic land use at the sites of Wari Camp and 200 Meter Ridge, located in northwestern Belize. A multi-scalar approach is used to examine the spatial relationships between rock alignment features and architecture, while also considering ecology and landscape. Land use activities marked by rock alignment features have been found to be associated

with particular residential patterning and satellite communities. The spatial patterns of architecture and rock alignments at these two sites reveals residence is marked by ecology and administrative architecture. More importantly, this research sheds light on the complexity of Prehispanic land management and decision making.

Fink, Andrea (Binghamton University) and Kate Ellenberger (Binghamton University)

[24] *Feminist archaeology: The Intellectual Roots of Community-based Archaeology*

Community-based archaeologies are a diverse set of archaeological practices rooted in the balancing of power between the researcher and the 'subject' of study. Feminist archaeology has widespread influence, and comprises a significant platform on which community archaeologists build their approach. Basic to both are questioning authority and re-evaluating research methods, but the relationship between them is unclear. In order to clarify the relationship between feminist archaeological ideas and the theoretical underpinnings of community-based archaeologies, we evaluate the literature at their intersection. These include general works by people practicing community-based archaeology as well as feminist archaeologists working with non-archaeologist groups.

Finlayson, Bill (Council for British Research in the Levant)

[228] *Imposing the Neolithic on the past*

The Neolithic, especially its 'revolution', has been amongst the most powerful concepts in prehistory, representing a new stage and a sharp break with what went before. Its long-term significance is clear, but imposing this onto the past makes it hard to understand the processes taking place in economy, society, and ideology at different rates and combinations in various locations, over an extensive area and time. Moving the conceptual basis to a process of neolithization does not avoid this. Now that we have a rich database of information, the concept of a Neolithic stands between us and the past.

[228] *Second Chair* **[228]** *Second Organizer*

Finley, Judson (University of Memphis)

[20] *Late Holocene Alluvial History of the Bighorn Basin, Wyoming*

Geoarchaeological field sites in the Bighorn Basin include deeply entrenched arroyos with well-exposed and stratified deposits dating to the last 3000 years. A major cycle of erosion occurred during the Late Holocene transition when precipitation increased throughout the Central Rocky Mountains. Alluvial channels began to build after 3000 BP as relative precipitation declined along with stream capacity. Although onset of recent erosion is poorly constrained, current arroyo formation is linked to increased precipitation during the historic period. As in other parts of the West, historic arroyo formation may be coupled with a climate-related vegetation shift and changing human land use.

[10] *Discussant* **[127]** *Discussant*

First, Darcie (Ripon College), William Whitehead (Ripon College) and Matthew Biber (University of California, Santa Barbara)

[104] *Paleoethnobotanical Analysis from Cerro Mejia, a*

large Middle Horizon site in Moquegua, Peru

Paleoethnobotanical analysis from multiple years of excavations from the site of Cerro Mejia will be presented. The effects of bioturbation and organic destruction make Cerro Mejia a difficult site to interpret because it displays a reverse set of preservation processes from the usual excellent preservation in other Moquegua valley sites. The results from this analysis will be compared and contrasted to the large adjacent site of Cerro Baul and other prominent sites in the local area, specifically the remains of food, fuel, brewing, and other waste products from the site inhabitants.

Fischer, Alysia (Miami University, Oxford, OH)

[154] *Applying Behavioral Archaeology to the Fine Arts*

We often measure a successful scholar's influence within their own discipline. Rarely, however, does that influence extend beyond the initial discipline into others. This paper will consider the impact of Behavioral Archaeology, and in particular Michael Brian Schiffer's life cycle of objects perspective, in the Fine Arts. The paper relates to my recently completed MFA in Studio Art and revolves around an incident where a sculpture professor noted that the work of an anthropologist named Schiffer would be very helpful as I tried to connect my art to my anthropological background.

Fisher, Christopher (Colorado State University) and Steven Leisz (Colorado State University)

[200] *The Goal Remains the Same: Full-coverage Survey at Sacapu Angamuco, Michoacán, Mexico.*

Mesoamerican full-coverage survey is a proven methodology to understand the spatial/temporal distribution of ancient settlements. Advances have been made in geospatial technologies within the last decade but the essential goals of settlement pattern analysis remain the same. Here I present findings from program of remote sensing and full-coverage landscape survey from the newly discovered city of Sacapu Angamuco, Michoacán, Mexico. I will show how we have used satellite imagery, LIDAR, intensive mapping, and geospatial analysis to document thousands of architectural and landscape features to understand the evolution of this ancient urban center.

[272] *Discussant*

Fisher, Jacob (CSU Sacramento)

[273] *Challenges in Identifying Communal Hunting of Jackrabbits using Archaeofauna Data: A Case Study from Antelope Cave, Arizona.*

Recent modeling using optimal foraging theory and estimated net energy returns suggests that communal hunting can be less productive than individual hunting methods. If this is true, the appearance of communal jackrabbit (*Lepus* spp.) drives observed ethnographically in western North America may mark a form of resource intensification. However, applying such models to the past requires the ability to confidently identify communal versus individual hunting methods to determine when such practices first appear in the archaeological record. Using faunal remains from Antelope Cave, a site located in northwestern Arizona, I will address some of the challenges in doing so.

[164] *Second Chair*

Fisher, Kevin (University of Arkansas), Katie

Simon (University of Arkansas), Lauren Lippiello (Yale University) and Jackson Cothren (University of Arkansas)

[191] *Approaches to 3D digital recording of an Early Classic temple façade at El Zotz, Guatemala*
Photogrammetric and 3D scanning methods are revolutionizing the way we record the archaeological record, yet we have little comparative data on the accuracy and effectiveness of these methods. This paper discusses recent efforts to record a series of polychrome stucco masks adorning the façade of an Early Classic temple at the Maya site of El Zotz, Guatemala. We compare results obtained from photographic techniques processed using Project PhotoFly and PhotoModeler, structured-light scanning and lab-based testing, in order to assess both the prospects of using these data for analytical purposes and their ability to meet other needs of archaeologists and preservationists.

Fisher, Philip (Washington State University) and Scott Carpenter (InteResources Planning, Inc.)

[279] *X-Ray Fluorescence and Hydration Rim Measurements from an Obsidian Cache in Park County, Montana*

A cache of obsidian bifaces, flake tools, and core fragments was found eroding from a cutbank near the Yellowstone River in southwestern Montana. Fifty eight of the 59 pieces were found on the ground surface or within the sod layer down slope from a recent washout. Excavations revealed a portion of a subsurface ochre pit with one obsidian biface in situ. No other artifacts or features were found in association with the ochre pit. An initial sample of 24 specimens was submitted for XRF sourcing, attributed to Obsidian Cliff, Wyoming and hydration rim measurements dating to approximately 3800 B.P.

Fisher, Victor (Towson University)

[65] *Employing contrasts in teaching "Environmental Archaeology"*

The 2010 survey of departments offering "Environmental Archaeology" revealed that, while among institutions across the country the overall coverage of geographic areas has been quite broad, individual instructors have tended to focus on a single region of special interest to themselves. The case is made here for the compellingness of utilizing data from markedly dissimilar areas in teaching the course.

Fitts, Mary Elizabeth [232] see Cranford, David [214] see Semon, Anna M.

Fitzgerald, Richard [126] see Hildebrandt, William R.

Fitzhugh, Ben (University of Washington)

[204] *Out on a limb: continental implications of social networks in the remote Kuril Islands*

Social networks provide important lifelines to communities living in remote, ecologically limited, and unpredictable environments. Because of their dependency on network partners in less remote areas, these communities may find themselves in unbalanced relationships and vulnerable to external social, political, and economic forces affecting the social network in which they are embedded. This paper will explore this dynamic for Kuril Island settlement and the history and

the socio-economic 'markets' of the Japanese Archipelago and mainland NE Asia.

Fitzpatrick, Scott (NC State University)

[121] *Psychoactive substances in ancient societies: a review*

Archaeological evidence demonstrates that mind altering drugs have been used by humans for thousands of years. However, numerous advances in residue analysis (e.g., gas chromatography) and chronometric techniques over the last 20 years now provide a much stronger framework for examining the role that psychoactive substances played in ancient societies. This paper reviews the antiquity and geographical distribution of many of these substances, their associated paraphernalia, and suggests areas for future research.

[121] *First Chair*

Fitzpatrick, Scott [35] see Stone, Jessica H. [36] see Lash, Erik S. [177] see Schaub, Amelia M

Fitzsimmons, James

[166] *Food for the Dead in Ancient Mesoamerica*

This paper will explore how archaeology and epigraphy are coming together for a category of grave goods which is, on the one hand, widely acknowledged archaeologically as a data set but, on the other, virtually ignored by epigraphers and iconographers beyond passing references in the literature on ancient Mesoamerica: food. To date, we do not have a particularly nuanced understanding of why most foods were set within interments. This does not have to be the case, and this paper will consequently explore the ways in which food was used to express ideas about death and the afterlife in ancient Mesoamerica.

Flad, Rowan (Harvard University)

[237] *Not Your Average Zhou: Dispersed Settlements and Political Authority in the Chengdu Plain of Sichuan During the Bronze Age*

Settlement clusters in Northern China during the Bronze Age developed a decidedly hierarchical structure, with central places playing a dominant role in the supervision of hinterland settlements. In the Sichuan basin, preliminary survey work around Neolithic central places shows a breakdown of obvious settlement interconnection during the Bronze Age, and materials from two Bronze Age central places suggests an development of increasingly negotiated status among elite individuals during this era. These patterns may reflect emergent heterarchical power structures and landscape patterns during the Bronze Age in Sichuan.

Flad, Rowan [200] see Chen, Pochan

Fladd, Samantha (University of Arizona)

[85] *Assessing Access: A Comparative Examination of Household Structure at Casas Grandes*

Structuring of space is considered a conservative cultural tradition. This allows for the examination of larger worldviews through the comparison of the spatial organization of sites. Casas Grandes (or Paquimé), due to the unique compilation of architectural traits and artifacts, has been subjected to a wide array of theories explaining its existence. The site has been linked to cultural traditions throughout the Southwest, Mexico, and

Mesoamerica. Through the analysis of access patterns, specifically in regards to household units, these connections are tested and cultural ties between the regions are examined.

Fladd, Samantha [211] see *Fogelin, Lars*

Fladeboe, Randee (New Mexico State University)

[88] *Potent Agency: Ritual Depositions of Snakes in the Northern San Juan Region*

Although ritual animal burials occur in the Southwest, the deposition of snakes has only recently been encountered. This study examines the data of two decapitated snake skeletons from ceremonially closed kivas in southwest Colorado. Although one was isolated and one accompanied by other faunal remains, both were treated in a manner common to animals whose lives were ended and parts used for ritual purposes. Therefore, questions I address include: How can we identify these as ritual deposits, and as such, how can they be categorized? Judging from archaeological indicators, what is the nature of the agency possessed by these snakes?

Fleisher, Jeffrey (Rice University)

[108] *Open Space, Commemoration, and Urban Planning at Songo Mnara, Tanzania*

The monumental aspects of medieval Swahili towns—houses, mosques, and tombs—all serve to delimit a rich diversity of open spaces, including house yards, cemetery spaces, and public meeting areas. All of these were crucial parts of the urban fabric, and integral to the organization and meaning of the town. Recent research at Songo Mnara, a Swahili town in southern Tanzania, has tackled the archaeological silence of these areas, revealing the ways that the towns' inhabitants defined and maintained open spaces, and how they were used as arenas of production, consumption, and commemoration.

Flensburg, Gustavo [273] see *Stoessel, Luciana*

Flood, Jonathan (George Mason University), Tim Beach (Georgetown University), Sheryl Luzzadder-Beach (George Mason University), Steve Houston (Brown University) and Tom Garrison (Brown University)

[66] *Paleoecology at Zotz and its Surroundings*

We use multiple proxies to study the Zotz Aguada and the Palmar Cival. Zotz had a well drained Preclassic soil that became a wetland with an Early Classic floor at 2.3 m. The aguada filled rapidly in the Classic period and the Maya built another floor in the Late Classic, which also aggraded by 1 m. Below 1.7 m at Palmar lay Preclassic to Archaic-aged lacustrine sediments with perched and distinct water tables. Low, organic deposition occurred from the Archaic until the Late Preclassic but accelerated with economic taxa and "Maya Clays" in the Late Preclassic, only to decelerate thereafter.

Flood, Jonathan [167] see *Luzzadder-Beach, Sheryl*

Florencia, Santos [273] see *Stoessel, Luciana*

Fogelin, Lars (Univ. of Arizona) and Samantha Fladd (University of Arizona)

[211] *Iconic Presence: Images as Residents in 1st Millennium CE South Asian Buddhist Monasteries*

This poster will examine the role of Buddha images in 1st millennium CE South Asian monasteries. Through an analysis of the form and placement of the images at two monastic centers (Ajanta and Ellora), we argue that Buddhist monks sought to emplace the Buddha as a monastic resident beginning at c. 500 CE. This is shown by a shift from placing Buddha images in more public ritual spaces (chaityas) to more private monastic living quarters (viharas). This shift was also marked by a change in the depiction of the Buddha, from more active postures to more meditative postures.

Folan, William (Univ. Autónoma de Campeche), Gary Gates (Geologist), Joel D. Gunn (University of North Carolina at Greensboro), Ma. del Rosario Domínguez Carrasco (Universidad Autónoma de Campeche) and Beniamino Volta (University of California, San Diego)

[22] *Calakmul, Campeche, Mexico, its Tributary Cities and the Hilly Karstic Highlands of the Peten Campechano and Northern Guatemala*

The Calakmul Karst Altiplano is a physiographic division extending from the northern Peten of Guatemala into southern and central Campeche involving relatively higher topographic relief than other parts of the Yucatan Peninsula. The difficulties of occupying this area included: no rivers or broad alluvial river valleys, lack of water in the dry season and flooding in the wet season; rocky slopes and hills, seasonal swamps, tropical forests and water-loss underground; causing difficulties for settlements and horticulture. It was possible to overcome these problems with offsetting adaptation by selecting sites with potentials for collecting, storing and safeguarding water resources for urban use.

Folan, William J. [58] see *Domínguez, María del Rosario*

Folan, William S. [58] see *Burton, James H.*

Foley, Allison (Indiana University South Bend)

[168] *Trips, Slips, and Hits: A Trauma Analysis of the Morton Site from the Central Illinois River Valley*

Used throughout the Late Archaic/Early Woodland and Mississippian periods and containing over 200 burials, the mortuary complex of the Morton site presents an excellent backdrop for examining biocultural change in a site-specific context. This project represents the first systematic inventory and analysis of skeletal trauma at Morton and challenges the focus on violence-related trauma by highlighting the commonality of accidental and occupational injuries within the population. The extraordinarily high frequency of trauma (nearly 50% in adults) provides a regional and population-specific exhibition of injury patterns, their variation over time, and their relationship to sociopolitical and cultural changes in the region.

Follensbee, Billie (Missouri State University)

[195] *More on Olmec Gender-Ambiguous Costume: The Possible Appropriation of Garments as Symbols of Power*

Recent studies of sex and gender in Gulf Coast Olmec art and archaeology reveal that some costume elements

are more strongly associated with one sex, but in certain, specific situations may appear on members of the opposite sex. When the garments are primarily associated with a level of status or with an office, this appropriation suggests that gendered costume elements were assumed by another gender as a symbol of power. Such appropriation may be even more prevalent among Olmec-related cultures, where the imagery sometimes exhibits a combination of Gulf Coast and local costume that contrasts with Gulf Coast norms.

[195] Second Chair [195] Second Organizer

Fontana, Marisa (North Central College)

[232] Preliminary LA-ICP-MS analysis of Protohistoric/Historic Creek pottery in Central Alabama
A preliminary LA-ICP-MS compositional analysis of Protohistoric/Historic period pottery from a central Alabama Creek village was conducted to ascertain whether any culturally meaningful chemically distinct ceramic groupings occur. This study will aid in the examination of indigenous functional and cultural choices of primary clay sources and tempering agents and elucidate whether differences in vessel form are correlated with particular manufacturing recipes or cultural affiliation. Ultimately, the results of this preliminary work can be utilized to study and interpret ethnic identity and exchange patterns among the Creek Confederacy in the Coosa/Tallapoosa River.

Fontes, Lisa (University of New Mexico), Lawrence Guy Straus (University of New Mexico) and Manuel R. Gonzalez Morales (Universidad de Cantabria, Cantabria, Spain)

[202] An Analysis of Blade and Bladelet Manufacture and Raw Material Selection at El Mirón Cave, Cantabria, Spain

Recent discussions in lithics literature focus on technological approaches to stone tool manufacture. In the Lower Magdalenian levels at El Mirón cave, Cantabria, Spain (17-11 14C kya), researchers distinguished blade, bladelet, and flake technologies. This paper presents analyses of blades and bladelets that seek to determine whether these products were manufactured using a single chaîne opératoire--blades and bladelets reflecting different stages of manufacture from the same cores--or two distinct chaînes. We also seek to understand the role of raw material selection on blade and bladelet manufacture, and whether or not chaînes opératoires differ because of raw material constraints.

Ford, Anabel (UCSB) and Linda Howie (U Western Ontario)

[270] First Things First: Petrography's Essential Role in Understanding Ceramic Production

Archaeologists have been examining ceramic production employing a range of approaches and techniques. Recent decades have witnessed the expansion of technologies that provide remarkably detailed information on chemical composition. But do distinctions reflect material or behavioral factors (or both) and what information is missed? NAA often cannot discriminate pottery made from geographically separated resources when the underlying geology or selection practices are similar. The varied contribution of temper and clay constituents to overall chemical patterning is also

obscured in bulk analyses. This paper discusses some of the interpretive issues analysts face when basic petrographic data is absent.

Ford, Ben [209] see Chiarulli, Beverly A. [170] see Beyer, Renate

Foreman, Lindsay

[141] Ubiquitous Fragmented Fauna: Interpreting Western Basin Cervid Processing and Discard Practices in Ontario, A.D. 800-1600

This study examines the extensively fragmented large mammal components of Ontario's Western Basin faunal assemblages. Identifiable and unidentifiable specimens recovered from four sites dating between A.D. 800 and 1600 were categorized by bone size, type, degree of burning, and long bone fracture angle, outline, and texture. Together these data suggest that bone marrow and grease were consistently extracted from "fresh" cervid carcasses, and that axial and appendicular elements were processed and frequently discarded separately. These activities were conducted throughout the year, indicating that within-bone nutrients were central to Western Basin meal preparation and to the taste of individual dishes.

Forman, Steve [135] see Haws, Jonathan A.

Forman, Steven L. [254] see Wright, David K.

Formicola, Vincenzo [176] see Mannino, Marcello A.

Forne, Melanie (Cancun Project)

[151] The very Late Classic Maya : ceramic research for the definition of an interregional level of economic interaction.

Ceramics are a privileged way to understanding the intersite interaction in ancient maya times, and intersite comparisons bring very useful information. Cancun's Late Classic ceramic collection is a good example for the definition for interregional economic contacts, with various general geographic directions. Systematic comparison between Cancun's ceramics and materials from Palenque, the Usumacinta drainage, the Pasión River system, through north to Waka', La Corona, Calakmul, including Hix Witz or La Joyanca, brings a complete vision for the very late Classic Maya interactions in a general North-South dynamics. This includes some southern sites, beyond the traditional Highlands-Lowlands academic and geographic limitations.

Forringer-Beal, Anna (Greenhills School) and Jason De Leon (University of Michigan)

[18] Fragments and Females: Using Micro-Debitage to Understand the Border Crossing Experiences of Women Migrants in Southern Arizona.

Women from Latin America make up an important and understudied sub-population of the undocumented migrants who cross the U.S/Mexico border through the Sonora desert of Arizona. During desert walks that can take several days, people eat, rest, and deposit material culture at campsites known as "migrant stations." We examine micro-debitage from previously cleaned-up migrant stations collected by the Undocumented Migration Project, a long-term anthropological study of

border crossings. We argue that despite being virtually erased by desert conservation efforts, the minute artifacts left behind provide important insight into the unique and often traumatic experiences of female border crossers.

Forringer-Beal, Anna [102] *see De Leon, Jason P.*

Fortin, Louis (Washington State Univ.) and Paul Goldstein (University of California: San Diego)

[84] *Spatial Lithic Distributions at a Tiwanaku Temple: Moquegua Valley, Peru*

This study focuses on the preliminary analysis of lithics collected during the Summer 2011 field season at the Omo 10 site complex, a Tiwanaku temple, situated in the Moquegua Valley of southern Peru. During the Middle Horizon (A.D. 600 - 1000) research has focused on state-level societies, ceramics, and architecture. Though lithic tools are present during this period, little in the realm of research and analysis has been completed. This preliminary study, analyzes the geologic material present as well as the spatial variability of the lithics, in order to better understand lithic tool production and procurement strategies.

Foss, John

[174] *"Dirt" to Soil: Advances in the Application of Soil Science to Archaeological Studies*

In the past four decades, the transition of considering soils as "dirt" to that of unique profiles revealing landscape formation has occurred in archaeology. Dr. W. Gardner, decades ago, realized the importance of soils and geologic information for the environmental history of sites. Landscape models, such as the initial one at the Thunderbird Site (44WR11), have been useful in placing archaeological finds in context with age-related strata. Soil morphology combined with laboratory characterization has expanded the interpretation of soils at archaeological sites. This presentation will discuss the application of soil science to archaeological sites in contrasting environments and ages.

Foster, Brandon [170] *see Poeppel, Emily*

Foster, Joshua (New Mexico State University)

[255] *Mimbres Mortar Holes: Postholes, Food Processing, or Building Material?*

Bedrock grinding features are commonly associated with multi-component sites in the Mimbres Valley of southwest New Mexico. Most known clusters are associated with hard bedrock substrates and archaeologists assume they were used as mortars to process seeds such as mesquite beans. Recent excavations at the Kipp Ruin on the lower Mimbres River, however, have revealed dozens of these features excavated into softer bedrock caliche. I present a performance characteristic analysis to assess whether these features were used for processing food, processing of caliche for use as a building materials (mortar, plaster, and adobe temper) or as architectural features (postholes)?

Foster, Lynn (Independent Scholar) and Cherra Wyllie (University of Hartford)

[242] *Rio Blanco Ceramics of South-Central Veracruz During Epiclassic period (ca 750-1000 CE) fine paste,*

relief-carved ceramics become a popular vehicle for transmitting politico-religious stories and scenes, with each culture tailoring the medium to its own end. Obscured within a nomenclature of abundant types or beneath the broad heading "Fine Orange," relationships between relief-carved ceramics (such as Pabellon molded-carved or Fine Relief Blackware) have received little attention. In this paper we focus on Rio Blanco fine paste relief wares of south-central Veracruz, examining their characteristics, manufacture, and iconography, comparing and contrasting them with fine paste sculpted wares from throughout Mesoamerica.

Foster, Thomas (University of West Georgia)

[67] *Apalachicola Ecosystems Project: Investigations of Resilience and Adaptation in a Seventeenth to Eighteenth Century Muscogee Creek Community*

Apalachicola was the considered the capital of the Creek Nation until the middle of the eighteenth century. According to oral history, it was the site of the formation of the Creek Confederacy. This paper will describe recent fieldwork at the site and the larger project. The goals of the recent fieldwork are to test a variety of hypotheses derived from Resilience Theory and are targeted at understanding how the Creek people adapted to a changing colonial economy while simultaneously adapting to their own anthropogenic effects on the landscape.

Fowler, William (Vanderbilt University)

[21] *The Pipil Migrations in Mesoamerica: History, Identity, and Politics*

Drawing on comparative studies of migrations from the American Southeast and Southwest, I propose a new model for the interpretation of the Pipil migrations from central Mexico to southeastern Mesoamerica. These studies indicate that identity politics associated with cultural construction (*sensu* Pauketat) are often closely related to historical processes of migration, population movements, and displacements. Assuming the essential accuracy of this model, material culture traits often taken as direct archaeological data on the Pipil migrations are reinterpreted as evidence of the daily practices, social identities, and political differentiation of immigrant groups and their construction of new landscapes and cultural traditions.

[21] *First Chair [21] Second Organizer*

Fowler, William [166] *see Card, Jeb J.*

Fowles, Severin (Barnard College, Columbia University) and Jimmy Arterberry (Comanche Tribal Historic Preservation Office)

[23] *The Performance of History in Early Colonial Art of the American Plains*

The ledger art tradition of the nineteenth century tribes on the American Plains is strikingly narrative, often presenting the viewer with bold images of unfolding military dramas and tallies of battlefield accomplishments. As such, they functioned as archives, self-standing images that conveyed tribal and personal histories. The origin of this tradition in Plains rock art, however, directs our attention away from the iconography and toward the gestural performance that produced it, as well as the audience that publically acknowledged the performance's legitimacy. In this paper, we explore the

theatricality and political effects of iconographic reenactments of early colonial Plains militarism.

Fowles, Severin [199] see *Montgomery, Lindsay M. [25]*
see *Atherton, Heather N. [85]* see *Santiago, Emilio A.*

Fox, Gregory (Joint POW-MIA Accounting Command) and Thomas Holland (Joint POW-MIA Accounting Command)

[14] *The Ex Cathedra Forensic Anthropologist or, Sometimes I Watch CSI Re-Runs*

Within the discipline of archaeology many individuals identify themselves as Forensic Archaeologists. Most if not all of these individuals are not accepted within the larger forensic community as specialists due to their neglect to organize and enter the modern forensic world. U.S. government initiatives—including the congressionally sponsored National Academy of Sciences report on the state of forensic science in the United States—have altered the existing landscape. Forensic Scientists in the future will have to be concerned with matters of laboratory accreditation and personal certification—concepts largely foreign to the field of archaeology. For archaeologists to be taken seriously within forensic science, a dramatic reshaping of the existing mindset is required. Failing to appreciate new requirements will relegate archaeologists to the sideline in forensics and to the role of wanna-bes. This presentation will compare modern standards of other forensic communities with archaeology and present the requisite steps required of the discipline to enter the modern forensic world.

Fox, Jake [39] see *Yoder, Cassady J.*

Fox, Sherry

[94] *Secondary burial and commingled remains in Cyprus: A case study of the Hellenistic/Roman "Surgeon's Tomb" from the eastern necropolis of Nea Paphos (P.M. 2548)*

Study of human skeletal remains from some rock-cut chamber tombs dating from the Hellenistic/Roman periods at Paphos, Cyprus, led to a methodology for poorly preserved commingled material. Pathological lesions among the minimally 275 individuals from the Eastern Necropolis were ascertained on a bone-by-bone basis. Refinement in the methodology ensued at the Hittite site of Oymaagac, Turkey, where a mass grave of Roman date was recovered. The remains became commingled during removal and contextual information was lost. In conclusion, commingling can take place at any stage from burial to excavation, and although time-consuming, much can be gained from studying commingled remains.

Fox, William (Canadian Museum of Civilization)

[192] *Red, White andBlack: Ornamental Stone Selection for Lower Great Lakes Area Pipes and Beads*
Sixteenth through seventeenth century stone bead and pipe assemblages from southern Ontario are described and new XRF evidence is presented with regard to identification of raw material sources. The distribution of specific classes of artifacts is considered in relation to Native distribution networks and the turbulent political events of the late seventeenth century.

Frachetti, Michael (Washington University in St. Louis)

[237] *Institutional Participation and Nomadic "Power Brokers"*

A key factor in the maintenance of socio-political borders is co-participation in epi-local institutions amongst regional polities. I have argued that Bronze Age communities of Central Asia shaped hegemonies with diverse scales of regional impact depending on the strategic interaction of power brokers, who established and reshaped social borders among nomadic communities through the transfer of commodities, ideology, and innovations. Here, I examine the participatory mechanisms that shaped inter-regional, political-economic institutions along the flexible boundaries between nomadic and agricultural regions of Central Asia. I illustrate how nomadic power-brokers institutionally dictated political boundaries of Inner Asia ca. 2000 BC.

Frahm, Ellery (University of Minnesota)

[153] *Environmental Archaeology and Obsidian Studies: Progress and Prospects*

Obsidian research is often focused on mobility and exchange, but recent studies have started using obsidian to explore ancient environments and landscapes. There are various ways that obsidian studies can interface with geomorphology to investigate relationships between humans and their environments. Similar to tephrochronology, obsidian sediments, when sourced chemically and dated radiometrically, may be used to reconstruct alluvial environments. Additionally, geochemical or magnetic zoning of obsidian sources, when coupled with artifact provenancing, may indicate which portions of that source were accessible on the landscape. Reconstructing landscapes allows us to discover the ways in which people used and modified the environment.

France, Christine (Smithsonian Museum Conservation Institute), Douglas Owsley (Smithsonian Institution), Aleithea Warmack (Smithsonian Institution), Sara McGuire (Bournemouth University) and Whitney Miller (Xavier University)

[168] *Stable isotopic evidence (d13C, d15N, d18O) of diet, provenance, and demography from bones and teeth of 18th and 19th century North Americans*

Stable isotopic data from military burials at Ft. Craig, NM and Glorieta Pass, NM (1860-1880), with comparison sites located throughout North America are used to discern demographic information (race, provenance, social class). Bones and teeth are examined for d13C values of collagen and carbonates to determine types of plants consumed, d15N of collagen to determine amount of high protein dietary components, and d18O values of carbonates and phosphates to determine latitude of origin. Preliminary isotopic profiles delineate statistically different groups thus allowing distinction between European ancestry, North American ancestry, certain social classes, and northern versus southern North American provenance.

[168] *First Chair*

Franciscus, Robert [83] see *Putt, Shelby S.*

Franco, Nora (CONICET-UBA) and Amber Johnson (Truman State University)
[132] *Comparing hunter-gatherer projections with the distribution of lithic raw materials in Southern Patagonia (Argentina)*

Ethnoarchaeological studies have been one of the major contributions of processual archaeology, being very important for the construction of middle range theory. Here we use an organization of technology framework to test expectations derived from ethnoarchaeological research against the archaeological record. Differences in temporal and geographic scales were taken into account. Surveys of potential lithic raw material sources and analysis of artifact attributes allowed us to recognize the areas utilized by human populations and, along with other lines of evidences, to identify regions with social contacts among groups. Results were compared with projections from Binford's hunter-gatherer frames of reference.

[231] *Discussant*

Franco Jordán, Régulo [5] *see Laffey, Ann O.*

Frank, Ariel D. [231] *see Skarbun, Fabiana*

Franklin, Kathryn (University of Chicago) and Amanda Logan (University of Michigan)
[92] *The Edge of Where?*

This paper presents our approach to archaeologies of 'edges.' We discuss our intent in 'centering on the periphery:' to foreground the perceptual and imaginary aspects of spatial and scalar politics in past and present social practice. Examining archaeologies at a local scale, we ask why, by/for whom, how and where were concepts of the local and large scale constituted? We examine the 'production of the periphery,' in the sense both of techniques by which local actors produce locality, and of traditions through which peripherality has been produced analytically as the partner to centrality and complexity.

[92] *First Chair [92]* *Second Organizer*

Frashuer, Anya (Arizona State University), Christopher Carr (Arizona State University) and Michael D. Glascock (University of Missouri Research Reactor Center)

[64] *Clay Selection in Scioto Valley, Ohio Woodland Vessel Production*

Toward documenting the rates of local exchange of utilitarian ceramic vessels and changes in rates over time in the Scioto Valley, Ohio, an analysis was made of clay composition for vessels found at multiple sites across the region. Woodland sites, ranging from 400 B.C. to A.D. 1200, were selected for this purpose. The clay matrix and aplastic inclusions of pottery vessels were analyzed with instrumental neutron activation analysis and electron microprobe. Possible clay source distinctions were identified through an analysis of the chemical compositional data using principle component analysis and Ward's hierarchical cluster analysis.

Frazer, Lindsay [184] *see Schmidt, Christopher W.*

Frederick, Kathryn (Michigan State University) and Meghan Howey (University of New Hampshire)
[213] *When the Wild Strawberries are in Bloom: Pre-contact Food Caching in Northern Michigan*

Here, I report the results of an ongoing effort to understand the abundance of food caching pits at certain Northern Lower Michigan locales during the Late Woodland period. To this end, an experimental archaeology project was devised to shed light on basic questions regarding pre-contact food caching. Four cache pits replicating archaeological pits were traditionally dug in the autumn, filled with food, and monitored throughout winter of 2010-2011. Soil contexts, elevations, and positioning of the cache pits were carefully monitored. This poster presents the experimental outcomes and discusses ways in which the results can be applied to future research.

Freeland, Nicholas (University of Wyoming)
[161] *A Predictive GIS approach to High Altitude Residential Sites in the Great Basin*

High altitude residential sites in the Great Basin are currently an interesting but rarely documented phenomenon. The current sample of these sites is restricted to the White Mountains of California and the Toiyabe and Toiyabe Ranges of Nevada. I present a GIS predictive model which from a practical standpoint has the potential to efficiently guide future survey. This GIS also provides a valuable perspective on the factors which may have contributed to the selection and repeated use of these sites as seasonal residences by Great Basin foragers.

Freeman, Andrea (University of Calgary)

[20] *Why the ice-free corridor is still relevant to the peopling of the New World*

Patches of desirable land in the mountainous regions and surrounding Plains of Alaska, the Yukon, British Columbia and Alberta formed a more complex habitat than simplistic reconstructions of retreating ice. Prehistoric people traveling through these areas carried with them technologies similar to Clovis and Goshen technologies present on the High Plains and American Southwest. Establishing whether connections exist among these assemblages is still a relevant aspect of how early people moved into and colonized these landscapes, irrespective of possible earlier technologies. This paper will explore the chronology, environment, and technology of early Paleoindian presence in the ice-free "corridor."

Freeman, Brett

[235] *Ground Stone and Social Complexity in Pre-Columbian Eastern Ecuador*

Given the current lack of any form of systematic archaeological ground stone research in the eastern Ecuadorian Andes, this paper presents the results of field research conducted in the Quijos Valley of Eastern Ecuador. The focus of this research was to determine the role of the ground stone economy within the development of the Late Period (AD 500-1500) Quijos chiefdoms. This research serves to contribute to our understanding of the development of social complexity in the region, as well as contributing to a growing body of literature focused on ground stone craft production.

Freeman, Jacob (Arizona State University), William Merrill (Smithsonian National Museum of Natural History) and Robert Hard (University of Texas-San Antonio)

[140] *An Optimal Model of Labor Allocation to Foraging and Farming: Understanding Northern Uto-Aztec Subsistence Strategies.*

Building on models of the foraging-farming transition from evolutionary ecology and microeconomics, we propose that mixed foraging-farming strategies are the outcomes of decisions balancing time-energy allocations between present and future returns. Foraging produces immediate returns, farming offers the prospect of delayed returns. Delayed returns are weighted relative to the expected availability of wild resources, especially storable ones, at key points during the growing season. A formal model of optimal labor allocation captures these dynamics. This model is evaluated by examining farming and foraging strategies among Northern Uto-Aztec speakers.

Freeman, Sharon (University of Memphis)

[240] *Early Frontier Life in Northeast Alabama: A Case Study of Site 1Dk5*

Historically significant changes took place in 1838 when Cherokee Indians were forcibly removed from the Southeastern U.S. to Oklahoma. Recent archaeological investigations of Site 1Dk5 in DeKalb County, Alabama point to an occupation of Cherokee Indians prior to removal in 1838. Archaeological findings, military quartermaster notes, and historical maps, illustrate Site 1Dk5 is associated with Indian removal and is a significant part of early Alabama history. The strength of the relationship between Cherokee removal camps, ferries, forts, and cantonments in northeast Alabama will be discussed as well as the site's national and regional significance.

Freestone, Ian [159] *see Fenn, Thomas*

Freidel, David (Washington University in St. Louis)

[269] *Pecked Circles and Diving Boards, Calculating Instruments in Ancient Mesoamerica*

Anthony Aveni has long proposed that the lowland Maya adopted important notions of calendar calculation from Teotihuacan. His arguments are based significantly in the correspondence of pecked circles at Teotihuacan and at Uaxactun. In a recent discussion of pecked devices along the south side of the Pyramid of the Sun he further proposes that these may have been used for divinatory purposes as well. Representations of tablets and mirrors in Classic Maya context suggest the existence of calculating devices and surfaces that advance his argument.

[151] *Discussant*

Freidel, David [151] *see Eppich, Keith*

Freidel, David A. [152] *see Lee, David*

Freikman, Mike (Mike Freikman)

[63] *Ritual burial of houses: case study of Golan Chalcolithic culture.*

A large chalcolithic house was excavated at 'Arbain near Rujm el Hiri. The material assemblages found in the complex not only help to understand the everyday life of the people who lived there, but also showed a complicated picture of the abandonment process. The entrances were blocked and the house experienced a conflagration. The breakage patterns of the stone and pottery vessels show, that not only they were deliberately

destroyed but also many of the fragments were removed from the site. I interpret this data as evidence for deliberate "burial" of the house as part of local chalcolithic ritual life.

Freiwald, Carolyn (University of Wisconsin) and Stanley Ambrose (University of Illinois at Urbana-Champaign)

[61] *Childhood and adult diet of the Classic Maya: exploring dietary differences at the regional, household, and individual level using carbon, oxygen, and nitrogen isotope values*

Dietary differences between Classic era Maya men, women, and children of varied social and/or economic status present no clear patterns, but there are intriguing regional differences. Proportions of key plant and protein sources consumed in the Belize Valley were distinct from other Maya lowland centers. Oxygen, carbon, and nitrogen isotope values from tooth enamel and bone of 107 individuals from the Belize Valley, Caracol, and Maya Mountains show that: 1) regional differences exist in adult and childhood diet, 2) these distinctions may exist at the household level, and 3) dietary variability likely relates to cultural choices, rather than environmental factors.

French, Kirk (Pennsylvania State University) and Christopher Duffy (The Pennsylvania State University)

[102] *The Impacts of Landcover Change at Palenque, Mexico*

Understanding the effects of land cover-change on the availability of water for an ancient city led to the implementation of spatially-distributed hydrologic modeling. The hydroarchaeological method utilizes simulated daily paleoclimatic data, watershed modeling, and archaeology to explore the response of ancient human impact on a watershed. There is great potential for distributed watershed modeling in developing plausible scenarios of water use and supply, and the effect of extreme conditions (flood and drought). One outcome of these simulations is the demonstration that distributed landcover change is the "big actor" in how water behaves.

[102] *Second Organizer [102] First Chair*

Freter-Abrams, AnnCorinne (Ohio University) and Elliot Abrams (Ohio University)

[102] *The Abandonment Process at the Maya Kingdom of Copan, Honduras: A Study of Dynamic Environmental Vulnerability*

Penn State's research at the Maya kingdom of Copan, Honduras, has emphasized the influence of ecological relations in understanding the process of societal change. A significant research question involves the abandonment process at Copan, which began ca. A.D. 820 and lasted some 350 years. This paper is a 30 year synopsis of settlement, chronology, and architectural analyses that elucidates the abandonment process in the context of shifting environmental vulnerability. What has emerged from these decades of research is a more nuanced understanding of how each successive generation of Copanecos adjusted to these dynamic conditions.

Freund, Kyle (McMaster University)

[140] *GIS and Spatial Statistics in Archaeology: A Case Study from Bronze Age Sardinia (1700 B.C. – 900 B.C.)*

This presentation discusses the application of two statistical analyses, k-means and kernel density estimation, in archaeological research and explains several techniques which integrate Geographic Information Systems (GIS) with other statistical programs. This is significant because it expands the relevance of GIS software in landscape archaeology. A case study is used to illustrate these techniques by quantifying the distribution of an archaeological point-pattern of Bronze Age Nuragic (1700 B.C. – 900 B.C.) sites on the Italian island of Sardinia. The theoretical implications of these analyses are discussed along with several ways to interpret the results.

Friberg, Christina (University of California, Santa Barbara)

[214] *Bringing Mysteries of Mississippian Ceramics to Light with Reflectance Transformation Imaging*
Northern Mississippian groups influenced by Cahokia began emulating Ramey Incised pottery around A.D. 1100, creating multiple regionally localized stylistic traditions. Detailed analysis of Ramey Incised sherds from different sites in the northern Mississippian world is necessary to better understand the variation between these traditions. Reflectance Transformation Imaging (RTI) is a digital photographic technique that produces an image in which light angles can be manipulated to reveal surface detail difficult to see with the naked eye. This poster presents RTI as a method for examining distinctions between decorative motifs used by early Mississippian groups in the Central Illinois River Valley.

Friedman, Richard [198] see Sofaer, Anna P.

Fries, Eric, Andrew Kindon (West Valley College) and John Morris (National Institute of Culture and History, Belize)

[61] *We're Going To Need A Bigger Survey Area: Rural Maya Centers of Western Belize*
Recent survey has located a substantial region of Maya settlement focused on the site of Aguacate Cuatro, along the northern edge of the Belize River Valley. A combination of satellite images, pedestrian survey and local informants was used to document four minor centers and numerous large single structures surrounded by areas of dense occupation. The large number of sites found in areas cleared for modern farming suggests extensive settlement along the cuestas which define local topography. Rather than being an isolated hinterland, the Aguacate area may have supported a broadly distributed, fairly wealthy population in the Late Classic period.

Friesen, Max (University of Toronto)

[234] *Special Weapons and Tactics: Understanding Variability among Caribou Drive Systems in the Central Canadian Arctic*

Caribou play a central role in the economies of many past circumpolar peoples, and were hunted with a wide range of weapons and tactics. This paper describes several very large caribou drive systems in the central Arctic, whose construction and use spans at least a millennium. While the drives vary markedly, they tend to break down into two main types - one more diffuse, leading to shallow shooting pits; the other more robust,

leading to substantial hunting blinds. After describing this variability, I will explore the factor(s) which explain the differences between the drives.

Fritz, Gayle (Washington University in St. Louis), Bruce D. Smith (Smithsonian Institution), Maria C. Bruno (Dickinson College), BrieAnna S. Langlie (Washington University in St. Louis) and Logan Kistler (Penn State University)

[238] *Superfood: A Hemispherical Perspective on the Cultigen Chenopods*

Decades of interdisciplinary studies have clarified the ancestry, antiquity, and economic importance of *Chenopodium* spp. in North and South America. Domesticated at least twice, thin-testa chenopod cultivars preceded maize as crops that fueled ritually elaborate societies including Hopewellians in eastern North America and Chiripa and Wankarani groups in the Andes. Chenopod was formerly stigmatized by some archaeologists as too weedy and small-seeded to figure prominently in serious agriculture, but growing appreciation of quinoa as a high protein "supergrain" coincides with the archaeological, archaeobotanical, and molecular research that we summarize. The cultural, nutritional, and economic legacy of *Chenopodium* continues.

Fritz, Gayle J. [13] see Cagnato, Clarissa

Fritz, Sherilyn C. [51] see D'Andrea, William J

Frosch, Caroline [85] see Santiago, Emilio A.

Fruhlinger, Jake (Idaho Army National Guard) and Samuel Smith (Idaho National Guard and Boise State University)

[42] *A Landscape Approach to the Archaeology of the Orchard Training Area*

The Orchard Training Area (OTA) has its own vernacular which has been shaped by centuries of differing land uses ranging from Native American use through its transition to a military training range. As time has progressed the vernacular has taken on an identity unique to the OTA. Examples include changing landscape features such as rock cairns, blinds, and other features that have been built throughout time on the OTA. Prehistoric and historic people built them, and modern people still build and augment cairns today so much so that cairns have become a unique feature of the ever changing cultural landscape.

Fu, Janling (Harvard University) and Jeffrey Dobereiner (Harvard University)

[57] *Networking the Feast: Theoretical and Methodological Perspectives in Archaeology*

In this introductory paper we explore the advantages of applying the concept of 'networks' to the archaeological study of feasts. We review the varied theoretical and methodological discourses used in discussions of feasting to demonstrate the persistent ambiguities in the use of this term. We propose that treating the feast as a networked entity allows scholars to generate new research directions in the conceptual interstices that characterize current debate. Furthermore, it repositions the feast as a node in a networked typology of ritual and practice and is evocative of important issues of economic

exchange, identity and group formation.

[57] *First Chair*

Fuller, Dorian [35] *see Kingwell-Banham, Eleanor*

Funk, Caroline (SUNY at Buffalo)

[27] *Birds as Resources and Identity Markers in Rat Islands Aleut Culture, Western Aleutians, Alaska*

The Rat Islands Aleut land- and seascape was one of the richest resident and migratory bird habitats in the world for over 6,000 years and avian faunal remains are abundant in organic-rich Aleut middens. Rat Islands Aleut used birds as critical subsistence and material resources, and the choice of species and body part used as food or on apparel, magical devices, or other gear marked identity, power, and spirituality. Ethnohistories and Aleut traditional knowledge provide insight into bird faunal remains from prehistoric sites in the Rat Islands, where differential use was made of birds by distinct Rat Islands Aleut identities.

Gabbard, Aubree (Bryn Mawr College) and Danielle S. Kurin (Vanderbilt University)

[29] *Dental health and dietary changes following Wari Collapse: a case study of the Chanka of Andahuaylas, Peru*

Imperial collapse can cause striking changes in the lifeways of post-collapse populations. This study examines over 450 mandibles and maxillas from imperial Wari (AD 600-1000) and post-imperial Chanka (AD 1000-1400) populations to determine how health and diet may have changed in the wake of tumultuous socio-political transformations. Dental pathologies (enamel hypoplasias and caries) were compared between imperial and post-collapse populations to assess changes in oral health (a proxy for general health); tooth wear patterns were compared to evaluate changes in consumption patterns. Results suggest a resilient diet, but declining health following the disappearance of the Wari Empire in ancient Andahuaylas.

Gabelmann, Olga (FU Berlin, Germany)

[77] *Trade and Mobility in the Andes - Drawing analogies between a present day caravan and prehistory*

A present day llama caravan gives insights to mobility, trade, and landscape management of herding societies in the Bolivian Andes. The mountain region east of Lake Poopó has a low infrastructure and forced their inhabitants to maintain ancient trade and communication systems. The author accompanied a llama caravan on a trip through the eastern cordillera to the head of the mesothermic valleys. Ethnographic data can be used to draw analogies for prehistoric transport systems as such traditions have been preserved over centuries. Moreover, the results of a linear survey provided information about prehistoric trade routes between valleys and altiplano.

Gabler, Brandon (HDR, Inc.), Loy Neff (Pima County Cultural Resources and Historic Preservation), Alexa Smith (William Self Associates, Inc.) and D. Shane Miller (School of Anthropology, University of Arizona)

[24] *Preservation and Community Involvement at the Pantano Townsite Conservation Area, Pima County, Arizona*

Pima County's 1997 Bond fund enabled them to

preserve, maintain, and present information about some of southern Arizona's most valuable cultural resources, including Tumamoc Hill, Los Morteros, Honey Bee Village, the Valencia Site, and the Pantano Townsites. Archaeologists at William Self Associates conducted high-resolution mapping in order to determine the best strategy for protecting the Pantano Townsites while making them, and information about them, accessible to the public. Pima County's Cultural Resources and Historic Preservation Office is developing materials intended to display information onsite, as well as engage the public in discussions about the history of these early railroad-era communities.

Gabriel, Jeremy [41] *see Reinhardt, Eduard G.*

Gabriel, Sonia (Sónia Gabriel. IGESPAR,IP.)

[75] *Fish exploitation in Mesolithic Iberia*

Despite the amount of field work on the Mesolithic sites in the Iberian Peninsula, few detailed studies have been undertaken for fish. To fill this data void, fish remains from seven Mesolithic sites in southern coast of Portugal were analyzed and the results compared to others in different areas of Portugal and Spain. A reference collection was improved to identify the material and allow biometric developments. The aim of this communication is to summarize the data about fish remains available to the Iberia during the Mesolithic, and to present some methodological developments achieved for the interpretation of these remains.

Gagnon, Celeste (Wagner College), Bethany L. Turner (Georgia State University) and Robert H. Tykot (University of South Florida)

[29] *A Bioarchaeological Approach to Gendering Consumption in the Moche Valley*

The Southern Moche State (AD 200-800) controlled the Moche Valley and portions of north-coastal Peru. Prior to its establishment, during the Gallinazo, Salinar, and Cupisnique phases, people were less hierarchically organized. These earlier periods are associated with sex-based, temporal shifts in oral health, suggesting differential consumption patterns possibly related to increasing political stratification. To further test this, carbon, nitrogen, and oxygen isotope values were characterized in males and females. Results suggest increasing consumption of chicha by males during the Gallinazo phase. The implications of these results for understanding culture changes in the region are discussed.

Gaines, Edmund (R.P.A.), William Johnson (University of Kansas) and Alan Halfen (University of Kansas)

[110] *Depositional History Of Archaeological Sites In Eolian Dune Contexts, Tanana Flats, Central Alaska*
Recent investigations have identified an incredibly dense concentration of prehistoric sites on the crests of eolian sand dunes within the Tanana Flats of central Alaska. To reconstruct a history of activation, several dunes were sampled for optically-stimulated luminescence (OSL) dating. Near-surface samples and deep samples (ca. 6 m) were collected from crests of nine dunes, and, for two others, on the flanks. In addition, five OSL samples were collected from a Paleoindian site located on a sand- and loess-capped outwash terrace. OSL ages indicate Late

Pleistocene activation and perhaps dune formation and deposition of terrace fill.

Galaty, Michael (Millsaps College)

[200] *"Ethnohistoric Archaeology" in Highland Albania: Using Ethnographic and Historical Surveys to Inform Regional Archaeological Data*

The Shala Valley Project (SVP) conducted three seasons of archaeological survey in the mountains of northern Albania, focused on the territory of the Shala fis (tribe).

The SVP's primary goal was to understand the processes whereby the valley was settled and its unique tribal sociopolitical and economic systems formed.

Essential to this effort were concurrent ethnographic and ethnohistoric surveys, which informed the archaeological data, both post-Medieval and prehistoric. I will provide examples from the SVP, and argue that many, if not all, archaeological survey projects, in both the Old and New worlds, would benefit by adding ethnographic and historical components.

[119] *Discussant*

Galaty, Michael **[119]** see Ward, Timothy J. **[114]** see Horne, Christopher **[220]** see Gu, Jiyan **[119]** see Deskaj, Sylvia

Galentine, Jordan (Indiana University of Pennsylvania)

[170] *Revised Results of Rim Sherd Analysis of Crooked Creek Sites and the Johnston Site*

The Crooked Creek watershed in western Pennsylvania is a puzzling area, where cultures blend creating an interesting mixture of traits. This is considered a "grey" area, between two better known Late Prehistoric Cultures, the Monongahela and McFate. Last year at the SAA conference, I presented the results of my analysis of rim sherds. This year I have built upon my results to give a more rounded view of the Crooked Creek cultural tradition.

Gallaga, Emiliano (Director Del Centro INAH, ChiapasMuseo Regional De Chiapas) and Elizabeth Paris

[233] *Agency and autonomy in prehispanic households, an introduction.*

This presentation will provide an introduction to the household autonomy and interactions. To explore the ways in which households achieved and maintained autonomy in Pre-Hispanic times, or conversely, where household were constrained or reorganized by sociopolitical forces.

Gallareta, Tomás **[201]** see Bey, George J.

Gallareta Negron, Tomas (INAH) and George Bey (Millsaps College)

[128] *The role of economics in the success of 8th-10th century Maya society in the Puuc region, Yucatan, Mexico*

Settlement, excavation and Critical Zone information from three ancient Puuc centers, including suburbs and hinterlands are used to shed light on their 8th-10th century economic strategies. Continuous success of the Puuc inhabitants during the centuries of the Late/Terminal Classic period can be explained with the early development of an institutionalized economy

centered on agro-forestry products. This economy was controlled by both a wealthy royal and large non-royal elite population. Land holdings subject to large-scale agro-forestry management were most probably inherited and managed by these important elite families. The development, success and failure of this economy were tied to geopolitical events associated with the greater Late/Terminal Classic northern plains.

Galle, Jillian (Monticello), Leslie Cooper (Monticello) and Jesse Sawyer (Monticello)

[67] *Building a chronology for domestic slave sites at The Hermitage.*

Nearly three decades of archaeological research at The Hermitage, Andrew Jackson's plantation just east of Nashville, has made it one of the most thoroughly excavated sites of slavery in North America. Until recently, the vast quantities of recovered artifacts remained unanalyzed. With funding from NEH, The Digital Archaeological Archive of Comparative Slavery has made accessible archaeological data from nine domestic units once home to enslaved laborers. Here we use correspondence analysis of ware-type frequencies, mean ceramic dates, and frequency seriation to provide for the first time an accurate chronological sequence for the occupation of The Hermitage.

Gallegos Gomora, Miriam (Centro INAH Tabasco), Manuel Acosta Alejandro (Universidad Juarez Autonoma De Tabasco -UJAT-), Ricardo Armijo Torres (Instituto Nacional De Antropologia E Historia -INAH-), Susana Chavez Cruz (Universidad Juarez Autonoma De Tabasco -UJAT-) and Leydi Gomez Martinez (Universidad Juarez Autonoma De Tabasco -UJAT-)

[58] *La Alfareria De Comalcalco Y Jonuta: Un Analisis Arqueometrico Interdisciplinario*

Investigaciones arqueológicas en Jonuta y Comalcalco han evidenciado la importancia de la alfarería local. Ambos sitios constituyen puntos focales para el entendimiento de la producción y distribución de vajillas y figurillas durante el Clásico. El estudio arqueométrico ha reconocido parte del proceso de manufactura desarrollado por los mayas antiguos, identificado bancos de material, tipo de hornos, temperaturas de cocción, e incluso composición de pastas, datos que permitirán reconocer áreas de producción y posibles materiales de comercio. Esta ponencia discute los resultados de la investigación interdisciplinaria que se lleva a cabo entre arqueólogos de INAH y físicos de la UJAT.

Gallon, Matthew (University of Michigan)

[95] *Foreign and Indigenous Influences on Dvaravati Urban Spaces*

During the mid-first millennium CE, the emergence of the Dvaravati culture featured significant increases in both political complexity, and the number and size of settlements in Central Thailand. The Dvaravati infused their indigenous traditions with South Asian writing systems, styles of material culture, religious beliefs, and concepts of kingship. Yet the extent to which the Dvaravati used foreign concepts in the configuration of their urban spaces is less clear. This paper examines several Dvaravati towns and cities in order to explore how their residents incorporated both local and foreign concepts of space in the layout of Thailand's early urban

centers.

Gamble, Lynn (University of California, Santa Barbara)

[126] *New Perspectives on Social Structure of the Middle Holocene in the Santa Barbara Channel Region: A View from El Montón on Western Santa Cruz Island*

One of the best preserved and largest Early Period archaeological sites from the Santa Barbara Channel region is El Montón (CA-SCRI-333) at Forney's Cove on the west end of Santa Cruz Island. The site consists of over 40 house depressions and a discrete cemetery with over 100 burials. Recent archaeological investigations of stratified house deposits and analysis of previous information provide significant new insight into social structure in the region thousands of years ago. These new data challenge some of the existing perspectives on the emergence of social and political complexity among the Chumash Indians.

Gamble, Lynn H [126] see Jazwa, Christopher S.

Gamez, Laura [66] see Kingsley, Melanie J.

Gao, Mingkui [60] see Dong, Yu

Garcea, Elena [37] see Smith, Jennifer R.

Garcia, Dante (Zona Arqueologica de Monte Albán)

[210] *Urnas funerarias del complejo del maíz en un contexto del postclásico temprano del valle de Oaxaca*
En junio del 2008 se realizó el rescate de una tumba prehispánica en la comunidad de San Pedro Ixtlahuaca Oaxaca, donde se logró salvaguardar 7 figurillas antropomorfas que se encontraban empotradas en tres nichos que decoraban la fachada frontal de una tumba. Estos personajes eran: Dios joven con dos vasos al frente, la pareja formada por la diosa con atributos de cosijo y dios con moño en el tocado, Dios L (Pitao Cosobi), la pareja formada por el dios murciélago (Pitao Cozaana) y la diosa J (Nohuichana), así como una cabeza de pasta gris de una mujer con trenzado de Yalala. Deidades que representan cuestiones funerarias asociadas con los antepasados, el origen de la vida y el ciclo de las lluvias (Caso, Bernal y Acosta, 1952), urnas que adquieren mayor importancia para el periodo Monte Albán IIIB-IV, sin embargo, el contexto de la Tumba de San Pedro Ixtlahuaca corresponde al periodo postclásico temprano, por tanto, un análisis comparativo con otros contextos y hallazgos de otros sitios del valle de Oaxaca, nos ha permitido identificar el proceso de cambio de algunos aspectos ideológicos y religiosos de la cultura zapoteca entre los periodos Monte Albán IIIB-IV y V.

Garcia, Joseph (Longwood University) and Brian Bates (Longwood University)

[6] *A River Runs Through It? Archaeological and Geological Evidence from 44CH62 – The Randy K. Wade Site*

Archaeological investigations at the Wade Site conducted by the Longwood University Archaeology Field School have led researchers to question whether the site was actually an island in the Staunton River and whether it may have been one at the time the site was occupied. Preliminary results of the geological evidence will be presented, and the archaeological significance of

this will be explored.

Garcia, Oreto, Sarah B. McClure (Pennsylvania State University), Douglas J. Kennett (Pennsylvania State University) and Brendan Culleton (University of Oregon)

[32] *An AMS Chronology of Collective Neolithic Burials in the central Mediterranean region of Spain*

Collective burials in natural caves are a characteristic feature of the Late Neolithic and Chalcolithic in the Valencian region of central Mediterranean Spain. We present a detailed chronological framework built mainly on new AMS dates from Cova de la Pastora (Alcoy, Alicante) and Avenc dels Dos Forats (Carcaixent, Valencia). In both cases direct AMS dates on human remains indicate a long period of use of collective burials sites (from the middle IV to the beginning II millennium cal BC). We discuss the duration of this practice and its implications in the context of the Neolithic and Chalcolithic of Mediterranean Spain.

Garcia, Oreto [135] see Barton, C. Michael

García Sanjuán, Leonardo (University of Sevilla), Coronada Mora Molina (University of Seville, Spain), Marta Díaz-Zorita Bonilla (University of Seville, Spain), Sonia Robles Carrasco (University of Seville, Spain) and David Wheatley (University of Southampton, United Kingdom)

[32] *Spatial organisation, physical anthropology and absolute chronology at the PP4-Montelirio sector of the Copper Age settlement of Valencina de la Concepción (Seville, Spain)*

This paper presents a summary of the results obtained in the excavations carried out between 2007 and 2008 at the PP-Montelirio sector of the Valencina de la Concepción Copper Age settlement (Seville, Spain). This sector yielded a total of 61 prehistoric funerary features, ranging from large megalithic monuments to small negative structures. The results presented here include a thorough inventory of all the artefacts found in each feature, a study of the osteoarchaeological record of three of the features, and AMS C14 dates for several of the individuals identified in them. This provides fresh evidence for the discussion of several topics that are crucial for the interpretation of this settlement, one of the largest and most complex ones of southern Iberian Copper Age. Among these topics are the spatial organisation, social complexity and funerary ideology of the community (or communities) that occupied this site throughout the 3rd millennium BC.

Garcia Vasquez, Ramiro [259] see Williams, Michele

Garcia-Tuck, Patricia (Agua Caliente Band of Cahuilla Indians)

[31] *Renewable Energy and Non-Renewable Resource*

This presentation examines Renewable Energy Development Projects and impacts to non-renewable historic resources important to Cahuilla tribes. Objectives for this presentation include 1) an overview of Agua Caliente Band of Cahuilla Indians Tribal Historic Preservation Office, 2) a brief look at Renewable Energy Policy, 3) a summary of federal funding and impacts to the inventory and evaluation of cultural resources 4) projects in the Cahuilla Traditional Use area 5) problems,

issues and solutions with fast track projects within the Section 106 process.

[31] *Discussant* [31] *First Chair*

Garfinkel, Alan [100] *see* *Gorrie, Bryan F.*

Garrard, Karen (Gray & Pape, Inc.)

[240] *Exploring Cincinnati's Historic Riverfront*

Excavations beneath a parking lot near the 1867 John A. Roebling Suspension Bridge in Cincinnati revealed intact, nineteenth century residential and commercial building remains. Interpretation of the artifact assemblage focused on the participation of the buildings' inhabitants in local, regional, and international markets and shows that they were engaged in all three markets, as well as cultural developments that were local, regional, national, and international in scale. This is reflective of nineteenth-century Cincinnati itself, which had reached its zenith as a national center of production and distribution.

Garraty, Christopher [54] *see* *Crider, Destiny Lynn*

Garrett, Zenobie (New York University) and Mathew Sisk (Adelphi University)

[11] *Reassessing Aurignacian site location: the effects of Medieval populations on Upper Paleolithic sites in the Vallon de Castel-Merle*

In the Dordogne region of France both Paleolithic and Medieval populations utilized the limestone cliff faces. While the technology used to modify these surfaces differed between the two time periods, the locations utilized and the remaining anthropogenic traces show some similarities. In the Castel-Merle vallon we have begun a project to differentiate modifications from these time periods. Using a combination of topographic data, GIS analysis and structured-light 3d scanners, our team has documented these traces geographic locations. This yields information on the spatial structure of the area's Aurignacian occupation by indicating areas where later occupations may have removed Aurignacian levels.

Garrido, Francisco (University of Pittsburgh)

[178] *The Inca Road and the economic exploitation of the Atacama Desert*

This work explores socioeconomic processes in the Copiapó zone of the Atacama Desert (Chile) during the Inca conquest. I aim at examining the effects of Inca political economy and imperial infrastructure (the Inca Road) on economic organization and extractive activities (mining) in the area. In particular, my work will investigate the extent to which mining in the area developed in the late prehispanic period as an Inca state organized activity, or whether the metal industry developed as a result of local initiatives taking advantage of the Inca infrastructure to further local economic and social profit.

Garrido, Jose Luis [66] *see* *Newman, Sarah E.*

Garrison, Thomas (Brown University), Stephen Houston (Brown University) and Edwin Román (University of Texas, Austin)

[66] *Moving Outside the Fortress: Future Directions at El Zotz*

This paper draws conclusions from the six seasons of research in and around El Zotz. It also presents future research directions in the region. The strong regional

chronology and landscape history developed by the Proyecto Arqueológico El Zotz will provide a base for the next phase of investigation. A particular emphasis will be placed on regional settlement survey using LiDAR remote sensing technology and developing a systematic plan for the investigation of households at the regional level. Cultural heritage work will be critical in the coming years as the project works to strengthen ties with local Guatemalan communities.

[66] *First Chair*

Garrison, Thomas [66] *see* *Houston, Stephen* [66] *see* *Roman-Ramirez, Edwin R.*

Garrison, Tom [66] *see* *Flood, Jonathan M.*

Garvey, Raven (University of California-Davis)

[153] *New Obsidian Hydration Data and Prehistoric Settlement Patterns in Andean Argentina*

Preliminary obsidian hydration data track spatial and temporal distributions of glass from the six known sources in and near Mendoza Province, Argentina to address prehistoric land and resource use. The distributions generally support the hypothesis that lower elevations of the Andes were preferred through much of the Holocene while occupation of the arid eastern plain occurred late, but challenge the existence of an occupational hiatus during the middle Holocene. Hydration data from surface sites recently recorded in previously unexplored areas indicate that further study of both topics is warranted.

Garvie-Lok, Sandra [157] *see* *Bazaliiskii, Vladimir I.*

Gary, Jack (Thomas Jefferson's Poplar Forest)

[133] *Ceramics and Thomas Jefferson's Aesthetic Philosophy for Poplar Forest*

Thomas Jefferson's design for his personal retreat at Poplar Forest is imbued with an Enlightenment aesthetic philosophy seen most obviously in architectural and landscape elements. This paper will examine how archaeologically recovered ceramics provide a glimpse into the ways Jefferson's aesthetic philosophy and personal identity carried over to the everyday objects used at his retreat. Examining ceramic style and decoration suggests that Jefferson purchased particular vessels because they contained imagery evocative of concepts closely aligned to his vision for Poplar Forest. This paper uses a framework of consumer studies to provide insight into an individual's personal or projected identity.

[133] *Second Chair*

Gasco, Janine (CSU-Dominguez Hills) and Alicia Angel (California State University-Dominguez Hills)

[87] *Recent Research at the Postclassic Site of Gonzalo Hernández, Chiapas, Mexico*

One component of the first season (2011) of the Izapa Regional Settlement Project involved excavation and extensive surface collection at the Postclassic site of Gonzalo Hernández, located on the lower coastal plain of the Soconusco region of Chiapas, Mexico. Preliminary analysis suggests that Gonzalo Hernández was a disperse, rural community that may have been subject to one of the large, primary centers in the area. In this paper, we review the evidence from surface collections to

identify the site's settlement pattern and occupational history, and we discuss how the site compares to other Postclassic sites in the Soconusco region.

[87] *First Chair*

Gates, Gary [22] *see Folan, William J.*

Gates-Foster, Jennifer (University of Texas at Austin)

[237] *Locality and the construction of authority in Ptolemaic Upper Egypt*

The construction of authority in the borderlands of the Ptolemaic state took many forms, but what is preserved often relates to the temples that were the institutions invested with considerable administrative and religious power in Egyptian society. This paper explores the expressions of agency crafted by priests and other officials in the physical spaces of the temples of Upper Egypt. These acts served to create a powerful sense of place which was a critical component of the expression of identity, belonging and separateness that were pivotal aspects of the functioning of Ptolemaic society at its margins.

Gatewood, Richard [245] *see Selden, Robert Z.*

Gatsov, Ivan [63] *see Kay, Marvin*

Gaylord, Donald [214] *see Bell, Alison*

Ge, Wei (Xiamen University), Chunming Wu (Xiamen University), Xintian Wang (Xiamen University) and Shan Tong (Xiamen University)

[163] *Early Plant Use In South China: Evidence From Starch Analysis*

Starch grains can provide significant evidence to study plant use in the past. Using starch residue analysis techniques, we recovered starch granules from stone tools and pottery vessels from a number of Neolithic sites in southern China. These starch granules can be assigned to four different genera, including Araceae, Dioscoreaceae, etc. The result suggests that plant use in Neolithic south China was quite different from North China.

Gear, Kathleen [113] *see Gear, W. Michael*

Gear, W. Michael and Kathleen Gear (Wind River Archaeological Consultants, Thermopolis, Wyoming)

[113] *The Funding Future: Why We Must Sell Archaeology to the Public*

A publicist once said, "Marketing in America is everything." Archaeologists don't consider themselves producers or marketers of a product. Most avoid public interactions and loathe explaining our work to ignorant masses. All archaeological funding can be sourced to the general public. As the budget crisis deepens, funding for research will decline. Disciplines like physics, chemistry, and engineering offer recognized products and can survive budget cuts. But what do archaeologists offer? How is our research justified during the economic downturn? The American people have an appetite for the story told by archaeology. To maintain our relevance, it's time we tell it.

Gearty, Erin (Northern Arizona University)

[85] *We Are What We Weave: A Study of Identity*

Expressed through the Production of Basketmaker II Textiles

My poster will present the results of my thesis research. I investigate the problem of ethnic identity for the earliest agriculturalists on the Colorado Plateau by examining how people conveyed identity through material culture, namely textiles. Recent research has shown that Basketmaker II peoples across the Colorado Plateau are both similar and diverse. I analyze woven materials from Basketmaker II rockshelter sites on the Colorado Plateau to identify the ways in which Basketmaker II people used textiles to express ethnic identity. My research identifies whether various ethnic identities may have existed within the broad cultural pattern Basketmaker II.

Geib, Phil R. [88] *see Newbold, Bradley*

Geller, Pamela (University of Miami) and Stacey Espenlaub (University of Pennsylvania)

[105] *Samuel Morton and the Warrior Women*

Samuel G. Morton's skulls have long engendered controversy. The contested nature of his assemblage methods and analysis, though, should not belie the collection's sustained scholarly potential. As an example, we consider its North American warrior women. To this end, we revisit correspondence between Morton and those who procured skulls, as well as reassess crania for data about sex, age, trauma, and pathology. We also draw from pertinent ethnohistories and ethnographies about two-spirits to further flesh out these individuals' sociopolitical importance in past communities. Final consideration is given to the implications that such identities have for repatriation in the twenty-first century.

Gelvin-Reymiller, Carol (U of Alaska, Fairbanks)

[159] *Late Holocene Toolmaking and Cervid Limb Bones: Metapodials, Methods, and Moose*

Large mammal limb bones have been shaped and split throughout prehistory in the Western Subarctic for a number of tool types, including punches, fleshers, planes, spear and projectile points. Late Holocene artifact assemblages from Quartz Lake in the Tanana River Valley of Interior Alaska include fragmented moose metapodials and other appendicular elements interpreted as illustrating stages in tool manufacture and as evidence of marrow extraction. Experiments on splitting cervid metapodials and observations on the effects of taphonomic agents which also produce longitudinal splitting are discussed as a basis for understanding technological choices in tool manufacture.

George, Richard (California State University Fullerton), Brenda Bowser (California State University Fullerton) and Hector Neff (California State University Long Beach)

[111] *Early to Middle Holocene Interaction: Provenance of Obsidian Artifacts from CA-ORA-64*

The Early and Middle Holocene were periods of transition in southern California resulting in the development of long distance interaction and exchange networks extending from the Channel Islands to the Great Basin. Using Time of Flight-Laser Ablation-Inductively Coupled Plasma-Mass Spectrometry (TOF-LA-ICP-MS) and X-ray fluorescence (XRF) spectrometry, we characterized over 700 obsidian artifacts and microdebitage from CA-ORA-64, a coastal shell midden site spanning the Early

Holocene to the Middle Holocene, in order to identify spatial and temporal patterns in obsidian procurement and distribution. The analysis integrated two analytical techniques to provide more insight into the development of prehistoric interaction networks.

George, Richard [250] *see* Gray, Jamie R.

Gerace, Donald (Gerace Research Centre, San Salvador, Bahamas) and John Winter (Molloy College)

[165] *Bahamian Clays and Their Processing into Palmetto Ware Ceramics*

Questions have been asked for many years concerning the clay resources in The Bahamas, given these islands are primarily calcium carbonate sediments. The origin of these clays and their local sources will be described. Experiments were done utilizing the available techniques and tools of the Lucayans to determine the possible ways the clays were cleaned, the temper processed, and the firing methods used to make Palmetto Ware ceramics.

Gerdau-Radonic, Karina (Bournemouth University) and Krzysztof Makowski (Pontificia Universidad Católica del Perú)

[156] *Taking the Dead. Skeletal insights from Tablada de Lurín, Peru*

Tablada de Lurín dates to the Early Intermediate Period. Its second funerary occupation displays both primary and secondary collective burials. Within, some individuals had had select body parts removed after skeletonisation, whilst others had been partially "added" to the chambers. By comparing the available archaeological evidence to other sites in the region, we attempt to explain this behavior within the context of Tablada. Is it evidence for ancestor worship? Trophy taking? Or are individuals in separate burial chambers being reunited for the afterlife? Finally, we also consider how the practice of taking and replacing body parts can be identified archaeologically.

Germonpre, Mietje [157] *see* Bazaliiskii, Vladimir I.

Gero, Joan [238] *see* Cook, Anita Gwynn

Geurds, Alexander (Leiden University - University of Colorado Boulder)

[122] *Object mobility and identities in prehistoric Nicaragua: On the appropriation of material culture*
Archaeological studies in Nicaragua have demonstrated that indigenous communities probably underwent several changes in relation to their numerous culturally distinct neighbors. This process of interaction likely restructured existing identities, but such social changes are processes archaeology has struggled to understand. Using aspects of practice theory, this paper examines how mobility of material culture played a role in forging ties and disjunctures between social groups in Pacific and Central Nicaragua. To learn how and why material culture was appropriated, I argue for a need to understand if and how detected changes in material culture are linked to transformations of cultural practices.

Ghazal, Royal (University of Chicago), Maureen Marshall (University of Chicago) and Olivia Munoz (Université de Paris 1 - Panthéon-Sorbonne/CNRS)

[59] *Mortuary Rites Beyond the Grave: Interpretive Challenges in Burials from Early Bronze Age Eastern Arabia and Late Bronze Age Armenia*

Burials with unusual funerary patterns, including secondary emplacement, collective interments, cremation, and dis-articulated remains, challenge the ways that archaeologists view and constitute relationships between the members of a society. They can disrupt the normal ways that we construct populations, estimate cemetery size, or disentangle individuals from groups. However, they also serve to remind us that rather than a temporally discreet event death is a protracted, evolving and dynamic social process, in which relationships between individuals and society are (re)constructed. This paper examines the interpretive challenges of some unique mortuary practices from two different Bronze Age cultures in Oman and Armenia.

Ghisleni, Lara (University of Wisconsin-Milwaukee)

[140] *Movements About the Landscape in Late Iron Age and Early Roman Dorset, South-west England*

Recent settlement and mortuary analysis of the Late Iron Age (c.100 BC—AD 43) and Early Roman period (c.AD 43—AD 150) in Dorset, south-west England, has suggested that the Roman arrival prompted changes in gender- and age-related roles and opportunities. Settlement plans and aerial photographs reveal a reorganization of farmsteads, ditch systems and other communication networks after the Roman conquest. This research, still in its preliminary stages, will investigate how within- and between-settlement mobility about the Dorset landscape as well as the temporal coordination of such movements could have constituted social persons on the basis of gender and age.

Giardina, Miguel [273] *see* Gil, Adolfo

Gibaja, Juan [135] *see* Marreiros, Joao F.

Gibbs, Tim (Museum of Northern Arizona)

[88] *Descriptive and Exploratory Spatial Analysis of Archaeological Site Distributions at Locations in Northern Arizona*

Land management agencies in Northern Arizona have created various relational databases to facilitate the management and protection of archaeological resources. Using quantitative analytical methods, statistical metrics can be gleaned from these sources to help support basic observations regarding the distribution of these resources and possibly identify other less obvious patterns in the data. This analysis will focus on the results of geospatial analysis and an evaluation of the underlying database with an eye towards aspects of the data structure that both facilitate and hinder the analytical process.

Giblin, Julia (The Ohio State University) and Hanneke Hoekman-Sites (The Florida State University)

[155] *Animal product use on the Great Hungarian Plain: A synthesis of isotope and residue analyses from the Neolithic and Copper Age*

The archaeological record of Eastern Hungary indicates that settlement patterns, subsistence strategies, ceramic style, trade patterns, and mortuary customs changed

from the Late Neolithic to the Copper Age (5,000 - 2,700 BC, calibrated). Despite a rich archaeological tradition, questions remain regarding the management and use of domesticated animals and the role animal husbandry played in social change during this transition. In this paper we synthesize isotope data from human and animal remains and residue analysis from pottery sherds from Neolithic and Copper Age assemblages to provide a holistic, integrated interpretation of animal use and culture change.

[155] *First Chair*

Gibson, Jon (Carved Trowel Archaeology Ltd)

[97] *Earth and Fire: Ceremonialism in the Lower Mississippi Valley*

Dancing, feasting, and mound building were core practices of many Lower Mississippi natives. Engagement stages and outcomes differed widely and historically, but earth and fire canon persisted through the ages from before Poverty Point to long after.

Gibson, Julie [86] *see Mainland, Ingrid L.*

Gibson, Rebecca (Brandeis University) and James M. VanderVeen (Indiana University South Bend)

[240] *Political Pins and Condom Tins: A Study in Sex and Power*

Certain classes of artifacts can be used to construe sexual relations, both political and physical. An excavation of a mixed commercial-residential site (ca. 1895 - 1914) yielded a wealth of such artifacts. Among the objects were jeweled pin reflecting the women's suffrage movement and small container that held prophylactics. Individually, the items provide a date to the site and a possible reconstruction of the social class of its inhabitants. Arguments over women's rights and the marketing of birth control provide a context for discussion of the important relationship between sex and power, a topic not often covered in historical archaeology.

Gidusko, Kevin [250] *see Wenzel, Jason B.*

Giesso, Martin (Northeastern Illinois University, Victor Durán (Universidad Nacional de Cuyo, C.O.N.I.C.E.T.), Valeria Cortegoso (Universidad Nacional de Cuyo, C.O.N.I.C.E.T.), Lorena Sanhueza (Universidad de Chile) and Michael Glascock (University of Missouri at Columbia, Research Reactor Center)

[153] *Crystal clear?: identifying changes in obsidian procurement from the Early to the Late Holocene on both sides of the temperate Andes*

Close to 1000 XRF (and some INAA) analysis from archaeological sites and obsidian sources/quarries allow mapping the distribution of obsidian circulation from main and secondary sources located between 33 and 37 degrees south. Temporal changes are analyzed to compare Early, Middle and Late Holocene patterns of circulation throughout the region. Data presented in this paper is related to a poster exhibited at the session "Obsidian Studies Across the Americas: Alaska to Patagonia and Beyond".

Giesso, Martin [112] *see Cortegoso, Valeria*

Gifford, Chad [52] *see Norman, Scotti M.*

Gifford, John (University of Miami), Steven Koski (University of Miami), Lee Newsom (Penn State University) and Lauren Milideo (Penn State University)

[41] *Excavations On The Little Salt Spring (8SO18) 27-Meter Ledge, 2008-2011*

Generalized 27-M Ledge Stratigraphy: Unit 1 Grey claystone breakdown from Ledge's back wall; Unit 2 Grey-brown clayey, organic-rich mud with small reptile skeletons; Unit 3b Blue-green claystone rubble; Unit 3a Clayey quartz sand containing charcoal, mammal bone, freshwater mussel shells, authigenic calcium carbonate 'florete' and wood fragments (some worked). Six ecofacts and one artifact have been dated from seven 1x1m test squares. C-14 ecofact dates range from 14,400 - 11,000 cal BP (from 2-sigma midpoints). The single incontrovertible artifact excavated from the Ledge (as of July 2011) is a 50-cm-long pointed wooden stake dating to about 10,800 cal BP.

Gifford, Matthew (University of West Florida)

[18] *The Use of Stone and Coral Ballast Aboard 16th-Century Spanish Ships*

This presentation will discuss what is known about the stone and coral ballast recovered from the 1559 shipwrecks (Emanuel Point I and II) associated with the Tristán de Luna colonial expedition. Previous studies of stone ballast collected from these ships have revealed possible connections to the Canary Islands and Spain. Expanding the search for potential sources into the Caribbean and to areas along common shipping lanes using both geologic analyses and historical documents has revealed more information about the practices surrounding ballast acquisition and treatment.

Gil, Adolfo (CONICET-Museo Historia Natural San Rafael/UNCuyo), Gustavo A. Neme (CONICET-Museo de Historia Natural de San Rafael), Carina Llano (Museo de Historia Natural de San Rafael/UNCuyo), Miguel Giardina (Museo de Historia Natural de San Rafael) and Andrew Ugan (Smithsonian Tropical Research Institute)

[273] *Human Intensification and desert variability in Central Western Argentina: Archaeological Trends*

Central western Argentina presents significant environmental variability that has been scantily considered in the explanation of human-environment interaction. Three different deserts (Monte, Patagonia and Altoandino) characterize the regional ecosystem. These deserts are spatially close but differ in precipitation and other climatic variables. Two ethnographic groups that differed significantly in subsistence inhabited the region historically and it was the prehistoric boundary between farming and foraging populations. This paper explores the subsistence and diet variability using archaeofaunal, archaeobotanical and stable isotope information from the last 5000 years.

Gil, Adolfo [273] *see Ugan, Andrew S.*

Gilbert, M Thomas P [145] *see Warinner, Christina*

Giles, Bretton (Colorado State University) and Timothy Knapp (Public Archaeology Facility at Binghamton University)

[40] *A Mississippian Mace at Iroquoia's Southern Door*

The recent discovery of a Mississippian chipped-stone mace by an amateur archaeologist surface collecting along the Susquehanna River near the New York-Pennsylvania border expands the northeastern distribution of this unusual artifact type. This crown-form mace is made of Dover or Ft. Payne chert that outcrops in western Tennessee. Iroquoian people may have acquired the mace via an economic transaction, warfare, or as a peace accord memorialization. We conclude that while the meanings it held for Iroquoian people were likely tied to how it was acquired; a shared emphasis on warfare may indicate that this mace maintained its 'bellicose' associations.

Gilheany, Emma [85] *see* Santiago, Emilio A.

Gill, Kristina (UC Santa Barbara)**[126] *The Diablo Valdez Site - Terrestrial Resource***

Exploitation Among Maritime Hunter-Gatherer-Fishers
The role of terrestrial resource exploitation among maritime hunter-gatherer-fishers has not been thoroughly investigated in the Santa Barbara Channel region. Santa Cruz Island, the largest and most terrestrially diverse of the Northern Islands with reliable sources of fresh water, was undoubtedly utilized for both marine and terrestrial resource exploitation. The Diablo Valdez site (SCRI-619/620) is an unusually large residential site located away from the coast, at an elevation of 1500 feet amsl. This site provides a new perspective on settlement and terrestrial resource exploitation on Santa Cruz Island with implications for the Channel region as a whole.

Gillespie, Susan (University of Florida)**[62] *The Architectural Unity and History of Complex A, La Venta, Mexico***

La Venta, a Formative period Olmec capital on Mexico's Gulf coast, is known primarily from excavations at Complex A, a grouping of platforms and plazas. The platforms and plazas have typically been treated as individual units based on the different artifacts buried within them. Computer-assisted reconstructions of Complex A reveal an unanticipated unity of its architectural forms and building materials throughout its history. The complex was constructed for rituals carried out just south of the northernmost mound (A-2), erected first. Understanding Complex A as a coherent architectural unity necessitates new interpretations of Olmec ceremonial spaces and practices.

[108] *Discussant [62] First Chair*

Gillespie, Thomas [169] *see* Younie, Angela M.

Gillette, Donna (University of California, Berkeley)**[101] *It's a Dirty Job but Someone Has to Do it: Dating the Soil***

A rock art site in Mendocino County, California presented the potential to try both proven and experimental methodologies to understand the temporal period for the marking of a boulder in the PCN (Pecked Curvilinear Nucleated) tradition. The potential existed for dating the soil deposited between a split in the boulder that bisected a previously marked element, to indicate the time of the split. By turning to three soil dating techniques to indicate a "latest date" for the markings, this unique opportunity provides insight into this Coastal Range Tradition present

at over 110 sites throughout California.

Gillis, Nichole (Public Archaeology Laboratory, Inc.) and Alan Leveillee (Public Archaeology Laboratory, Inc.)**[185] *The Late Archaic-Early Woodland Transition: Evidence from the Cedar Swamp Archaeological District in Westborough, Massachusetts***

The Cedar Swamp Archaeological District includes more than 30 pre-contact archaeological sites with occupations spanning the Middle Archaic onward. Recent data recovery excavations on the central island of the swamp revealed intensive occupations during the Late Archaic through the Early Woodland periods and document a shift from a hunting camp to a residential base camp. As the Early Woodland Period is generally under-represented and not well understood in New England, the recovered artifact and feature assemblages are significant sources of new information about changing settlement, subsistence, and technology during the Late Archaic-Early Woodland transition.

Gilman, Antonio (California State University) and Juan Vicent (Consejo Superior de Investigaciones Científicas (Madrid))**[265] *When was there primitive communism?***

Marxists have regarded ethnographically attested foraging societies as representatives of primitive communism. Most anthropologists have disagreed: forager social institutions suggest egalitarianism is contingent. Outsiders are excluded from risk pooling, and insiders may be if production security permits it, so communal institutions are subject to dissolution. The Upper Paleolithic falls within the modern range of forager production and social organization. In the Middle Paleolithic, however, there is little evidence of social differentiation within or between groups: limited foraging capabilities made exclusion of outsiders impossible: unconditional pooling of risks by relatively unequipped foragers would be the original locus of primitive communism.

Gilman, Patricia (University of Oklahoma) and Shelbie A. Bartlett (University of Oklahoma)**[140] *Periphery, Frontier, or Their Own Place: Large Classic Mimbres Sites beyond the Mimbres Valley Heartland***

Sites beyond the heartland of an area are stereotypically relatively small, occupied seasonally or intermittently, and serve a support function to sites in the heartland. We show that some Classic period (A.D. 1000-1130) puebloan sites beyond the Mimbres Valley heartland in southwestern New Mexico were as large as those in the valley. We examine the implications of these large sites for the identity of people living to the south and west of the Mimbres Valley, and we suggest that they had an identity that was both within but separate from the people in the valley.

Gilman, Patricia [116] *see* Livesay, Alison K.

Gilmore, Zackary (University of Florida)**[270] *Ceramic Petrography and the Question of Late Archaic Shell Ring Function***

The function(s) of Late Archaic shell rings in the southeastern U.S. has long been a subject of contentious

debate. Using new data from Florida, this paper argues that a combination of petrographic and geochemical methods can help address this issue by determining whether the rings' fiber-tempered ceramics are composed largely of local materials, as would be expected in a domestic "village" setting, or from various nonlocal materials, as would result from regional-scale gatherings. More generally, it contends that while geochemical techniques become more popular, traditional petrography remains vital to provenance research, especially in regions where geological diversity is relatively low.

Gilstrap, William (University of Sheffield), Clare T. Burke-Davies (University of Sheffield), Peter M. Day (University of Sheffield), Heather Graybehl (University of Sheffield) and Roberta Montesana (University of Sheffield)

[270] *The Developing role of Thin Section Petrography in Aegean Archaeological Ceramic Analysis.*

Recent ceramic research in the Aegean has laid major emphasis on the petrography of archaeological materials. Increasingly this is dovetailed with macroscopic fabric classification for questions of both technology and provenance. As petrographic studies become a routine part of ceramic study, notably in prehistoric sites, we examine developments in application of the technique, and its integration with chemical and micro-structural analysis. While petrography has much to offer in terms of the reconstruction of patterns of exchange, clay recipes and social approaches to technology, its increase in popularity raises questions of training priorities and the publication of resultant data.

Ginja, Catarina [157] *see Detry, Cleia*

Giovas, Christina [141] *see Clark, Meagan E.*

Giraldo, Santiago [99] *see Morgan, Jeff*

Girard, Jeffrey and Timothy Perttula (Archeological & Environmental Consultants, LLC)

[17] *The Origins of the Caddo Archaeological Area: Historic Contingencies and Taxonomic Differentiation*

In any consideration of the origins of the Caddo archaeological area of Southwest Arkansas, Northwest Louisiana, eastern Oklahoma, and East Texas, and the archaeological antecedents of the modern Caddo peoples, it is important that the "origins" of the Caddo archaeological concept be critically assessed.

Archaeologists use "Caddo" as a label for a geographic region, a set of archaeological traits, and a historic group of people. We review how the concept of a "Caddo Area" came into existence, was differentiated taxonomically, and given time depth, as a means to then clarify and refine how to approach the study of Caddo "origins."

Giron-Ábrego, Mario (CalState-LA)

[179] *Bliss in the Hands of an Ancient Maya Conjurer*

The figurative paintings of Naj Tunich suggest that ritual lies at the heart of their execution. Particularly interesting is Drawing 20, which portrays a nude male figure in three-quarter view crouching on the ground. The unkempt hairstyle, genital display, and oblique orientation of the individual signal his heightened emotional state. A partially preserved six-glyph text is conjoined to Drawing

20. The text is important given its generous size in relation to the figure. These cave paintings preserve fragments of ancient Maya ceremonial behavior that portray rare intimate aspects of cave ritual as was practiced over a thousand years ago.

Gisladdottir, Gudrun Alda [263] *see Woollett, Jim M.*

Gjesfjeld, Erik (University of Washington)

[204] *Social Networking in the Kuril Islands, Russian Far East*

This paper explores the adaptive role of social networks for hunter-gatherers inhabiting the remote and unpredictable environments of the Kuril Islands. Social networks are considered a key adaptation in this hazardous and insular environment for facilitating the flow of information and helping to mitigate uncertainty. In this research, estimation of prehistoric networks will be inferred from the distributions of geochemically sourced archaeological ceramics and evaluated using social network analysis. The primary goal of this research is to understand how hunter-gatherers adjust the structure of costly social networks according to the demands of different environments and risks.

Gjipali, Ilirjan [119] *see Allen, Susan E.*

Glantz, Michelle [202] *see Beeton, Tyler A. [38]* *see Horton, Katharine*

Glascok, Michael (University of Missouri) [153] *First Chair*

Glascok, Michael [254] *see Ambrose, Stanley H. [254]* *see Slater, Philip [153]* *see Giesso, Martin*

Glascok, Michael D [112] *see Cortegoso, Valeria*

Glascok, Michael D. [68] *see Venter, Marcie L. [112]* *see Pintar, Elizabeth L. [64]* *see Frashuer, Anya C.*

Glascok, Michael [127] *see Malyk-Selivanova, Natalia*

Glassow, Michael (Univ of Cal-Santa Barbara), Jon Erlandson (University of Oregon) and Todd Braje (San Diego State University)

[164] *Getting to the Point: Using Museum Collections to Develop a Typology of Channel Islands Barbed Points*

Channel Islands Barbed points in museum collections resulted from casual collecting during the early 20th Century on the northern Channel Islands of the Santa Barbara Channel. Within the last 15 years, these have been found at sites on the northern Channel Islands of California, and associated radiocarbon dates indicate an age between ~12,000 and ~8000 BP. Combining the points from recent fieldwork with those in several museum collections produces numbers sufficient for recognizing typological differences. Even without site-specific provenience, the points in museum collections have value in contemporary research.

[74] *Discussant*

Glencross, Bonnie

[94] *Contemporary Analyses of Skeletal Injury in Commingled Remains*

During the Woodland Period in Ontario, mortuary practices of indigenous groups evolved into complex social and ideologically driven forms of multiple burials in which individual remains were often intentionally commingled. As a result osteological research is largely driven by population analyses of individual elements. Under this regime significant contributions have been made to our understanding of demography, diet and health status. However, attention is now focused on understanding the social aspects of the human body. This paper examines the role of skeletal injury in the construction of a more nuanced understanding of sociality and the life course.

Gloux, Sabrina (ArchaeoTek), Ellen Green (University of Durham (England)) and Sally McGrath (University of New Brunswick (Canada))

[155] *Were the LBA (Transylvania, Romania) Noua people riding horses? New evidence on a long wrongfully ascertained behaviour*

Using skeletal remains from known LBA Noua cemetery (Transylvania, Romania), we are evaluating the degree to which this specific population engaged in regular equestrian activities. Pathological and biomechanical indicators seem to show that habitual riding was not practiced by the individuals in this sample. Thus we propose that these individuals were not riding horses. First, the horse remains are too scarce to make any inferences on a horseback riding habit. Second, the mountainous landscape made it difficult for horses carrying individuals or loads. And finally, the biomechanical markers are more suggestive of a mountain hiking population.

Glover, Jeffrey (Georgia State University) and Dominique Rissolo (Waitt Institute)

[227] *Introduction to the Proyecto Costa Escondida and the 2011 Field Season at Vista Alegre*

The Proyecto Costa Escondida was formed in 2006 to explore the ways in which the ancient Maya interacted with, and transformed, the complex coastal environments of Laguna Holbox as well as the role played by the coast's inhabitants in the social and economic systems of the northern Maya lowlands. Our studies have focused on Vista Alegre and have documented the ebb and flow of populations at the site from the Middle Preclassic period (800/700 BC) to the time of Spanish Contact. Our overview positions the subsequent presentations as part of the larger project and its goals.

[227] *First Chair*

Glover, Jeffrey [227] *see Goodman Tchernov, Beverly N.*

Glover, Samantha

[248] *Energetic Efficiency and Cooked Foods: Seed Consumption and Pottery Use in the Owens Valley*

The prehistoric peoples of the Owens Valley in southeastern California relied on indigenous plants as an important part of their overall diet. Sites dating to the Marana Period (700 BP to historic times) show a significant increase in material remains of seeds (e.g., *Oryzopsis*, *Elymus condensatus*, *Asclepias speciosa*, and *Eragrostis secundiflora*), pottery and millstone technologies. This poster reports on an analysis of the caloric benefits of cooked versus raw seeds in order to

understand the dramatic increase in the use of pottery and seeds during the Marana period in the Owens Valley.

Glowacki, Donna [216] *see Steier, Andrew [216]* *see Ferguson, Jeffrey R.*

Glowacki, Donna M. [272] *see Varien, Mark D*

Gluhak, Tatjana and Danny Rosenberg (University of Haifa)

[63] *Provenance determinations of prehistoric basalt ground stone tools in the southern Levant: A geochemical-mineralogical perspective and a case study from Giv'at Kipod, Israel*

The paper presents the first results of an ongoing project focusing on establishing a geochemical-mineralogical database for basalt outcrops in the southern Levant, aiming to test compatibility between basalt tools found in archaeological sites and their potential sources. We discuss the procedures we use to distinguish different basalt outcrops and the development of the provenance determination for basalt tools. As a case study we offer preliminary results from our study of Neolithic basalt bifacial tools from Israel and their compatibility with their potential source at the quarry and production site of Giv'at Kipod (Israel).

Gluhak, Tatjana, M. [63] *see Rosenberg, Danny*

Gnivecki, Perry

[165] *Early Lucayan Spatial Organization: Comparative Perspectives from Two Sites on San Salvador, Bahamas*
Extensive excavations and testing at dune 2, Pigeon Creek site (SS-1), an Early Lucayan site located at the head of the Pigeon Creek estuary on the windward side of San Salvador, has revealed artifact clusters, a hearth, and postholes. These findings are compared to the spatial organization of the Three Dog site (SS-21), another Early Lucayan occupation located on the island's leeward coast at the mouth of an extinct tidal creek. The differences in spatial organization between the two sites is discussed and an emerging picture of Early Lucayan household and activity area organization will be presented.

[224] *First Chair*

Goble, Ron [110] *see Napier, Tiffany*

Goddard, Eric [196] *see Mickelson, Andrew M.*

Goebel, Ted (Texas A&M University) and Kelly Graf (Texas A&M University)

[20] *Chronological Hygiene and the Peopling of Beringia*

Of Vance Haynes and George Frison's many contributions to American archaeology, near the top of the list has been their effort to develop precise chronologies documenting early human dispersals and the evolution of Paleoindian cultures. By scrutinizing contexts and associations, ranking sample materials, and applying the most effective pretreatment and counting methods, they demonstrated the need for chronological hygiene when dating early human events. In this paper we review our own recent dating experiences in northeast Asia and Alaska, applying the Haynes-Frison standards to construct an "annotated" archaeological

chronology for the terminal Pleistocene-early Holocene of the region.

[158] *Discussant*

Goebel, Ted [180] *see Graf, Kelly E.*

Gojak, Denis (University of Sydney)

[56] *Reacting to pseudoarchaeology in real time - the Central Australian Face*

On 18 February 2010 an email sent to 120 archaeologists and media outlets worldwide announced an amazing archaeological discovery in central Australia. The claim was the usual pseudoarchaeological misinterpretation, but a structured survey of recipients charted how individual archaeologists responded to the claim and how they should meet the challenge of alternative views. The survey shows that there is no consistency in how the profession understands pseudoarchaeology, leading to inappropriate and ineffective responses. Most importantly it shows an academic retreat from advocacy on behalf of the broader profession and an unwillingness to actively engage with pseudoscience.

Gokee, Cameron (University of Michigan)

[92] *Assembling the Local: Materiality and Community along the Falémé River, Senegal*

The concept of periphery provides an invaluable frame for the study of past political economies and their landscapes, in part by distinguishing between the local and global. This paper adopts an alternative, yet complementary, perspective to explore how village communities in the Upper Senegal region of West Africa assembled themselves through material associations with other localities both near and far. More specifically, this paper considers how practices of trade and exchange, craft production, and household architecture can trace associations within and beyond the village-based societies that occupied the Falémé River basin of eastern Senegal over the past two millennia.

Goldberg, Paul (Boston University), Dennis Sandgathe (Simon Fraser University), Harold Dibble (University of Pennsylvania) and Shannon McPherron (Max Planck Institute for Evolutionary Anthropology)

[274] *Geoarchaeological Perspectives on the Purported Roc de Marsal Neandertal Child Burial*

Over the last two decades, Neandertal mortuary behavior has been a subject of much debate. At issue is the nature of the data that allow us to conclude whether a hominin skeleton accumulated by intentional human activity or by natural processes. Here we focus on the geoarchaeological aspects associated with the Neandertal child from Roc de Marsal discovered in the early 1960s. We show that the skeleton lay in a natural cavity and was encased in a succession of sedimentary units similar to those elsewhere in the site, indicating that it is not an intentional burial.

Goldberg, Paul [93] *see Miller, Christopher E. [117]* *see Aldeias, Vera I.d.*

Golden, Charles (Brandeis University) and Andrew Scherer (Brown University)
[237] *Power at the Limits of Authority: An Introduction*

This paper presents an overview of archaeological research concerning nodes of power and authority at the edges of complex polities. Archaeologists worldwide have begun to focus more critically on borderlands and frontiers, and how such landscapes are incorporated into the larger body politic. But cross-cultural comparisons are challenging and there is little consensus about theoretical approaches. This introduction suggests ways in which the temporal, spatial, and cultural diversity of research represented in the conference session may contribute to more coherent and consistent approaches to understanding political borderlands, better contributing to a wider discussion within archaeology and across disciplines.

[237] *Second Chair*

Golden, Charles [166] *see Sharpe, Ashley E. [19]* *see Davenport, Bryce A. [237]* *see Scherer, Andrew*

Goldstein, David (National Park Service)

[238] *Managed Landscapes and the Development of Early Agriculture in Andean South America*

At the beginning of the 20th Century Julio C. Tello proposed the existence of an interaction corridor between Lowland South America and the Western Coastal areas. Recent archaeological work, when taken together with the past 120 years of coastal research, demonstrates the importance of agroforestry and long-lived perennial species in the development of complex societies. Hastorf has proposed a model for the cultural implications of past and present data based on these archaeobotanical remains. This presentation develops further the cultural model, to consider heredity, landscape intensification, and resilience as important aspects of ancient Andean coastal agriculture.

[238] *First Chair*

Goldstein, Paul (UC San Diego) [104] *Discussant*

Goldstein, Paul [84] *see Fortin, Louis W.*

Goldstein, Steven (Washington University in St. Louis)

[254] *Integrating Lithic Economy and Pastoral Strategy in the Neolithic of South-western Kenya*

Mobile ways of life have shaped early food production in East Africa since the appearance of pastoralism in the region 4000 years ago. Despite this, lithic approaches employed to study mobility elsewhere have not been applied in East Africa. Here I employ such methods using core reduction and tool curation strategies as indicators of variation in mobility for several pastoral sites from south-western Kenya. Analysis of these assemblages indicates lithic technological variability is partially correlative to local ecological conditions and raw material availability. This begins to build a model for how pastoral economies were structured on the landscape.

Golitko, Mark (Field Museum of Natural History), Hattula Moholy-Nagy (The Penn Museum, University of Pennsylvania), James Meierhoff (University of Illinois at Chicago) and Caleb Kestle (University of Illinois at Chicago)

[153] *Technological, Chronological, and Social Dimensions of Obsidian Acquisition at Tikal, Guatemala*
We report and discuss source attributions for more than

two thousand obsidian artifacts recovered from the ancient Maya center of Tikal, Guatemala using portable X-ray Fluorescence Spectrometry. Along with 55 artifacts previously analyzed by other methods, we use this large dataset spanning the Preclassic to Terminal Classic periods, and sampled from diverse site contexts, to discuss chronological change in technology, source representation, and distribution by social and site context, and to present new insights into procurement and usage of obsidian at Tikal.

Goman, Michelle [167] *see* Joyce, Arthur A.

Gómez, Osvaldo [242] *see* Werness-Rude, Maline D.

Gomez Choque, D. Enmanuel [29] *see* Kurin, Danielle S.

Gomez Martinez, Leydi [58] *see* Gallegos Gomora, Miriam Judith

Gomez-Mazzocco, Jeaneth [254] *see* Wright, David K.

Goncalves, Celia (Universidade do Algarve - Portugal), Joao Cascalheira (Universidade do Algarve) and Nuno Bicho (Universidade do Algarve) [36] *Visibility studies on the Mesolithic of Muge valley (central Portugal)*

Recent studies on the Mesolithic shellmiddens of the Muge valley (central Portugal) indicate that these sites must have had, by their size and structural complexity, a major impact on the landscape, as a consequence of a new level of spatial cognitive perception. This perception seems to be well mirrored on site location patterns, with the distance between sites not resulting from physical landscape characteristics but from a clear anthropogenic decision. This paper focuses on the use of geospatial techniques to analyze visibility as a determinant of Mesolithic settlement patterns in the Muge valley.

Goni, Rafael (Instituto Nacional de Antropología/UBA/UNICEN) and Juan Bautista Belardi (CONICET/UNPA)

[132] *Long Term Cultural Processes in Southern Patagonia: Rock Art Distributions and Hunter-Gatherer Mobility Strategies*

From the onset of Processual Archaeology a usual critique was related to its homeostatic view on social systems. However, this was unfair (or a mistake) given that the focus of this theoretical perspective was on behavioural/archaeological variability. A Patagonian case study is introduced showing the relationship between bottom valleys and plateaus considering rock art distributions as well as technological and faunal data. The archaeological record variability in a regional and a broader temporal scale allow us to model an explanation considering the Holocene climatic changes, ecological/geomorphologic landscape characteristics, seasonality and hunter gatherer mobility strategies.

Gonlin, Nan (Bellevue College) [131] *Discussant*

Gonlin, Nan [102] *see* Whittington, Stephen L.

Gonzalez, Albert (Columbia University)

[188] *Botánicas, Bodegas, and Peluquerías: Latina/o*

Culture and Consumption in Contemporary South Florida Florida has drawn Latin-American migrants and refugees for over a century. Its large and diverse Latina/o population is especially dense along the state's southeastern coastline. While the history and material culture of its indigenous and colonial pasts have been explored by archaeologists and other scholars, that of South Florida's Latina/o population has received little attention. I address that situation by analyzing materials found within several classes of Latina/o commercial institutions, including botánicas, bodegas, and peluquerías. I analyze those materials through a framework derived from Actor Network Theory, considering objects, people, and animals as nodes in a network of defining relationships.

[188] *First Chair*

Gonzalez, Albert [188] *see* Heupel, Katherine E.

Gonzalez, Jason (SIU Carbondale)

[236] *Late Classic La Milpa: Polygons, Centers, and Regional Importance*

We often assume La Milpa to be the center of cultural region that call the Three Rivers Region of northwestern Belize. Norman Hammond (1974), many years ago, talked about the distribution of Late Classic Maya centers and used Thiessen polygons as a heuristic device to explain a center's influence and extent. The question is, is La Milpa one of those polygon centers? If so, what kind of center is it and what do we know about its political and cultural roles? Are the Thiessen polygons still useful for understanding centers and regions?

Gonzalez, Sara (Vassar College) [31] *Discussant* **[31]** *Second Organizer*

González, Mariela (INCUAPA-Facultad de Ciencias Sociales (UNCPBA)), Pablo Messineo (CONICET-INCUAPA, Facultad de Ciencias Sociales (UNCPBA)), Gustavo Politis (CONICET-INCUAPA, Facultad de Ciencias Sociales (UNCPBA)), María Clara Álvarez (CONICET-INCUAPA, Facultad de Ciencias Sociales (UNCPBA)) and Cristian Favier-Dubois (CONICET-INCUAPA, Facultad de Ciencias Sociales (UNCPBA))

[8] *Early Holocene Human Burials at Laguna de los Pampas (Pampean región, Argentina)*

Results of the archaeological research in Laguna de los Pampas site (central pampean region) are summarized. Abundant surface archaeological material was recovered from the margins of the lake. Preliminary analysis suggests multiple diachronic human occupations during the Holocene. Significant findings include a primary burial of an adult dated to 8,971 14C years BP and the re-deposited human remains of a juvenile dated to 8,835 14C years BP. Both individuals are among the oldest in the pampean region. In another sector, Lama guanicoe bones, representing different stages of bone technology were registered and dated in 5,684 14C years BP.

Gonzalez Morales, Manuel R. [202] *see* Fontes, Lisa M.

Gonzalez-Tennant, Edward (Monmouth University)

[24] *Dark Tourism, Social Justice Education, and Virtual Archaeology*

The virtual representation of sites commemorating death

and suffering is increasingly seen as an important educational strategy by social activists. While the use of virtual world environments (VWE) is growing in archaeology, its application within historical archaeology as a venue of political engagement remains rare. This paper presents the findings of a multiyear project exploring the use of VWE, digital storytelling, and netnography. The author's experience with these emerging technologies demonstrates the need to employ a mixed methods approach in order to realize the full potential of adapting new media methods to public archaeology as social justice education.

Goodale, Nathan (Hamilton College) and Alissa Nauman (Hamilton College)

[110] *Radiocarbon dating the Slocan Narrows Pithouse Village*

The Slocan Narrows Pithouse Village in the Upper Columbia Drainage of the Interior Pacific Northwest is comprised of 35 houses some with multiple occupations. Through three years of excavation, 14C samples were recovered from all houses and all apparent occupations providing a complete picture of village aggregation and dissolution through time. Evidence suggests that the village was first established between ca. 3,000 and 2,600 cal BP. Sporadic small occupations characterize the following two millennia until ca 1,200 cal BP when the village again hosted a large population. Regionally, the village mimics the 14C trends of the Upper Columbia

Goodale, Nathan [272] see Arakawa, Fumiyasu **[244]** see Gunter, Madeleine **[114]** see Prescott, Catherine **[110]** see Nauman, Alissa L.

Goodby, Robert (Franklin Pierce University)

[268] *The Tenant Swamp Site (27CH187), Keene, New Hampshire*

Four well-defined oval artifact concentrations representing house floors from the Middle Paleoindian period, c. 11,600-12,200 B.P., were excavated at the Tenant Swamp site. Faunal remains included cervids (likely caribou), and use-wear analysis indicated hide-working was the predominant activity. Lithic assemblages were dominated by processing tools, including scrapers, graters, and pieces esquilles, with very few bifacial tools and little evidence for stone tool manufacture. The Tenant Swamp loci are strongly similar to loci from the Bull Brook site associated with women's activities, an observation with important implications for understanding of social organization and gender in Paleoindian society.

Goodman Tchernov, Beverly, Roi Hijel (University of Haifa), Patricia Beddows, Dominique Rissolo and Jeff rey Glover

[227] *Coring for Harbor Sediments at Vista Alegre*

Worldwide, coastal peoples are known to optimize the use of natural features such as bays and embayments for safely mooring, onloading and offloading merchandise and goods; activities which can leave distinctive markers in the sediment. However, because the coastal environment is a highly dynamic zone, its ancient and modern appearance can vary significantly, masking harbor features. At Vista Alegre, analysis of a series of cores using multi-proxy sedimentological analysis aims to both determine the location and appearance of the ancient coastline and identify harboring zones

contemporaneous with its Terminal Classic (AD 850/900 – 1100) occupation.

Goodman-Elgar, Melissa (Washington State University) and Nichole Bettencourt (Washington State University)

[37] *What can WDXRF and pXRF contribute to studies of cultural sediments? An Andean case study*

This study examined X-ray Fluorescence (XRF) applications to earthen construction materials from Lake Titicaca, Bolivia, testing both archaeological and contemporary materials. Archaeological samples came from Formative architecture at two sites (Kala Uyuni, Chiripa) and encompassed mudbricks, flooring, plaster and mortar (N=52). Ethnoarchaeological mudbricks (N=9) made adjacent to archaeological sites were assayed for internal variation within mudbricks. We employed wavelength-dispersive XRF (WDXRF) to determine 29 major and minor elements on all samples; testing the variability between sites and by feature type. We also performed parallel determinations on a Bruker handheld machine for 13 elements to assess pXRF applications to these materials.

[37] *First Chair*

Goodmaster, Christopher (Geo-Marine, Inc.), Erin King (Geo-Marine, Inc.) and Mark Willis (Mark Willis Archaeological Consulting)

[101] *The Panther Cave Three-Dimensional Digital Documentation Project*

During the course of this project, the detailed rock art recording methods developed by the SHUMLA School were augmented and enhanced by the addition of advanced geospatial data recording techniques. Three-dimensional laser scanning (LiDAR) and high resolution digital photogrammetric techniques were integrated to record a highly accurate digital model of the rockshelter and its immediate environment. The resultant digital models provide not only a detailed recording of Panther Cave, but will also serve as a basis for the spatial analysis of the site and its associated rock art.

Gopnik, Hilary (Emory University)

[130] *Empire on edge or on the edge of empire? The unfinished building of Oqlanqala Period III*

Sometime between 400 and 200 BCE, somebody razed the ruins that stood on the hill of Oqlanqala in Naxçivan, Azerbaijan. They then dragged huge limestone blocks from a distant quarry to the top of the hill, and began to carve them into column bases and drums. But before the columns were raised the site was abandoned.

Radiocarbon dating shows that this aborted display of power happened either just before or shortly after the fall of the Achaemenid Empire to Alexander the Great. This paper will explore the potential implications of both scenarios for the socio-political history of this region.

Goralski, Craig (Cypress College), Alexis Gray, David Van Norman and Rebecca Castillo

[14] *Digging for Doe: Forensic Archaeology in San Bernardino County Cemetery Contexts*

In 2007, the authors, their students, and volunteers began a project to recover previously interred individuals for the purpose of DNA extraction and identification. This project, began as a response to an unfunded mandate from the state of California, has resulted in a total of 78

exhumations to date. This paper summarizes the archaeological methods employed by the project and some of the project's results. The constraints on excavation methodology for this project are explored and attempts to mitigate the impacts of these constraints are discussed. The challenges of working with volunteers and students in a forensic setting are summarized and the future of the project is discussed.

Goralski, Craig [14] *see Gray, Alexis A.*

Gordaoff, Roberta (University of Alaska Anchorage) [27] *A Comparison of Lithic Tools from Upland Houses and Coastal Sites on Adak Island, the Aleutian Islands, Alaska*

Results of published analyses of lithic tools from three coastal sites from North Adak by Elizabeth Wilmerding and Virginia Hatfield on Adak Island in the Central Aleutian Islands of Alaska, are compared to the tools from three upland sites. The purpose of the analysis is to determine if similar activities were taking place at the upland sites and the coastal sites using tool types and materials used at these sites. A preliminary examination indicates that the stone tools at the upland sites are similar to the coastal sites with the obvious absence of fishing equipment.

Gore, Angela (CSFA Texas A&M) and Kelly Graf (Center for the Study of the First Americans, Texas A&M)

[169] *Technological Activities at the Owl Ridge Site* Owl Ridge is a multicomponent site located along the Teklanika River in the northern foothills of the Alaska Range. The site contains three cultural components, dating to about 13,000, 12,000, and 5000 cal BP, respectively. We have analyzed the lithic artifact assemblages from all three cultural components to assess technological activities for each, including raw material procurement and selection, primary reduction, and secondary reduction. Our study indicates that during each occupation the site was being used differently. In this poster we present our results and discuss implications of our findings.

Gore, Angela [180] *see Graf, Kelly E.*

Gorogianni, Eugenia (University of Akron), Jill Hilditch (Amsterdam Archaeological Centre) and Natalie Abell (University of Cincinnati)

[155] *Learning curve or choice? The introduction of the fast potter's wheel at Ayia Irini Kea Greece* The present paper examines processes of cultural and technological transmission by focusing on the effects of the introduction of the fast potter's wheel. Because distinct production choices are tied to both micro- and macro-scale processes that drive material culture change, a study of such choices provides insight into processes of acculturation, technological transmission, and the local social dynamics. Our test case is drawn from the Middle and Late Bronze Age Aegean (ca. 1900-1400 BCE) and one of the most important trade hubs in the region, Ayia Irini on Kea. Our investigation challenges accepted wisdom and deconstructs the 'Minoanization' phenomenon.

Gorrie, Bryan (Cal State Fullerton), Alan Garfinkel

(AECOM), Alexander Rogers (Marurango Museum), Tim Carpenter (ArchaeoMetrics Inc.) and Craig Skinner (Northwest Obsidian Studies Laboratory) [100] *Dating and Tracing of Paleoindian Points from the Borden Site: Implications for the Timing and Character of the Peopling of California and the Great Basin* Obsidian hydration analysis of fourteen concave base points, nine of which are fluted, were collected in 1971 from the Borden Site, Rose Valley, near Coso Junction in Inyo County. All points were geochemically characterized by nondestructive X-ray fluorescence provenance analysis and obsidian hydration rim measurements were obtained. Modern temperature-dependent, source-specific hydration dating suggests a mean age for this assemblage of $12,643 \pm 1,000$ calibrated years before 2000. These data are discussed with respect to our understanding of the age and types of early Paleoindian points in California and the western Great Basin.

Götz, Christopher (Facultad de Ciencias Antropológicas, UADY) and Ricardo Zapata Escamilla (Universidad Autónoma de Yucatán)

[227] *Fauna vertebrada de Vista Alegre* En esta ponencia presentaremos los resultados preliminares del análisis zooarqueológico de la fauna vertebrada de Vista Alegre. Los restos arqueofaunísticos fueron estudiados usando métodos zooarqueológicos estándares. Se pudieron obtener datos importantes, no solamente en relación a la situación arqueoambiental del sitio y de sus alrededores, así como respecto a los modos de obtención seguidos por los antiguos pobladores prehispánicos, sino también relativo a la tafonomía y formación de los contextos arqueozoológicos. Para revelar patrones de subsistencia costeros de las tierras bajas del norte, procederemos a cotejar la muestra de Vista Alegre con sitios vecinos de situaciones semejantes, tanto contemporáneos (Isla Cerritos), como más tempranos (Xcambó).

Graber, Yann [235] *see Martínez, Valentina L.*

Graf, Kelly (Texas A&M University), Nancy Bigelow (Alaska Quaternary Center, University of Alaska Fairbanks), Ted Goebel (Texas A&M University), Angela Gore (Texas A&M University) and Angela Younie (Texas A&M University)

[180] *Dry Creek Site Revisited, Examining the Type-Site for Separation of Nenana and Denali Complexes* Dry Creek, located in the Nenana valley of central Alaska, is arguably one of the most important archaeological sites in Beringia. Original work illustrated the presence of two separate cultural layers and established that the site was visited by Upper Paleolithic hunter-gatherers at 13,000 cal BP and later at 12,000 cal BP. Several researchers have questioned the geoarchaeological integrity of the site's early deposits, suggesting separation of cultural layers resulted from postdepositional processes. Last summer we revisited Dry Creek to undertake a comprehensive study of dating and site formation. In this paper we present our findings and reaffirm original interpretations.

Graf, Kelly [20] *see Goebel, Ted [169]* *see Gore, Angela K.*

Graham, Elizabeth (Institute of Archaeology)

[236] *Eating Albert -- Or Maybe Not*

Participating in the Corozal Project kick-started my interest in the Maya and my lifelong attachment to Belize. I'll take this opportunity to re-assess some of the results from Nohmul in light of recent work on the Maya. I will also examine what we can now say about trade and exchange from a Belize perspective, because this has always been one of Norman's interests. As for Albert, he can wait until Memphis.

Graham, Elizabeth [61] *see Simmons, Scott E.*

Graham, Martha (SRI Foundation) and Matthew Schmader (City of Albuquerque - Open Space)

[132] *Ethnoarchaeological Observation and Archaeological Patterning: A Processual Approach*
Ethnoarchaeology is one of the lasting contributions elaborated by Lewis Binford as a mainstay of processual archaeology. Observations about the organization and use of space are used as one method to investigate material patterns found in archaeological record. Ethnoarchaeological research by Graham (1989) among the Rarámuri of northern Mexico resulted in models of residential site structure that operate at several spatial and organizational scales. Excavations of pithouse villages in central New Mexico by Schmader (1994) applied Graham's models to explain patterning of floor assemblages. A critique of the potential and applicability of connecting ethnoarchaeological observations with archaeological patterns is offered.

Graham, Philip (University of Connecticut)**[63] *Archaeobotanical Remains from Ubaid Period Kenan Tepe, Southeastern Turkey***

This paper discusses 302 archaeobotanical samples taken from in and around a burnt Ubaid house structure from the site of Kenan Tepe in Southeastern Turkey. The samples derive from multiple contexts including floors, collapse debris, and hearths. The large number of well preserved samples allows for a comprehensive analysis of the comestibles grown at the site as well as the location of various activity areas associated with plant processing and their relationship to the house. These botanical remains provide information on household economy, agriculture, and animal foddering, greatly augmenting our understanding of agricultural and subsistence practices during the Ubaid.

Graham, Russell [38] *see Milideo, Lauren*

Gramly, Richard (American Society for Amateur Archaeology) and David Walley (self-employed)**[127] *Ft. Payne Chert: Infrared Laser Spectroscopy (ILS) Dating of Palaeo-American Artifacts and Trace Elemental Characterization***

Using an infrared laser in conjunction with X-ray fluorescence it is possible to 1) date relatively and 2) characterize ancient flaked stone artifacts of Ft. Payne chert. We will discuss hypothesized chemical and physical changes at the exterior skin of artifacts -- changes that can be regarded as outcomes of weathering. By understanding the process of weathering, we are able to authenticate artifacts and to sort them according to age. Such capability is invaluable when dealing with artifacts found at the surface or from secondary contexts.

Grant, Christopher (University of Chicago)**[13] *Divine Roots: The Origins and Growth of Creole Religion and Ritual Practice***

New Orleans is host to a rich and dynamic religious experience -- one that unmask the city's tangled history of colonization and migration. While the city's syncretic religious traditions have never failed to excite popular and intellectual imaginations, there has been less attention to everyday ritual in New Orleans. St. Anthony's Garden, a site of public religious significance, reveals how folk rituals -- particularly those associated with Catholicism -- have been constitutive of religious life for the past three centuries. This paper presents material practices at French Quarter sites to examine the development of Creole religion in the "Hoodoo Capital of America."

Grant, Sarah (McMaster University), James Stemp (Keene State College), Gyles Iannone (Trent University) and Tristan Carter (McMaster University)**[153] *The politics of consumption: Contextualizing obsidian sourcing data from the Maya site of Minanha, West Central Belize***

This paper details the first obsidian sourcing study from the Maya site of Minanha, West Central Belize. It investigates the sources represented and their modes of consumption both diachronically (Early -- Terminal Classic) and synchronically, considering potential differences between royal, 'commoner', administrative and ritual contexts. EDXRF analysis of 50% of the assemblage (n=522) has demonstrated the long term -- but fluctuating -- reliance on Guatemalan sources, primarily El Chayal, followed by Ixtepeque and San Martin Jilotepeque. While broadly similar to nearby contemporary sites, the data displays site-specific and contextual distinctions that arguably pertain to local political traditions and spheres of influence.

Gravalos, Marie (DePaul**University) and Rebecca Bria (Vanderbilt University)****[8] *A Study of Textile Technology from Middle Horizon Tombs of the Callejon de Huaylas Valley, Peru***

The pristine preservation of perishable materials on the arid Peruvian coast has led to an abundance of knowledge on ancient Andean textiles. Due to its moist environment, comparatively fewer samples from the highlands have contributed to our understanding of ancient textile production. Recent excavation in the highlands at Hualcayan in the Callejon de Huaylas has revealed surprisingly well-preserved textiles and cordage from two partially looted Middle Horizon (AD 600-1000) machay tombs. Through preliminary analysis of weaving technology, style and iconography, we can approach a better understanding of craft production and mortuary ritual in this region during the Middle Horizon.

Gravel Miguel, Claudine [103] *see Bergin, Sean M.*

Graves, William (Statistical Research, Inc.) [25]
Second Chair [25] Second Organizer

Graves, William [25] *see Douglass, John G.*

Gray, Alexis (San Bernardino Cty Sheriff's Dept., Coroner's Div.), Craig Goralski (Cypress College),

David Van Norman (San Bernardino County Sheriff's Dept, Coroner's Division) and Rebecca Castillo (San Bernardino County Sheriff's Dept, Coroner's Division)

[14] *The Doe's in the Details: Forensic Anthropological Recovery in Cemetery Excavation for DNA Sampling*
From 2007-2011, a project to recover DNA from interred unidentified individuals was undertaken in San Bernardino County, California. 78 individuals were recovered during this period. This recovery effort was in response to a State mandate requiring the sampling of DNA material from all unidentified persons with an unspecified date range. The dates of the interment of the individuals recovered in this project ranged from 1927-2000. This paper covers the anthropological techniques used for graveside identification, the logistical problems of such an effort including the use of students in a quasi-forensic setting, as well as proper handling of remains and the most successful samples to select for DNA submission. Additionally, recommendations for working successfully with law enforcement will be covered in this paper.

Gray, Alexis [14] see *Goralski, Craig T.*

Gray, D. (University of Chicago)

[267] *A Manger in a Sea of Mud: Subjectivity and Space in Everyday Life at the Temple of the Innocent Blood, New Orleans, Louisiana*

Around 1926, African-American Spiritual church leader Mother Catherine Seal founded her "Temple of the Innocent Blood" in the Lower Ninth Ward neighborhood of New Orleans, Louisiana. By World War II, it was abandoned. The Church, and the small community associated with it, located on what was then the swampy outskirts of the city, represents an auto-constructed space that defied the norms of Jim Crow segregation and white supremacy. The material record of the compound suggests a social life and a set of daily practices that offered alternatives to these ideologies, even as it also illustrates the difficulties in identifying such social forms in an era of increasingly mass-produced consumer culture.

Gray, Jamie (California State University, Fullerton), Brenda Bowser (California State University, Fullerton), Holly Eeg (California State University, Fullerton) and Richard George (California State University, Fullerton)

[250] *Archaeology Day at the Arboretum*

Archaeology Day at the Arboretum is a public event designed at CSUF to engage children in the science of archaeology through hands-on activities. The central themes are sustainability and native uses of environmental resources, past and present. This poster outlines Archaeology Day's development, goals, and activities. Inspired by the SAA Public Education Committee's Archaeology Land, activities involve a full-scale "archaeological" site, XRF-analysis of obsidian, Native American games, making stone tools, cooking acorns, and creating rock art. Learning outcomes integrate SAA Principles of Archaeological Ethics, California state standards for K-12 education, undergraduate and graduate research, service learning, and freshman programs.

Graybehl, Heather [270] see *Gilstrap, William*

Greaves, Russell (Peabody Museum, Harvard)

[89] *Shooting at a bigger target: expanding ethnoarchaeology to broadly defined problems beyond simple analogy.*

Ethnoarchaeology is dominated by the use of direct analogy, although most traditional peoples currently use a mix of modern technologies and those more similar to archaeological examples. Creative research addresses reliance on recently introduced tools, sophisticated connections to the global economy, and adoption newer technologies under modern conditions. The transition to bow and arrow technology can productively be studied across a range of ethnoarchaeological settings that include environmental transitions, market effects, differential influences of metal tools, demographic shifts, and changes in social organization. These opportunities extend the reach of analogies and explicitly develop new investigative and analytic methods.

[89] *Second Chair*

Green, Ellen [155] see *Gloux, Sabrina*

Green, Thomas and John Riggs (Natural Resource Conservation Service)

[252] *The Carden Bottoms Project*

This symposium discusses the collaborative efforts of the Osage, Caddo, and Quapaw nations, the Arkansas Archeological Survey, and NRCS to study and preserve Carden Bottoms phase sites in central Arkansas River valley. In 2003 the Arkansas Archeological Survey received a NEH grant to investigate rock art sites in Arkansas. We discovered an interesting link between upland rock art motifs and decorated ceramics associated with A.D. 1500 - 1700 village sites in adjacent Carden Bottoms locality. In 2009, NEH provided additional funds for this collaborative project to investigate the role of art in protohistoric community organization and regional interaction.

Green, Ulrike (University of California San Diego)

[104] *Something Old and Something New: (Cross) Cultural Identity Formation in the Moquegua Valley during the Middle Horizon*

Colonial interaction in the Moquegua valley includes at least three groups, Tiwanaku, Wari and local Huaracane populations. Thus far these groups have been studied mainly as separate groups and aside from the Trapiche site not much focus has been placed on their interaction with each other. This paper attempts to look at the different identities in the valley and how living in this valley during the Middle Horizon might have shaped different types of colonial identities in all three culture groups.

Greene, Alan (University of Chicago)

[130] *Within and Without: Late Bronze Age Politics in the South Caucasus and their Regional Interlocation*

Over the past two decades, the archaeological understanding of Late Bronze Age political organization in the South Caucasus has moved from a perspective dominated by the wealth and ritual life evident at Lchashen and Metsamor, to one focused on the practices of LBA authorization and subjection that reproduced emergent politics. This paper considers the

implications of recent archaeological investigation for the dynamics of regional, inter-polity articulation across the ranges and basins of the highlands. New evidence from project ArAGATS, and Aragatsiberd in particular, is used to explore how these studies continue to reframe the geographically broader dynamics of LBA politics.

Greene, Richard

[85] *The Hearth Mounds of White Sands National Monument*

Recent orthophotographic surveys at White Sands National Monument have revealed the presence of 882 potential sites. These sites are unique due to the conditions offered by the gypsum dunes. Sites are formed by the use of a hearth on top of a dune. The heat from the hearth changes the gypsum sand to anhydrite, which shields the underlying sediments and creates a mound of sand encapsulated by hardened anhydrite. The erosional process of the hearth sites results in a unique "footprint," which is identifiable using digital orthophotography. Ground survey is ongoing to verify and characterize these previously unknown sites.

Greenlee, Diana (U of Louisiana - Monroe), Michael Hargrave (ERDC CERL), R. Berle Clay (Cultural Resource Analysts, Inc.), Rinita Dalan (Minnesota State University Moorhead) and Lewis Somers (Archaeophysics, LLC)

[7] *2006-2011 Geophysical Investigations at Poverty Point*

Six seasons of geophysical survey and recent small-scale excavations have provided new information on Poverty Point's layout and condition, and have demonstrated that its unique architecture is not limited to earthworks. Magnetic survey revealed some 30 post circles with 20-60 m diameters. Electrical resistance documented the morphology of ridges and aisles. Magnetic susceptibility explained aspects of ridge formation and targeted postholes for excavation. Excavation of several postholes suggests the post circles are coeval with the ridges. 2011 geophysical investigations included the N and NW aisles, bisector, and our first look at the Dock and Mound B field.

[241] *Second Chair* **[241]** *Third Organizer*

Gregory, Danny (New South Associates)

[107] *A Rare Glimpse at Late Archaic Lithic Technology: Debitage Analysis at 40MI70 in Eastern Tennessee*

Lithic attribute analysis was conducted ondebitage samples from a data recovery excavation at 40MI70 along the Tennessee River in Marion County. Samples were collected from three stratified Late Archaic components dating to the beginning, middle, and end of the period (ca. 2500, 4000, and 5500 years BP). The components were clearly segregated by depositional episodes and dated through radiocarbon analysis. Lithic attribute analysis results were used to evaluate diachronic changes in lithic technology, material procurement, site use, mobility, and subsistence strategies throughout the entire span of the Late Archaic period in Eastern Tennessee.

[107] *First Chair*

Gregory, Pereira [21] *see Faugere, Brigitte*

Greiser, T. Weber [110] *see Ahlman, Todd*

Gremillion, Kristen (The Ohio State University)

[13] *Plant Remains from St. Anthony's Garden*

Plant macroremains and phytoliths from St. Anthony's Garden reveal a complex record of use. Eighteenth-century deposits were rich in phytoliths typically found in grass inflorescences (consistent with threshing refuse) and also those of the Palm family (probably a native species). Macroremains included small quantities of maize cob and kernel fragments, common bean, peach, cherry or plum, and wheat. Although the assemblage of macroremains is small, it documents the early stages of a developing creole cuisine. Abundant weed seeds indicate periods of neglect, but some (such as raspberry) may also represent food plants.

Grenda, Donn (Statistical Research, Inc.)

[154] *Pushing the Limit: Advancing Archaeological Methods on Large Field Projects*

Advancing archaeological method involves risk taking. During one of Schiffer's early 1990s courses, I remember discussing methods for testing performance characteristics of stoves. One idea involved tossing various models out of a pickup truck. We found that method too risky. Over the past 20 years, I have continually found myself pushing the methodological speed limit with mechanization, 3D scanning, data quality control, and laser sorting machines. Advances in method have allowed us to increase sample size and better meet the needs of archaeological research especially in midden contexts and situations where there is a requirement to find all human remains.

Grier, Colin (Washington State University), Eric McLay (University of Victoria) and Michael Richards (University of British Columbia)

[139] *Stable Isotopes, Human Diet and Subsistence Practices at Two Precontact Villages at Dionisio Point on the Southwestern British Columbia Coast*

We report stable nitrogen and carbon isotope values for a set of nine recovered and recently repatriated individuals from the Dionisio Point archaeological locality in coastal southwestern British Columbia, Canada. These human remains derive from two village components that were occupied at various times over the last two millennia. We compare these values with those previously obtained from the locality for zooarchaeological dogs and a diverse suite of local fauna. These data provide a window into marine and terrestrial resource exploitation in the context of increasing social complexity and the emergence of settled village life on the precontact Northwest Coast.

Grier, Colin [37] *see Bettencourt, Nichole S. [110]* *see Dolan, Patrick [141]* *see Lukowski, Susan M. [141]* *see Derr, Kelly M.*

Grieve, Susanne [109] *see McCandless, Kyle*

Griffel, David [115] *see Moriarty, James E.*

Griffel, David E. [14] *see McAllister, Martin E. [115]* *see Murphy, Larry E.*

Griffin, Robert [167] *see Dunning, Nicholas P.*

Griffith, Cameron (Central Michigan University)**[208]** *Umetnal Macal: The Maya Underworld of the Macal Valley, Belize*

The subterranean setting is comprised of natural geological and speleological phenomena, whereas the underworld, in the context of the ancient Maya, is a combination of this natural physical space and the culturally derived built environment. This paper presents the most recent results of various GIS spatial analyses conducted on cave sites in the Macal Valley, in order to elucidate spatial patterns and their associated explanatory phenomena. Some of the transforms affecting the assemblages in these cave sites are the result of natural processes, whereas others are due to formalized and structured intentions related to both functional requirements and ritual practice.

Griffitts, Janet (SRI)**[154]** *Bones, stones, and iron: bone tool use on the Northern Plains*

Technological change in the post-contact Americas is often portrayed as nearly automatic, with any remnant older technologies easily explained as resulting from conservatism, lack of access to newer materials, or relating to symbolic functions. But, although some bone and stone artifacts fell into disuse, others continued to be used long after the introduction of metal. This study seeks to identify some reasons for change and stability in bone artifacts of the Middle Missouri using concepts and methods drawn from behavioral archaeology, and to move past assumptions of inevitable technological change and to instead examine technological choice.

Grillo, Katherine (Washington University in St. Louis) and Elisabeth Hildebrand (Stony Brook University)**[108]** *Early herders and monumental sites near Lake Turkana, NW Kenya: Implications of new radiocarbon dates*

Monumental architecture is typically associated with agricultural societies, but megalithic "pillar sites" in northwestern Kenya were created by hunter-gatherers or mobile herders. Interpretation of these sites has been limited because few have been dated. Here we examine existing chronological data for mid-Holocene sites around Lake Turkana and introduce new radiocarbon results for five pillar sites. The sites' creation and use had a restricted temporal range, suggesting they were important in a particular situation of social contact and/or economic transformation. These new data should encourage archaeologists to consider a broader domain of possible explanations for monumental sites in diverse social contexts.

Grillo, Katherine [108] *see Hildebrand, Elisabeth A.***Grillo, Michaela [112]** *see Hanson, Thomas***Groh, George [59]** *see Lozada, Maria Cecilia***Groleau, Amy (Colgate University)****[26]** *Following Fragments: Wari Ritual Practice and the Importance of the Quotidian*

Situating offering contexts as depositional practice, this paper explores the entangled nature of ritual practice, ceramic production, and housekeeping at the Wari site of

Conchopata. Observations on the circulation of utilitarian and fragmentary objects at the site argue against a focus on religious aspects of ritual; further, the assumption of ritual as separate from quotidian activities confounds our ability to identify contexts as products of ritual practice and the ways in which such practice informed and shaped social relationships.

Gron, Kurt (University of Wisconsin-Madison)**[75]** *Ertebølle Faunal Economy Variability in Northwest Sjælland, Denmark*

Northwest Sjælland, Denmark has long been recognized as a region of resource zone variability, and therefore is a location for understanding factors influencing use of resources by hunters of the Ertebølle culture (5400-4000cal B.C.). Zooarchaeological and stable isotopic data from several Ertebølle sites are presented and integrated with published data from nearby localities in order to understand regional variation in resource availability and human faunal exploitation. Results indicate that within a restricted area, exploitation and representation of species can vary widely with a number of influencing anthropogenic and non-anthropogenic factors. Finally, challenges with regional studies in the area are discussed.

Groom, Peter [75] *see Bonsall, Clive***Grote, Todd [84]** *see Pedler, David***Grove, David (Univ of Florida) [98]** *Discussant***Gruhn, Ruth (University of Alberta)****[225]** *Late Pleistocene cultural diversity in South America*

South America at the end of the Pleistocene presents a markedly difference archaeological picture than contemporary North America. By 12,000 RCYBP the southern continent was occupied by peoples of diverse cultural traditions closely adapted to local environments. The peopling of South America was not the late and rapid, uniform, sweeping event long visualized by North American specialists. This paper will stress the importance of the complex character of late Pleistocene South American prehistory to the understanding of the initial peopling of the Americas.

Gu, Jiyan (Millsaps College), Timothy Ward (Millsaps College), Michael Galaty (Millsaps College), Christopher Horne (Millsaps College) and Dai Nguyen (Millsaps College)

[220] *Laser Ablation- Inductively Coupled Plasma – Mass Spectroscopy Analysis of Albanian Chert Artifacts* A Varian 820 ICP-MS was used to analyze chert stone tools collected in northern Albania by the Shala Valley Project. Solid samples were ablated and introduced into the ICP-MS by a New Wave Research UP-213 Nd/YAG laser ablation system. Use of the ablation technique allowed the direct analysis of solid samples without sample digestion. The 612 glass standard reference material from NIST was used as the external standard and the isotope ²⁹Si was used as the internal standard. Up to 53 elements were analyzed by this method. The elemental composition of the cherts provided valuable information for provenance study.

Gu, Jiyan [201] *see Bey, George J. [119]* *see Ward,*

Timothy J. [114] see Horne, Christopher

Guderjan, Thomas (University of Texas at Tyler)

[167] *Developing Models of Maya Trade with data from Ambergris Caye and Blue Creek, Belize*

Bruce Dahlin argued that Chunchucmil was a consumer city that did not locally produce adequate food for its population and instead developed markets and strong long distance trade ties, thus allowing them to overcome their agricultural deficit. In this paper I summarize data from the site of Blue Creek, the Rio Hondo floodplain and Ambergris Caye in Belize and argue that the institutional framework for regularized long-distance trade in food and other agricultural products was strong and enduring during the Classic period and that the Rio Hondo and specifically Blue Creek were producers who sent such goods northward.

Guderjan, Thomas [70] see Kotthoff, Lars [70] see Hammond, Gail A.

Gudiel, Lucia

[22] *The Ethnography of Root-Crop Use of the Contemporary Maya in Quintana Roo: Archaeological Implications*

The role of root-crops in ancient Maya subsistence is not well understood and it has been difficult to find evidence of their remains. This study examines the presence and significance of root-crops for the ancient lowland Maya by using ethnographic fieldwork to document the cultural value of root-crops and the behaviors that would lead to the incorporation of root-crop starch into the archaeological record. Observing the use-history of root-crops from cultivation through consumption in modern communities provides an understanding of the relationship between these behaviors and the location and condition that root-crop starch might enter the archaeological record.

Gudino, Alejandra and Ronald D. Lippi (University of Wisconsin - Marathon County)

[235] *Is Community Archaeology the key to Community Engagement? Notes from Palmitopamba- Ecuador*

Community archeology describes increasing numbers of projects that incorporate substantial community involvement and participation. These projects seek to meet a variety of educational and social goals while also communicating archeology to the wider public. We reflect on the ideals associated with this approach in dealing with various audiences. Our work at Palmitopamba generated significant interest in the indigenous Yumbo chiefdom and the Inca presence at this large tropical forest site. Through a self-reflexive look at eight seasons of fieldwork, we outline diverse experiences that illustrate the importance of a contextual approach to evaluate the impact of our community archeology approach.

Guengerich, Anna (University of Chicago)

[106] *Social and political practice in daily life at Monte Viudo, Chachapoyas*

Basic characterizations of social, political, and ritual life of late prehispanic Chachapoya societies of northern Peru remain grounded largely in ethnohistorically-derived models from the early colonial period. In contrast, recent research at the densely populated settlement site of Monte Viudo, consisting of mapping and excavation,

used archaeological data to explore how these spheres were created, recreated, and transformed in residential settings in the practice of everyday life, particularly in relationship to space and architecture. By focusing on settlement contexts, this research complements recent work in the Chachapoyas region, much of which has concentrated on mortuary and bioarchaeological databases.

Guernsey, Julia (University Of Texas At Austin) and Victoria Lyall (Los Angeles County Museum of Art)

[152] *Identity, iconography, and style in Mesoamerica: applying the methods of Virginia Fields*

Virginia Fields' contributions crossed boundaries, blurred lines, and situated imagery and motifs within widely disseminated Mesoamerican traditions that were critical to forging identities. Her work on maize symbolism and the jester god insignia, from the Olmec region to the Maya Lowlands, Preclassic to Classic, exemplifies this. We take Fields' model, and its consideration of heritage, reinvention, and appropriation, and apply it to the Preclassic and Terminal Classic periods, key junctures in Mesoamerican history when styles, imagery, identity, and social circumstances were in flux and tensions between courtly and vernacular, elite and commoner, foreign and local, were navigated.

Guerra, Rafael (Institute of Archaeology) and Jaime Awe (Institute of Archaeology, Belize)

[70] *Recent Excavations at the Ancient Maya City of Lower Dover: implications for settlement dynamics in the Belize Valley*

This poster discusses implications of current research being conducted at the site of Lower Dover for our understanding of sociopolitical relationships during the Classic Period. Western Belize represents one of the most researched areas in Belize and while research has incorporated regional approaches in archaeological interpretation, some areas remain unexplored due to difficult terrain and lack of access to remote areas. The discovery of new sites in this region such as Lower Dover suggest a possible need to rethink current archaeological models as they relate to settlement patterns within the Belize Valley region.

Guevara, Maria [235] see Pennycook, Carlie

Guffey, Jennifer (University of Louisville) and Jonathan Haws (University of Louisville)

[138] *Together in Death: The Communal Burial of Cova das Lapas, Portugal*

Cova das Lapas is a Late Neolithic/Copper Age human burial cave in central Portugal. The present work focuses on the demographic structure, health and diet of the burial population excavated in 2006 and 2007. Specifically, we wanted to determine how many individuals were buried in the cave, their ages and sexes and pathologies that existed. Our results indicate 18 individuals were buried there. Analysis suggests a predominately young and exclusively female adult population. No adult males were identified. Older members displayed skeletal pathologies consistent with age and work-related stress factors.

Guiducci, Dario [129] see Burke, Ariane M.

Guilfoyle, David (Applied Archaeology International)
[99] *Cultural Landscape Management and Protection: Case Studies from Western Australia*

A series of landscape archaeology approaches undertaken as part of various commercial and community projects in Western Australia has resulted in the legal protection of a number of heritage complexes associated with rivers, estuaries, inlets, wetlands, and coastal dune systems, among others. This landscape approach involves a focus on a community-controlled assessment methodology integrated within a holistic archaeological heritage management framework. In assessing this approach, this paper examines the various case studies with particular focus on how the work has been applied in managing and protecting the associated heritage places, landscapes, and values.

Gunn, Joel (University of North Carolina-Greensboro) and Beniamino Volta (University of California, San Diego)

[128] *Passage to Chunchukmil in the Early Classic: Analysis of Transportation Cost*

The ever-expanding capabilities to analyze landscapes remotely have unveiled a broad range of information on how the Maya Lowlands were used by their inhabitants. We utilized the finding by Hutson et al. (2010) that in the Early Classic 2400 obsidian cores a year were shipped from the El Chayal in Guatemala to Chunchukmil on the northwest coast of the Yucatan peninsula. Basing travel times and costs on analysis of six separate trans-peninsular routes and circumnavigation yields their relative efficiency. Then, to arrive at a most-likely route, we discuss the political conditions that would also have been given consideration.

Gunn, Joel D. [22] see Folan, William J.

Gunter, Madeleine (Hamilton College), Nathan Goodale (Hamilton College), David Bailey (Hamilton College) and Ian Kuijt (The University of Notre Dame)
[244] *Ritual economies and medieval Irish gravestones: A case study in metamorphic and sedimentary rock sourcing*

Sourcing fine-grained volcanic rocks through elemental characterization has a long history in archaeology. In this paper, we shift focus to test the feasibility of sourcing fine-grained metamorphic and sedimentary rocks. Using portable X-Ray fluorescence, magnetic susceptibility, and mineralogical characterization, our results suggest that elementally discriminating and broadly sourcing these rock types is possible. We apply these techniques to a case study in early medieval gravestone production and exchange on remote islands off the west coast of Ireland.

Guo, Zhengdong [256] see Ueda, Kaoru

Gurova, Maria [75] see Bonsall, Clive

Gusick, Amy (University of California, Santa Barbara)
[126] *SCRI-691: New Perspectives of the Early Holocene on Santa Cruz Island*

Though little is currently known about the early Holocene on Santa Cruz Island, recent excavations of the five known early Holocene sites on the island have produced a wealth of data that will help clarify this time period. One

of these sites, SCRI-691, dated to 10,100 cal BP and is currently the oldest known and most unique site from the early Holocene on Santa Cruz Island. This inland, hilltop site contains thousands of lithic pieces, as well as a unique array of faunal remains that will inform our perspective on some of the earliest settlers on the island.
[126] *First Chair*

Gusick, Amy [166] see VanDerwarker, Amber M.

Gustavo, Neme [273] see Ugan, Andrew S.

Gutierrez, Gerardo (University of Colorado) [198] *Discussant*

Gutierrez, Maria (CONICET, INCUAPA), Daniel Rafuse (Facultad de Ciencias Sociales (UNICEN)), Agustina Massigoge (CONICET - Facultad de Ciencias Sociales (UNICEN)), Maria Alvarez (CONICET - Facultad de Ciencias Sociales (UNICEN)) and Cristian Kaufmann (CONICET - Facultad de Ciencias Sociales (UNICEN))
[96] *Bone Modification Patterns Produced By Two South American Small Sized Carnivores*

In this presentation we analyze bone modifications (skeletal representation, breakage, and tooth marks) produced by two native carnivores from the Pampas of South America: Pampean fox (*Lycalopex gymnocercus*) and geoffroy's cat (*Leopardus geoffroyi*). The main objective is to identify the modification patterns characteristic of these two species. Both carnivores were fed with rabbits and the non ingested bones were analyzed. Skeletal representation, as well as size, morphology, and location of the tooth marks were registered and compared using digital images and GIS. Our results will contribute to distinguish carnivore induced bone modifications from other formation processes.

Gutiérrez, María A. [158] see Martínez, Gustavo A.

Gutiérrez Castillo, Yeny [66] see Carter, Nicholas P.

Guzmán Requena, Natalia [243] see Sharp, Kayleigh

Gyucha, Attila [200] see Parkinson, William A.

Haak, Wolfgang [156] see Watson, Lucía C.

Haas, Jonathan [150] see Creamer, Winifred

Haas, Mallory [240] see Hoag, Elizabeth

Haas, Wm Randall [260] see Peeples, Matt

Haas, Wm. (The University of Arizona) and Barbara Mills (The University of Arizona)
[260] *Ceramics as Agents: Ware Affiliation Networks in the U.S. Southwest*

One of the main goals of archaeological network analysis is to identify structural variation in the social networks of prehistoric human agents. Agents are often conceptualized as households or communities defined by archaeological sites, and inter-site connections are inferred materially. However, materials—as indices of shared knowledge and practice—can occupy variable

positions in networks and can affect network structure in their own right. We characterize a large Southwestern site dataset (A.D. 1200-1550) as a ceramic affiliation (a.k.a., two-mode) network in which site-ware affiliations comprise the constituent network dyads. Temporal trends in the structure of the site-ware networks are explored.

Haas, Wm.R. [260] *see* Mills, Barbara J.

Haas, Jr., W. Randy [260] *see* Clark, Jeffery J.

Habert, Brad (Ripon College)

[109] *Trace elemental analysis in wood using pXRF*

The use of trace elemental analysis on wood has started to become a growing concern in ecology and biology. A technique and calibration for wood using pXRF is presented, showing the unique challenges wood as a material poses for researchers who want to identify low levels of common elements absorbed by wood with this method. A new algorithm for wood using the Innovex product line will be presented and discussed showing how this method can be used in modern and ancient wood samples. Wood samples from Ripon, Wisconsin and archaeological sites in Peru and Bolivia will be presented.

Hadley, Alison (University of Kansas)

[213] *Pipestone Residue on Stone Tools at the Tobias Site (14RC8)*

The Tobias Site in Rice County, Kansas dates to the Great Bend Aspect and has an assemblage that includes stone tools and pipestone pipes. Waldo Wedel (1959:269) proposed the classification of "pipe drills" for the double-ended, parallel-sided drills from the site. This project was a systematic attempt to determine if these drills were used in the manufacture of pipestone pipes. Experimental drills were made and used to replicate pipestone drilling. Analysis was undertaken with a 40x microscope and a scanning electron microscope. The analysis of both the experimental and archaeological drills revealed a similar pattern of pipestone dust residue.

Hadley, Scott (University of Memphis) and Andrew Mickelson (University of Memphis)

[185] *Denmark: an Early Mississippian Center in Western Tennessee*

The Denmark Site (40MD85), located in western Tennessee is an Early Mississippian mound and settlement complex. Extensive magnetometry survey has revealed numerous features and structures across the site. Through topographic mapping, magnetometry survey, and test excavations, work at the Denmark Site is helping to better understand settlement patterns in the region. Previously believed to have been a "vacant ceremonial center," current research at Denmark has provided evidence for a heretofore unknown extensive village-scale settlement.

Hadley, Scott [196] *see* Mickelson, Andrew M.

Hadlock-Seeley, Robin [141] *see* Hamilton, Nathan D.

Hager, Lori (Catalhoyuk Research Project) [72]
Discussant

Hager, Lori [94] *see* Boz, Basak

Hahn, Lauren D. [203] *see* Mixer, David W

Hajic, Edwin (GeoArc Research), David Benn (Bear Creek Archeology) and Lowell Blikre (Bear Creek Archeology)

[37] *Factoring Contextual Time-Transgression into the Interpretation of Prehistoric Settlement Patterns*

Investigation of geologic contexts of sites eroding primarily from a prominent natural levee complex along the lower 129 km (80 miles) of the Illinois River leads us to reinterpret Woodland settlement patterns. The history of levee evolution may have implications for Woodland patterning beyond the floodplain as well. Distribution, ages, and integrity of cultural deposits along a given Illinois River reach are a function of settlement preferences conditioned by style of levee evolution, buried soil facies, and the history of mean low water levels.

[37] *Second Organizer*

Halasi, Judith (CEMMI Colorado State University)

[18] *Investigation of Spatial Patterns at Turn of the Century Farmsteads near Fort Riley, Kansas*

Excavations at ten historic farmsteads on Fort Riley, Kansas, provided a sample for research comparisons. These farms of typical settlers for the area span a 100-year period from the 1860s to 1960s. The sites provided information on two research questions about farmstead spatial patterning. First, farmstead site selection indicated an early historic preference for a geographic position that changed through time. Second, the question regarding organization of buildings on the farm identified the two patterns and the evolution of these through time. The paper additionally considers advantages of archaeological investigations on an Army installation.

[18] *First Chair*

Halcrow, Sian (University of Otago, New Zealand), Nathaniel Harris (University of Otago), Nancy Tayles (University of Otago) and Rona Ikehara-Quebral (International Archaeological Research Institute, Inc. (IARI), Hawai'i)

[60] *From the mouths of babes: dental caries in infants and children and the intensification of agriculture in mainland Southeast Asia.*

Many bioarchaeological studies have assessed dental pathology and established a link between increased caries prevalence and the intensification of agriculture. However, recent research in Southeast Asia challenges the global application of this theory. Although often overlooked, assessment of dental health in infants and children can provide a sensitive source of information concerning health and subsistence change. This paper investigates the prevalence and location of dental caries in infants and children (less than 15 years of age) from eight prehistoric mainland Southeast Asian sites that collectively span from the Neolithic to late Iron Age, during which time there was an intensification of rice agriculture. There was a higher prevalence of caries in the deciduous dentition compared with the child permanent dentition, which was likely due to a cariogenic weaning diet and the sensitive nature of deciduous teeth to decay. The lower level of caries in the permanent dentition of the children is possibly associated with the increased reliance on less cariogenic foods during

childhood, including rice. The absence of a temporal decline in dental health indicates the relationship between caries and agricultural intensification in Southeast Asia was more complex than the general model suggests.

[60] *Second Organizer* [60] *First Chair*

Hale, John [227] *Discussant*

Haley, Bryan

[50] *Decoding Hollywood: Interpreting the Built Environment of a Mississippian Mound Center*

The spatial configuration of mounds, burned structures, and plaza at Hollywood Mounds (22TU500) reveals much about social and political developments at the site in the 14th and 15th century. The research during the summer of 2011, which included geophysical survey and targeted excavations, provided additional details. Among the findings were the remnants of several additional mounds, burned structures in unexpected locations, and several features on the summit of the principal mound. The research at Hollywood suggests that Mississippian power dynamics in the northern Yazoo Basin differed from the typical pattern in the Southeast.

[50] *First Chair* [50] *Second Organizer*

Halfen, Alan [110] *see Gaines, Edmund P.*

Hallett-Desguez, Emily and Kaye Reed (Institute of Human Origins, ASU)

[117] *The Faunal Record at Contrebandiers Cave*

The habitats associated with *Homo sapiens* at Contrebandiers were reconstructed in order to recognize any habitat interrelationship with *H. sapiens* populations and their tool technology, resource acquisition, and dispersal patterns. In addition, zooarchaeological methods allowed new types of analyses with which to understand *H. sapiens* subsistence patterns in Morocco. Preliminary results of information derived from the large mammalian fauna including species representation, paleoecological reconstruction of the environment, and bone surface modification are presented in this study.

Halligan, Jessi (Texas A&M University, CSFA)

[169] *Geoarchaeological framework of the lower Aucilla River basin, northwestern Florida*

Thousands of artifacts have been recovered from Florida rivers, including numerous Paleoindian osseous and lithic artifacts, but only a small percentage were recovered from excavated context, leaving numerous questions about site formation processes and human activity. Recent underwater and terrestrial excavations at two sinks along the Aucilla River, Wayne's Sink and Sloth Hole, have been combined with previous research to reconstruct the late Quaternary history of the basin and create a geoarchaeological model for artifact context in fluvial karst settings. Geoarchaeological analyses, including remote sensing, vibrocoring, test excavation, unit excavation and radiocarbon dating, provide an interpretive framework for previous excavations.

[169] *First Chair*

Halling, Christine and Jason King (Center for American Archeology)

[271] *Diet and Dental Health in Archaic Period Illinois: A View from the Koster Site*

The Archaic period spans approximately 7500 years of Lower Illinois Valley prehistory, much of which is captured in the rich archaeological record at the Koster site, Greene County, IL. This broad temporal interval documents significant economic, social and cultural changes, among others, experienced by prehistoric populations. Among these changes was the shifting exploitation of local plant resources that eventually led to the intensive domestication of local flora. In this paper, we analyze Archaic skeletal samples from the Koster site to assess the effects of changing diet upon dental health. Results are then placed into broader regional context.

Hallmann, Nadine [164] *see Hilton, Michael R.*

Hally, David (University of Georgia), John F. Chamblee (University of Georgia) and George R. Milner (Pennsylvania State University)

[196] *Macro-regional Analysis of Mississippian Mound Site Distributions*

An important frontier in archaeology is quantitative analysis at near-continental scales. While there are success stories in the American Southwest, many macro-regional studies of pattern and process lack appropriate samples. We address this challenge in the southeastern United States with a program to document and analyze earthen mound construction and use during the Mississippian Period (A.D. 950 – 1650). Our approach combines relational database technology with reviews of grey literature and a collaborative model for data collection, research and authorship. Preliminary analysis of 240 sites documents long-term spatial discontinuity in mound building, repeated across several physiographic zones.

Halperin, Christina (Princeton University)

[23] *Circulation of Art: The Making of Classic Maya Regional Identities as a Process of Movement*

The staking out of political and cultural territories is often equated with the marking of natural landscapes, the production and maintenance of monumental works, and the rooting of potent symbols to fixed locations and select social groups. Nonetheless, regional socio-political identities also emerge from the fleeting movements of people and things. This paper examines the circulation of Classic Maya figural art to identify the creation of socio-political regions. Central to this process is the experience of the collective as both performative activity and material manifestation.

Halperin, Christina [87] *see Shiratori, Yuko*

Hamaguchi, Koh [211] *see Terry, Karisa*

Hamilton, Nathan (University of So. Maine), Robin Hadlock-Seeley (Cornell University) and Katherine Otterson (University of Southern Maine)
[141] *Maritime Resource Utilization at the Isles of Shoals, Western Gulf of Maine*

An archaeological record of 6500 years at prehistoric and historic sites on Smuttynose Island, Isles of Shoals, Maine, provides an opportunity to investigate faunal changes and marine resource utilization during a protracted period of environmental and climatic change. The historic period (1620-1910) samples are well resolved chronologically and identified to species and

MNI. The analysis of bird, fish, sea-mammal and mollusks document abundance and utilization over time and provide data on demographics and seasonality of utilization of species. The prehistoric and historic period deposits on Smuttynose provide a rich opportunity to develop environmental history in the Gulf of Maine.

Hamilton, Sue and Colin Richards (University of Manchester)

[229] *Dreaming of Hawaiki: rethinking the Hare Peanga of Rapa Nui (Easter Island)*

Rapa Nui is famous for its monumental stone statues adorned with red topknots. These once stood on stone platforms (ahu), which lie adjacent to the seashore, effectively encircling the island. Slightly inland from these ahu are canoe-shaped houses, known as Hare Paenga. Although round-ended houses are known from other islands in east Polynesia, nowhere is the canoe form so clearly represented as in the architecture of the Hare Paenga. The construction and 'life' of the Hare Paenga suggest that its significance lies in the representation of the voyaging canoe and the webs of relationship that such a construct embodies.

Hamm, Keith [164] *see Braje, Todd J.*

Hammer, Emily (Harvard University)

[200] *The Challenge of Pastoral Nomadic Landscapes in the Near East*

Transhumant pastoralism involved interregional movement, but campsites consisted of ephemeral features whose archaeological recovery requires intensive coverage of small areas. Surveyors studying mobile groups face the challenge of examining local patterns while maintaining a regional outlook. This paper discusses intensive survey work examining Ottoman period nomadic pastoralism in an upland region of southeast Turkey and how intensive survey results served as the basis for a regional study using satellite imagery and earlier surveys. To investigate the landscapes of pastoral nomads, Near Eastern archaeologists must incorporate intensive survey methods, expand coverage beyond alluvial environments, and focus attention on post-Classical settlement patterns.

[91] *First Chair*

Hammer, Emily [91] *see Stack, Adam D.*

Hammerstedt, Scott (University of Oklahoma) and Sheila Savage (University of Oklahoma)

[185] *Mississippian Ceremonialism in the Neosho River Valley of Northeastern Oklahoma*

Mississippian mound sites in eastern Oklahoma have been largely neglected in the literature. Here we discuss the Reed site, a multi-mound site located in the Neosho River valley in northeastern Oklahoma. Reed was excavated by the WPA in the 1940s but has not yet been fully analyzed. Recent collections work has identified numerous ceremonial items, including sheet copper, copper-covered earpools, and ceramic vessels (both local and imported). We describe the layout of Reed, discuss these artifacts, and compare Reed with nearby sites such as Norman, Harlan, and Spiro.

Hammond, Gail (University College London / Maya

Research Program), Samantha Krause (Maya Research Program), Lars Kotthoff (Maya Research Program) and Thomas Guderjan (University of Texas at Tyler / Maya Research Program)

[70] *Continuing research using landscape archaeology and GIS at Nojol Nah, Belize*

We present preliminary results of interdisciplinary efforts in determining the use and management of ancient Maya rural landscapes in northwestern Belize. Through our comprehensive data set combining archaeology, GIS, land survey and soil science, we provide a singular insight into the strategies used by the people that inhabited this site on the periphery of the Maya world. Georeferenced maps - the results of intensive pedestrian survey - have been combined with a NASA digital elevation model as well as hydrological and soil data into a regional geodatabase, which includes the results of ongoing test units, and larger excavations.

Hammons, Catherine (University of Memphis) and David Dye (University of Memphis)

[189] *Female Effigy Bottles in the Central Mississippi Valley*

Mississippian female effigy bottles are found throughout much of the Central Mississippi Valley over a considerable time span. This paper argues that female effigy vessels constitute a utilitarian ritual ware associated with religious sodalities that center on the Earthmother deity. The extensive evidence of use and their mortuary context argues for functions not only in the daily life of Mississippian people, but also in the afterlife as well. Although temporal and spatial differences are noted, an overall conservative artistic expression is evident.

Hamon, Caroline [238] *see Chevalier, Alexandre*

Hampson, Jamie (University of Cambridge)

[23] *Contested heritage: rock art and identity in national parks*

In many countries, and in many national parks, cultural identity is shaped, manipulated, and presented to the public through rock art; both pictographs and petroglyphs are powerful tools. In this talk, I present results from ten years of fieldwork in southern Africa, northern Australia, and west Texas. I focus on innovative new visitor centres concerned with conservation, job creation, promoting 'community archaeology', and – above all – challenging visitors' preconceptions of rock art and of the indigenous peoples who made it.

Hampson, Jamie [194] *see Challis, William R.*

Handsman, Russell

[174] *Landscape Ecologies and Reservation Lives: Towards an Archaeology of Mashantucket Pequot Gardens, Southeastern Connecticut*

How flawed are our understandings of Native lives in the reservation period; what might happen if we develop new models for recovering those histories? The theory and methods of landscape ecology provide keys to the hidden histories of gardening and gathering at the Mashantucket Pequot Indian Reservation. Finer-grained studies of archaeological sites illuminate the cultural processes of landscape change, leading to understandings of 19th century community and family

survance. By constantly moving between present and past, archaeologists become "scene shifters" whose ways of seeing define the next phase of research, the interpretive science that is William Gardner's legacy.

Handwerker, Carol [159] *see Cooper, H Kory*

Haney, Jennifer (Penn State), James Bennett (University of Liverpool) and Robert J. Littman (University of Hawaii)

[264] *Recent Excavations near the Ancient Center of Thmuis: A Late Roman Period Room Deposit.*

Recent excavations near the ancient center of Thmuis focused on the architectural remains of a building last used during the Late Roman period (6th-7th Century AD). The excavated room deposits likely span several hundred years and provide evidence of the room's final use(s) and reuse prior to its partial collapse. One use resulted in the deposition of numerous terracotta lamp figurines, including a Militant Bes and several African acrobats. Finally, prior to abandonment and collapse, the room was used for a child burial. These activities suggest that the location may have possessed an enduring local significance.

Hanks, Bryan (University of Pittsburgh) and James Johnson (University of Pittsburgh)

[103] *Modeling Human-Environment Dynamics and Socio-Economic Change in the Bronze Age Eurasian Steppe (2100-1500 BCE)*

Interpretations of the Late Prehistoric Eurasian steppe continue to emphasize pastoral/agro-pastoral subsistence patterns with substantial seasonal mobility. These approaches overshadow regional variation and related trajectories of socio-economic change. This paper argues the utilization of domesticated livestock led to greater levels of sedentism rather than mobility in some regions and did not require access to domesticated plants. Archaeological data (pedestrian survey, stable isotopes, and settlement excavation) from field research (2007-2010) in the Southern Urals of Russia will be used to support these views. Strategies for the integration of this data for modeling Bronze Age socionatural change will be critically evaluated.

Hanni, Catherine [157] *see Detry, Cleia*

Hannus, Adrien L. [55] *see Outram, Alan K.*

Hansell, Patricia [167] *see Ranere, Anthony J.*

Hanson, Danielle [203] *see Michael, Amy*

Hanson, Diane (University of Alaska Anchorage)
[27] *Excavation of an Upland House on Adak Island, Aleutian Islands, Alaska*

Excavations at ADK-237, an upland site on Adak Island, Alaska, revealed a house with ventilation channels similar to those at the Amaknak Bridge and Margaret Bay sites on Unalaska Island 450 miles East. Radiocarbon dates are not available yet, but the upland house is estimated to be 1500 years younger than the Amaknak Bridge houses. The complexity of the interior features, an outside storage pit, and the number of discarded artifacts, flaking debitage, and 20 other house

depressions at the site indicate long term site use. This is the first excavation of an upland house in the Aleutian Islands.

Hanson, Katharyn (University of Chicago)

[99] *Urban Sprawl and Cultural Heritage: A Case Study at Nineveh, Iraq*

While news reports of "artifacts ripped from the ground" call attention to looting at archaeological sites throughout the Middle East, an equally important risk to these sites comes from urban sprawl. Without a better understanding of this damage and an appropriate methodology to assess it, we will not be able to address this destructive threat to the fullest in the Middle East. This paper explores and illustrates the details of this problem in Iraq through a case study at Nineveh, then suggests a methodology employing remote sensing for future work at Mesopotamian sites impacted by urban sprawl.

Hanson, Thomas (University of Texas at San Antonio) and Michaela Grillo (Valles Caldera National Preserve)

[112] *Indirect Effects of the Las Conchas Wildfire on Obsidian Lithic Reduction Sites*

This poster will address the indirect effects of the 2011 Las Conchas Wildfire on the artifact distribution and depositional integrity of sites located in the Valles Caldera National Preserve, NM. Immediately following the fire, a monitoring project was established to examine site transformations relating to soil erosion on lithic reduction sites within the burn perimeter. This study will contribute to the understanding of site transformation processes in fire-prone areas, and help cultural resource managers make informed long-term management and preservation decisions following large-scale landscape modifying events.

[112] *First Chair*

Hard, Robert (Univ of Texas at San Antonio), John Roney (Colinas Cultural Resources Consulting), A.C. MacWilliams (University of Calgary), Lori Barkwill Love (University of Texas at San Antonio) and Raymond Mauldin (University of Texas at San Antonio)

[183] *An Intensive Late Archaic Period Occupation in Southwestern New Mexico*

Recent investigations in the Bootheel region of southwestern New Mexico focused on a Middle to Late Archaic period site defined by a massive sheet midden. Located adjacent to a playa and on the international boundary, site LA162023 is over 3 ha in extent with thick, continuous, dark sediments blanketing the surface and dense chipped stone artifacts. Preliminary testing, surface collections, and radiocarbon dates allow an initial assessment of the site, its age, and speculation as to its possible roles in local and regional Archaic adaptations including Cerro Juanaqueña, Chihuahua, located 70 km to the south.

Hard, Robert [140] *see Freeman, Jacob [183]* *see Roney, John*

Harding, Deborah [185] *see McConaughy, Mark A.*

Harding, Gregg (Florida Public Archaeology

Network) and Sarah Nohe (Florida Public Archaeology Network)

[24] *Chalk it up to a Partnership: Documenting the Untold History at Fort Jefferson*

Although much of the military and architectural history of Fort Jefferson, a Civil War era fort 70 miles from Key West, is well-documented, inscriptions left by individuals on the walls of a small magazine provides new information about the fort. The inscriptions, written mostly in chalk, span the first few decades of the 20th century, a time the fort was not officially utilized. Owing to a partnership between the Florida Public Archaeology Network and National Park Service, the project produced a long-term preservation solution for a unique and fragile resource and provided a publicly-accessible database for further investigation.

Hardy, Bruce (Dept. of Anthropology, Kenyon College), Veerle Rots (Service de Préhistoire, Université de Liège), Jordi Serangeli (Institute for Prehistory, University of Tübingen) and Nicholas Conard (University of Tübingen)

[93] *Wood, Bone, Ivory and Stone: Middle Pleistocene Tool Use in Northern Europe*

Microscopic examination of wooden, bone, ivory and stone artifacts from Schöningen 12 and 13 to identify residues, wear and manufacturing traces provided evidence of their anthropogenic origins and functions. Results indicate the presence of wooden hafts and humanly modified bone and ivory tools. Stone tools were used for hide cutting, butchery, and woodworking. A small number may have been hafted, a particularly interesting result given the presence of wooden hafts. The positive results of this analysis demonstrate the efficacy of these techniques for ca. 300,000 year old sites such as Schöningen.

Hardy, Meredith (National Park Service)

[34] *Hand to Mouth: A detailed examination of foodways on the French colonial frontier as shown at Fort Rosalie*
Foodways of the French colonial frontier, especially at military and trading outposts, can tell us how a French garrison and neighboring habitants adapted and survived in remote areas. The desire to maintain identity, social status, ethnicity, and traditional lifeways would be difficult to fulfill by Europeans living far away from coastal trading ports and ready access to goods. This paper is a presentation of 18th century French colonial foodways as represented by the material culture recovered during excavations at Fort Rosalie, specifically historic European ceramics and glasswares. Processes of culture change via innovation, borrowing, and adaptation will be explored.

[34] *First Chair*

Hardy, Meredith [193] *see Persons, A. Brooke*

Hare, Timothy (IRAPP, Morehead State University)

[22] *Techniques and Tools for Exploring Spatial Processes, Patterns, and Relationships at Postclassic Mayapán*

The last twenty-five years have seen an explosion in the creation of spatial analytical techniques and their application in diverse contexts. Spatial descriptive statistics have given way to numerous exploratory spatial data analysis techniques and inferential statistics. I

review the development of spatial analytical techniques and describe the challenges driving these changes. I also summarize the tools available for facilitating the analysis of a wide range of spatial processes and patterns and present examples of their use that reflect the dynamic and ongoing nature of the field. Examples are drawn from work at Postclassic Mayapán.

[233] *Discussant [22] First Chair*

Hargrave, Michael (ERDC CERL), Carey Baxter (ERDC CERL), Jarrod Burks (Ohio Valley Archaeology), Renee Lewis (Calibre Fort Gordon), and Paul Presenza (US Army)

[9] *Remote Sensing Applications for Military Cultural Resource Management*

Remote sensing played a prominent role in three recent Cultural Resource Management projects at US Army installations. Ground penetrating radar (GPR) and magnetic gradiometry detected unmarked graves at four of the five unmarked historic cemeteries investigated at Fort Gordon (GA). Archival research, GPR, and archaeological ground truthing was conducted to verify and investigate the location of the historic post cemetery at Fort Monroe, VA. Anomalies that roughly resembled graves were associated with WW1 era architectural debris. LiDAR data was used to search for deep bunkers associated with WW1 trenches at Fort Lee (VA) that represent hazards for troops and civilians.

Hargrave, Michael [7] *see Greenlee, Diana M.*

Harkey, Anna [238] *see Farahani, Alan*

Harlan, Mark (Dos Locos Consultors, LLC)

[146] *Social Network Analysis in Archaeology: New Promise of Old Error*

Archaeologists seeking a connection between their data and interpretations have turned to social network analysis to reduce complex interrelationships to interpretable form. In this, they follow a long tradition of borrowing analytical methods from the disciplines that developed them. The current borrowing is strongly reminiscent of the situation in the early 1970s when archaeologists turned to Psychology and Biology to borrow data reduction techniques based on matrix algebra. As many archaeologists failed to master the intricacies of those techniques, they were soon reduced to back-fitting "just so stories" rather than advancing archaeological interpretation. This paper discusses social network analysis in light of those earlier errors.

Harle, Michaelyn (Tennessee Valley Authority) and Nicholas Herrmann (Mississippi State University)

[197] *Tennessee Valley New Deal Archaeology's Contributions to Bioarchaeology*

New Deal era excavations in the Tennessee Valley, especially those under the auspice of TVA, included the systematic recovery of human skeletal remains. These excavations led to the standardization of burial excavation methods and osteological recordation. Archived correspondence between prominent physical anthropologists and field records demonstrate TVA's important contribution to the development of bioarchaeology. Following World War II, researchers virtually ignored these important collections until their 'rediscovery' by modern bioarchaeologists. This paper

discusses the evolution of bioarchaeological research agendas from TVA's inception to present and their lasting contributions to understanding biocultural histories of prehistoric peoples in the Tennessee Valley.

Harmansah, Ömür [134] *see Johnson, Peri A.*

Harn, Alan [196] *see Conner, Michael D.*

Harper, Cassandra (Florida Public Archaeology Network)

[65] *Introducing the ARCHAEO Cart: Archaeological Education on the Go*

The ARCHAEO Cart was developed by the West Central Regional Center of the Florida Public Archaeology Network as an outreach tool to be used by schools and museums. It consists of a touch screen computer to play content-rich programs with drawers full of activities and resources. Computer programs highlight the diversity and prominence of archaeological sites across Florida. Activities teach archaeological concepts and Florida history. A handbook ties the two together and aligns these lesson plans with Florida state standards for classroom content. After initial set-up and training, the cart will be available for educators to incorporate into their programming.

Harper, Nathan (Springs Preserve) and M. Steven Shackley (University of California, Berkeley)

[161] *Obsidian Diversity at Big Springs (26CK948, 26CK949), Las Vegas, Nevada*

Big Springs of Las Vegas is complex of sites with a long history of activity, with the most significant period dating from the Basketmaker III to Pueblo II. This study identifies sources for obsidian artifacts from across the Big Springs sites. Obsidian artifacts were analyzed via XRF to determine trace elements. Results indicate a high diversity of sources with nine recognized in Nevada, California and Utah. The most common source was located in southern Nevada and the most distant the Mono Craters in California. Results will be discussed in relationship to recent sourcing studies to investigate resource procurement through time.

Harrington, Katherine (Brown University), Emanuela Bocancea (Brown University), Claudia Moser (Brown University) and Jessica Unger (Brown University, Haffenreffer Museum)

[250] *"Think like an Archaeologist": Teaching Critical Thinking Skills through Archaeological Concepts in the Providence Public School System*

During 2010-2011, archaeologists and educators from Brown University's Joukowsky Institute for Archaeology and the Ancient World, the Haffenreffer Museum of Anthropology, and the Rhode Island School of Design's Museum of Art worked with social studies teachers at Nathan Bishop Middle School to develop five sessions which supplemented the 6th grade curriculum. The "Think like an Archaeologist" series exposed students to the entire archaeological process -- survey, mapping, excavation, stratigraphy, object analysis, conservation, and exhibit design-- to develop critical thinking skills and an ethical consciousness of the past. This poster will present the approaches and hands-on activities used throughout the program.

Harris, Edward (National Museum of Bermuda)

[90] *The only way to see: stratigraphic sequences and surfaces in archaeological research.*

This paper discusses the two methods of archaeological excavation, stratigraphic and non-stratigraphic, and compares them with archaeological recording systems, which fall into the same dichotomy. It will argue that time and space (surfaces) and the record thereof are essential to any archaeological excavation, but, as none exist, the only way to see and record those four dimensions is to utilize the stratigraphic principles and recording methods set out in relation to the Harris Matrix, which marked in 1973 a major revolution in archaeology and the change of its paradigm insofar as archaeological experiments by excavation are concerned.

Harris, Kathryn (Washington State University)

[207] *Re-evaluating obsidian use and lithic technology at site 10-BT-8, Butte County, Idaho*

Southern Idaho is an ideal setting for the study of prehistoric human landscape use. Obsidian source characterization suggests a large circulation range for the prehistoric people using site 10-BT-8, with strong emphasis placed on the American Falls obsidian source and variability in the utilization of other regional obsidian sources. The combination of obsidian source characterization and technological organization data from core tools, bifaces and proximate flake debitage support the model that the people that used 10-BT-8 over the last 3,000 years were utilizing both distant and local obsidian sources while moving over a wide area of southeastern Idaho

Harris, Matthew (URS Corporation)

[146] *Refining the Concept of "Emergence" in the Modeling of Archaeological Phenomena*

Throughout archaeological literature the concept of "Emergence" is used routinely; commonly referring to the becoming of one entity (e.g. social structure) into a distinct yet related entity. A goal of computational Agent Based Models (ABM) of archaeological data and theory is often the emergence of a pattern, dynamic, or phenomena. In this context, the use of "Emergence" needs to be explicit in order to better interpret findings and ultimately develop theory. This paper will discuss the philosophy of emergence, its use in ABM, and begin a framework for a more effective use of this complex concept.

Harris, Michael [139] *see Philmon, Kendra L.*

Harris, Nathaniel [60] *see Halcrow, Sian E.*

Harris, Oliver (University of Leicester)

[251] *Relational Communities in Prehistoric Britain*

This paper explores communities change through an approach centred on relations. It thus sees communities as made up of plants, animals, material things, monuments and landscapes as well as humans. These communities are not static networks, but instead flowing relational assemblages. By tracing some of these flows through time, this paper will explore how new modes of community emerged in prehistoric Britain between 6000 and 2000 BC. The paper further suggests that this approach also helps to counterbalance current political narratives of community as an intimate form of sociality,

somehow absent in modernity.

Harrison, Jessica (University of Illinois Urbana-Champaign), Roberto Rosado (INAH), Heather McKillop (Louisiana State University) and Elizabeth C. Sills (Louisiana State University)

[172] *Sediment History at three Inundated Salt Works: Human-Environment Interaction in Paynes Creek National Park, Belize*

The Classic Period Maya salt works of Paynes Creek National Park, Belize, currently submerged in a shallow-water mangrove lagoon, were built on dry land which has been inundated by eustatic sea-level rise. We present sediment histories from three submerged Classic Period salt works sites, documenting environmental and anthropogenic landscape changes, including sea-level rise and human interaction with the ancient landscape. Lab analyses, including sediment composition and radiocarbon dating, provide paleoecological data that, in conjunction with material cultural remains, become a powerful tool for understanding human-environment interaction in archaeological contexts, as well as the impact of environmental change on coastal populations.

Harrison, Joseph [103] *see Rogers, J. Daniel*

Harrison, Karl [14] *see Davenport, Anna S.*

Harrison, Ramona (CUNY Graduate School and University Center)

[263] *Gasir Archaeology – An Icelandic Trading Site and its Connections to a Medieval World System*

In Iceland, the years between 1200 and 1400 represent an especially dynamic period, marked by climate change, accelerated human environmental impact on vegetation and soils, civil war, and the loss of political independence in 1264 CE. This period also witnessed the height of activities at the Gasir trading site whose excavations resulted in archaeological data helpful in contextualizing these activities. Reaching beyond national borders, a potential connection between this unique Icelandic site and the larger trans-Atlantic world is discussed by presenting recent faunal, material, and environmental data adding to a better understanding of trade and exchange in medieval Iceland.

[263] *First Chair*

Harrison, Ramona [263] *see McGovern, Thomas H.*

Harrison-Buck, Eleanor (University of New Hampshire), Julie Bryce (University of New Hampshire) and Satoru Murata (University of New Hampshire)

[137] *Evaluating Local and Long-Distance Interaction in the Eastern Belize Watershed: An Analysis of Ceramic Styles and Technology*

The eastern Belize Watershed reveals a history of Maya occupation dating from Formative to Colonial times. Shared ceramic and architectural styles indicate connections between sites in this region and elsewhere in the Maya area. These interaction networks were both economic and ritual in nature and likely facilitated by riverine and coastal networks, as well as a north-south overland route that linked the Belize River to the New River and sites farther north, like Lamanai. Stylistic and chemical analyses are presented and compared with

other datasets to reveal the complexities of interaction that occurred through time in the eastern Belize watershed.

Harro, Douglas [272] *see Arakawa, Fumiyasu*

Harrod, Ryan (UNLV) and Debra Martin (University of Nevada, Las Vegas)

[105] *Status and Health among the Women of Pueblo Bonito: Thinking about gender, wealth and power in the Ancestral Pueblo world (AD 900-1300)*

Studies in social hierarchy in the Southwest have typically focused on high status male burials. Assuming matrilineity (Carlyle et al. 2000), high status females are equally as powerful as males according to ethnographic accounts (Dozier 1965; Dozier 1970; Eggan 1950). These indicate that some matrilineal groups accorded females control over resources. Room 33 in Pueblo Bonito (a high status burial room) is likely to have had high status females. Through the analysis of the human remains, including activity patterns, nutritional adequacy, and health indicators, the data suggest that these women are unique when compared with females from other Pueblo sites.

[105] *Second Chair*

Harrod, Ryan [105] *see Crandall, John J. [116]* *see Martin, Debra L.*

Harry, Karen (University of Nevada-Las Vegas)

[213] *Where are the Hearths? Explaining the Absence of Floor Features on the Shivwits Plateau, Northwestern Arizona*

Since 2006, the University of Nevada Las Vegas has conducted a series of archaeological field schools at ancestral puebloan sites on the Shivwits Plateau of far northwestern Arizona. Despite evidence that these settlements were occupied for most or all of the year, to date only two ephemeral hearths have been found. To investigate why these features are so rare, a replica structure containing a hearth and postholes was constructed and buried. When re-excavated the following summer, we found the floor features obliterated. We propose that their destruction is explained by the weathering properties of the smectite clays found in this region.

Harry, Karen [216] *see Ferguson, Timothy J.*

Hart, Siobhan (Binghamton University) and Daniel Lynch (University of Massachusetts Amherst)

[67] *Material Transitions on a Human Scale: Investigations of 17th century Pocumtuck Life in Deerfield, Massachusetts*

The early colonial period was a time of great change, social upheaval, displacement, and violence for Native American communities in New England. How was such change experienced on a human scale? This poster presents data from recent investigations of a 17th century Pocumtuck site in Deerfield, Massachusetts, a place that was both homeland and frontier. The site was occupied within a narrow timeframe (c. 1590-1650 AD) comprising a single lifetime. Here we report on findings from geophysical survey, subsurface testing, and specialized analyses that indicate community-wide

material changes on a human scale.

Hartman, Lynn W [31] *see* Potter, James

Harutyunyan, Armine (Institute of Archaeology and Ethnography, NAS RA)

[130] *Some Results of the Study of the Neolithic in Armenia with Special Reference to the Oldest Known Pottery in Armenia*

The historically meager datasets on the (Late) Neolithic-Chalcolithic in Armenia (6th-early 4th millennia BC) have been enriched recently by systematic excavations of two settlements in the Ararat Valley, Aratashen and Aknashen. The lower Neolithic layers of both settlements are dated to the first half of the 6th millennium BC and contain identical assemblages. The sites' earliest pottery, the oldest known from the Ararat Valley, was recovered from upper Neolithic layers and is made with local clay with naturally occurring sand. Organic temper replaced sand in the Chalcolithic layers, mirroring patterns of ceramic production developing throughout the contemporary Near East.

Harvey, Allison (White Sands National Monument)

[183] *Prehistoric Land-use Patterns throughout the Dunes of White Sands National Monument*

Prehistoric land-use patterns within the Tularosa Basin of New Mexico are poorly understood. Cultural sites known as "hearth mounds", scattered throughout the gypsum dunes of White Sands National Monument, have the potential to provide additional insight into human habitation and subsistence strategies within the basin. Survey and preliminary lithic analysis suggest a long utilization of the monument's property dating from the Paleo-Indian through the Historic periods. Findings support a strong association between Prehistoric land-use patterns and dune movement.

Harvey, Amanda [203] *see* Michael, Amy

Harvey, David (The University of Memphis)

[46] *A Cost Surface Analysis of Obsidian Utilization in the Wyoming Basin*

The prehistoric inhabitants of the Wyoming Basin utilized a number of regional obsidian sources, most commonly relying on the Wright Creek (Malad, ID) and Jackson (WY) area source groups. However, the most recognizable regional source groups, those of the Yellowstone Plateau, are seldom encountered in the southwestern Wyoming archaeological record. This presentation summarizes the results of a comprehensive dataset of sourced obsidian artifacts from southwest Wyoming. I use a cost surface analysis in an attempt to understand the pathways structuring regional archaeological patterns of landscape and resource utilization.

Harvey, Emma [35] *see* Kingwell-Banham, Eleanor

Haskell, David

[98] *Implications of La Memoria de Don Melchor Caltzin (1543) for Tarascan Historiography and the Use of the Ethnohistoric Record to Model Tarascan State Formation*
The recent translation and description of La Memoria de Don Melchor Caltzin, the earliest document written in the Tarascan language, opens an important window into

Tarascan historiography and state formation. I discuss how the Memoria and perhaps other minor documents might be more reliable than the account of Tarascan history contained in the Relación de Michoacán, because the latter is concerned with legitimating Uacusecha rule in sociocosmic, almost mythic, terms. Additionally, I suggest some implications of the king Tzitzipandaquare's alliance with Nahuatl-speaking merchants, as related in the Memoria, in the developing political economy and the consolidation of power in Tzintzuntzan.

Hassan, Diane [280] *see* Weinstein, Laurie L.

Hassebrook, Laurence [41] *see* Crane, Eli R.

Hassler, Emily [127] *see* Swihart, George

Hastorf, Christine (University of California-Berkeley)

[23] *Enacting community in the Altiplano*

For the residents of Chiripa on the Taraco Peninsula, Bolivia, life was punctuated with processions and veneration. The inhabitants lived amongst sunken and raised enclosures reminding them of the ceremonies of the past and the future, while placing them on their landscape in meaningful ways. These constructions held stone carvings that were oriented to important celestial and landscape markings. The residents of the Titicaca Basin worshipped not only in these designated locales but also throughout the greater landscape, forming a sense of outward engagement in their community creation.

Hatch, Heather (Texas A&M University)

[224] *Maritime Cultural Landscapes in the Bahamas*

Harbour Island was one of the first Bahamian islands settled by the English when they began colonizing the archipelago from Bermuda. The meaning given to the maritime environment by generations of islanders is seen abstractly in place names for beaches, harbours, and maritime spaces such as wrecking grounds. Physical remains of engagement with the maritime landscape are tangibly accessible to archaeologists in points of access such as docks, slipways, piers, and boatbuilding sites. Research carried out at Harbour Island provides a context for examining the importance of these landscape elements for understanding maritime ties in the seventeenth- to nineteenth- centuries.

Haunton, Christian (University of Iowa) and Zachary Nelson

[115] *Sanctimonious Looting: Filling Yale with Machu Pichu*

The Age of Exploration yielded to the Age of Collections wherein museums became the rightful keepers of the world's past. Indiana Jones' statement that "It belongs in a museum" reflected the prevalent view of the times. Now, the wholesale looting of the Third world is discouraged and those countries want their cultural patrimony returned. Yale vs Peru serves as an illustrative example of this reconciliation with past and present caretaking philosophies.

Hauser, Mark (Northwestern University)

[267] *Slavery's Material Record: Comparing settlement patterns, architecture and discarded possessions in plantation archaeology*

The Caribbean basin has a material record of slavery. As such it has been a ready canvas for grand narratives in history and anthropology and archaeology. These narratives tend to be monolithic and present-focussed. It is, therefore, easy to imagine a homogenous past for small-island contexts. In this paper I compare two enclaves in Dominica, Eastern Caribbean to illustrate the importance of agents and actors in reconstruction such as pasts. An analysis of everyday life as retrieved from the house-yards of enslaved laborers make such pasts politically and economically complex.

[224] *Discussant*

Häusler, Werner [215] *see Wagner, Ursel*

Hauzenberger, Christoph [127] *see Brandl, Michael J.*

Hawkins, William and Ryan M. Seidemann (Louisiana Department of Justice)

[14] *Of Skulls, Grave Dirt, and All Dead Things Fit (But Probably Illegal) to Sell: Groping for a Forensic Approach to eBay Sales in Louisiana*

Since 2007, the Louisiana Department of Justice has monitored eBay for human remains and burial artifacts listed by Louisiana sellers. This program has resulted in the seizure of nearly thirty human skulls, associated burial artifacts, and even purported "cemetery dirt." Following seizure, the more complex problem of disposition begins. Efforts to identify seized materials through standard bioarchaeological methodologies are reviewed. Problems with existing analytical methods as well as the legal status of the materials are discussed within the framework of the legal mandates of the Native American Graves Protection and Repatriation Act and Louisiana's Unmarked Human Burial Sites Preservation Act.

Hawley, Marlin (Wisconsin Historical Society) and David Dye (University of Memphis)

[197] *W.C. McKern: Advisor, Consultant, and Godfather for New Deal Archaeology in Tennessee*

Thomas M.N. Lewis was an avocational archaeologist before being named head of TVA archaeology in Tennessee in 1933. His ascent to academic archaeology owes much to his friendship with W.C. McKern, a prominent Midwestern archaeologist and architect of the Midwestern Taxonomic Method (MTM). As Lewis took on new challenges, McKern's mentoring of him intensified. As TVA fieldwork wound down in 1942 with America's entry into WWII, Lewis and his associates turned to analysis and report preparation. McKern's advice was sought in the difficulties attending application of the MTM to Tennessee Valley archaeology, as exemplified in Lewis and Kneberg's Hiwassee Island report.

Hawley, Marlin [100] *see Hill, Matthew G.*

Haws, Dr. Jonathan [109] *see Cooksey, Robert G.*

Haws, Jonathan (University of Louisville), Michael Benedetti (University of North Carolina Wilmington), Nuno Bicho (Universidade do Algarve), Telmo Pereira (Universidade do Algarve) and Steve Forman (University of Illinois-Chicago)

[135] *From the mountains to the sea: Paleolithic ecodynamics in Portuguese Estremadura*

We report findings from a geoarchaeological survey to study human response to environmental change in the Late Pleistocene of Portuguese Estremadura.

Environmental change affected resource availability through space and time and survival of populations living in these areas would have necessitated flexible adaptations. We use a landscape perspective to integrate regional and site data to interpret Paleolithic settlement patterns because geological and archaeological processes operate at many temporal and spatial scales. Artifact concentrations dated to MIS 5, 3 and 2 are associated with raised coastal deposits, eolian and fluvial sands in the diapiric valley and chert sources in the uplands.

[135] *First Chair*

Haws, Jonathan [138] *see Guffey, Jennifer M.*

Hayashida, Frances (University of New Mexico)

[209] *Archaeology and the Wider World*

"Archaeological Method, Theory, and Practice" was designed for the MATRIX Project to help students understand where our questions come from, how we answer them, how we communicate to public and professional audiences, and how the deep past relates to current issues such as human impacts on the environment, inequality, gender identity, and warfare. This approach (linking past and present) has been incorporated into other courses (e.g., on food production and on conservation and indigenous people) that cross anthropological subdisciplines and introduce a different audience (many with no background in archaeology) to the significance of the archaeological record.

Hayes, Katherine (University of Minnesota, Twin Cities), Phyllis Messenger (University of Minnesota), Gregory Donofrio (University of Minnesota), Patrick Nunnally (University of Minnesota) and Anduin Wilhide (University of Minnesota)

[209] *Teaching Heritage Collaboratively at the University of Minnesota*

University of Minnesota scholars of heritage-related disciplines convened a sponsored research collaborative for the current academic year to explore an interdisciplinary pedagogical approach to training heritage resource professionals. This group included both University researchers (engaged in archaeology, architectural history and preservation, public history, natural resources, and museums) and non-academic professionals and community constituents. In this paper we present the summary of our findings on teaching heritage concepts common to our varied disciplines, engaging students in community-based experiential learning, and broader community-university partnerships in heritage resource management. This collaboration provides unique educational experiences, and serves communities.

Haynes, C. Vance [20] *see Prasciunas, Mary M.*

Haynes, Gary (University of Nevada-Reno)

[96] *Actualistic Records of Patterning and Variability in Elephant Bonesites*

To help define meaningful patterns to be found in fossil proboscidean sites, actualistic studies of African elephant

bonesites have been ongoing in southern Africa for 30 years. Possible hominin involvement at fossil sites range from killing-and-butcher, to scavenging-after-death, to merely passing-through-the-deathsites. This presentation describes modern patterns and anomalies in large-mammal carcass-utilization by nonhuman and human killers and scavengers. End-effects of carcass utilization depend on the responsible agent(s) of modification, the time-elapsed since death or since the carcass was encountered by scavengers, and the differing goals of carcass-utilizers.

Haynes, Gary [96] see *Krasinski, Kathryn E. [173]* see *Wriston, Teresa A.*

Haynes, John [129] see *Means, Bernard K.*

Hays, John (OpenSourceArchaeology)

[132] *Empirical Falsification and Open Source Archaeology*

In the 1960s, Lewis Binford adopted Karl Popper's epistemology and applied empirical falsifiability to a new science of anthropological archaeology. As an observational discipline, archaeologists obliterate the source as they record data. After interpretive reports are finished, primary data molder unseen in backrooms and closets. Given unrepeatable observations and inaccessible data how can scientific archaeologists apply basic falsification? Widespread digitization of primary data is now making possible alternative analysis and inference. At its most basic and pragmatic level, alternative analysis is a falsification strategy that can both clarify the science/non-science demarcation and render it moot as data are freely shared.

[132] *Second Organizer*

Kelley Hays-Gilpin (Northern Arizona University)

[47] *Black-on-white and Red All Over: Pottery and Mural Paintings in the Pueblo World*

The colorspace of the ancient Southwest was always diverse and polychrome, but collection and literature surveys show that distribution of colors and the opposition of black-on-white and polychrome color schemes varied considerably. Before polychrome pottery, colorful designs emerged in painted wood, mosaic ornaments, rock art, and mural painting, and the contrast between black-on-white and black-on-red pottery was apparently a meaningful opposition. Black-on-white designs persisted in contrast to polychrome styles in many media through the fifteenth century, as demonstrated in regional comparison of pottery and depictions of textiles in mural paintings in 13th-15th century contexts in west-central New Mexico.

Hays-Gilpin, Kelley [47] see *Hays-Gilpin, Kelley [194]* see *Dongoske, Kurt E.*

Hayward, Michele (Panamerican Consultants), Frank Schieppati (Panamerican Consultants) and Michael Cinquino (Panamerican Consultants)

[101] *Towards a Definition of Caribbean Rock Art*

Caribbean rock art can be easily distinguished from other world rock art assemblages, however, the definition of this region's petroglyphs and pictographs is still imprecise. In this paper we examine certain common features in an attempt to more formally characterize the

area's rock art. Data from rock art locations in Puerto Rico, as well as the Lesser and Greater Antilles are employed using informal and formal methods to systematically present such common features as an anthropomorphic focus, diverse assemblages and different distributional patterns

Headrick, Annabeth (University of Denver)

[275] *Holding Up the System: Chichen's Atlantean Figures*

The so-called Atlantean figures found on several structures at Chichen Itza have seldom garnered much academic discussion. Intriguing for the diversity of their headgear, pectorals, and nosepieces, it is readily apparent that these figures are meant to convey a wide variety of individuals or social groups. Furthermore, while the majority of the figures represent humans, a select few feature deities in this same supporting gesture. Taking into account the location of these figures, this study will explore the purposes behind this diversity and the meaning of the raised hands, suggesting the figures' symbolic support of political and mythological ideologies.

Healan, Dan (Tulane University) and Christine L. Hernandez (Tulane University)

[21] *The Role of Migration in Shaping Trans-Regional Interaction in Post-Classic Central and Near West Mexico*

Mexico's southeastern Bajío enjoyed a long history of interaction with Central Mexico given its propinquity, rich resources, and shared practices in which each participated as donor and recipient. Investigations in the Ucareo-Zinapécuaro obsidian source area have established a dated sequence of settlement and ceramics that reveals a striking diversity of traditions related to Central and West Mexico. Included are red on buff ceramics produced by Formative period Chupicuaro settlers in the region and whose developmental trajectory presages aspects of Epiclassic Coyotlatelco pottery in Central Mexico. We discuss these aspects and their implications for models of short term migration and back-migration.

Healan, Dan M [21] see *Healan, Dan M.*

Healy, Paul [15] see *Powis, Terry G. [15]* see *Wagner, Teresa B.*

Heath, Barbara (UTK)

[133] *Slave Housing, Household Formation and Community Dynamics at Poplar Forest*

This paper combines archaeological data from three slave quarters at Poplar Forest, a piedmont Virginia plantation owned by Thomas Jefferson from 1774-1826, with historical data on the demographic structure of the enslaved community who lived there, to test recent models that attribute changes in size and subfloor pit frequencies in Chesapeake slave quarters over time to family development or to the transition from tobacco- to wheat-based systems of agricultural production.

[133] *First Chair*

Heath, Barbara [133] see *Wilkins, Andrew P.*

Heath, Margaret (Bureau of Land Management)

[53] *Challenges and Opportunities: Presenting the*

*Homestead Act and General Land Office
Commemorations to the Public*

For many Americans homesteading represents the settlement of the West, an important part of their personal history. But for others, homesteading represents the disruption of traditional ways of life and forced degradation of reservation living. Created in 1946 from the Taylor Grazing Service and the General Land Office, the Bureau of Land Management became the administrator of homesteading and the keeper of the records. The sesquicentennial of homesteading and the bicentennial of the General Land Office presented the BLM with the opportunity and challenge of commemorating these events. This paper examines how the agency and partners have met the challenge.

[53] *First Chair*

Heckel, Claire (New York University)

[11] *Ivory Ornaments in Local Context: Technology and Morphology in the Aurignacian of the Vézère Valley*
The Aurignacian has been central to discussions of the emergence of personal ornamentation, often framed as one hallmark of "behavioral modernity." Broad, qualitative comparisons of personal ornaments across time and space have been used to define areas of cultural affinity and continuity, and to demarcate the "modern." Temporally and geographically restricted approaches offer improved resolution and a basis for understanding practices of personal ornamentation as they functioned within specific systems of technology and material culture. This paper presents new approaches to morphological variation, raw material studies and technological systems currently being applied to ornaments of the aurignacien ancien in Périgord.

Heckenberger, Michael (University of Florida)

[190] *Garden Cities of the Southern Amazon*
The imagery of techno-economic innovation as the motor of change and evolutionary stages coined by Morgan's Ancient Society (1877) has dominated discussions of cultural historical development. Recent research beyond classic civilizations, notably East Asia, the Pacific, Africa, and the Americas, provide alternative examples often lacking features such as massive stone cities, alphabetic writing, bureaucratic organization, etc. This paper describes an Amazonian case characterized by networks of hyper-planned and integrated regional polities within a regional peer polity, which rival many ancient states. This pattern conforms in some ways to Howard's (1902) challenge to normative views of post-Industrial urban development: Garden Cities.

**Heckman, Robert (Statistical Research, Inc.),
Ciolek-Torrello (Statistical Research Inc.) and
Michael Heilen (Statistical Research Inc.)**

[90] *Digital Recording of Large, Diverse Datasets: The Statistical Research Inc. Database (SRID)*
Statistical Research, Inc. has developed a proprietary database system (SRID) to address the formidable challenge of recording and managing enormous quantities of data generated by large, complex cultural resource projects. One such project recorded more than 37,000 artifact collections from 30,000 proveniences and 1,900 features. Managing this data requires a system that accommodates a large volume of data and responds to changing methods, evolving analytical goals, and

reporting needs. This paper discusses how multiple data categories, discovery units, features, proveniences, artifact collections, osteological remains, and temporary storage locations are linked in a single database that manages data from discovery to final curation.

Hedden, John (The University of Iowa) and Daniel Horgen (Iowa Office of the State Archaeologist)

[223] *Steed Kisker-Nebraska Phase Cultural Relationships in the Glenwood Locality:*

The close proximity and partial contemporaneity, as well as material culture similarities, have led to many questions concerning the connections between Steed-Kisker and the Central Plains tradition. Contact between these groups within the Glenwood locality in Iowa has been reported, but the extent of this contact is tenuous. Collections at the Iowa Office of the State Archaeologist indicate that contact between these groups may not have been as extensive as in other localities to the south and west. The nature of the identified Steed-Kisker materials in the Glenwood locality offers another avenue to speculate on potential relationships between Steed-Kisker, the Nebraska phase and other groups outside of the Central Plains.

Hedman, William H. [110] see Buvit, Ian

Hedquist, Saul (University of Arizona), Stewart Koyiyumptewa (Hopi Cultural Preservation Office) and T. J. Ferguson (University of Arizona)

[150] *Named Places in a Living Landscape: Hopi Connections to the Past, Present, and Future*
Hopitutskwa ("Hopi Land") encompasses an interconnected network of named locations or "salient places" that explicate Hopi history and culture. These places include locations of ritual importance, landforms associated with deities, springs, trails, and "footprints" of ancestral villages and other archaeological sites that verify the migration of Hopi ancestors. Together these places comprise a living landscape that sustains Hopi identity – tangible connections to the past, present, and future. In this paper we review past Hopi landscape studies and present a preliminary summary of current collaborative efforts to preserve Hopi knowledge of place through the documentation of toponyms and associated narratives.

Hegberg, Erin (University of New Mexico)

[115] *Indiana Jones May Already Be Dead: New Images of Archaeology and Looting in Video Games*

Despite the box office success of Indiana Jones 4, Professor Jones no longer dominates the public imagination as the representative of our profession. Video games also provide several archaeologist characters and dubious images of archaeology. Players can participate in "archaeology" through conducting survey and excavation in World of Warcraft, smashing pots, plants, bookshelves and everything else in Lego's Indiana Jones series, and treasure hunting as Nathan Drake from the award winning Uncharted series. Video games are a significant and growing media and archaeologists must consider their potential impact on shaping players' preconceptions about archaeology, collecting, and looting.

Heidenreich, Stephan (University of Cologne)

[180] *Tools in the Tundra – Man on the Move: Site Function and Settlement Systems in Late Pleistocene Eastern Beringia*

For several years archaeologists have addressed the question of inter-assemblage variability in the late Pleistocene archaeological record of Eastern Beringia (Alaska, northwestern Canada). In a comprehensive study of lithic tool and core assemblages from Alaska different ways of technological organization could be detected, leading to the reconstruction of distinct human behavior on different sites. It is suggested that these behaviors result from specific site functions which can be incorporated in broad settlement systems in the vast Beringian landscape. The systematic trans-regional approach of the study offers new perspectives on the colonization of Arctic and Subarctic North America.

Heidke, James (Desert Archaeology, Inc.)

[270] *Petrography in the Age of Instrumental Characterization: An Example from Honey Bee Village, Pima County, Arizona*

Anna Shepard's insights regarding the necessity of characterizing temper in larger lots of sherds than it is practical to analyze petrographically often seems to have been lost on the discipline, especially since the advent of instrumental characterization studies. Here petrographic and binocular microscopic studies of the pottery from Honey Bee Village, located in southeastern Arizona, are shown to complement one another, allowing questions regarding the inter-relationship of time, space, technology, and pottery function to be addressed. Correspondence, linear regression, and multiple linear regression analyses are shown to be especially useful tools for recognizing and quantifying those relationships.

Heilen, Michael [90] see Heckman, Robert A.

Heim, Kelly (Louisiana State University), Heather McKillop (Louisiana State University), Zoe Morris (University of Western Ontario) and Rosemary Joyce (University of California Berkeley)

[172] *Dental Genetic Traits of Selected Maya Burials From Wild Cane Cay and Moho Cay, Belize*

Excavations of 6 buildings constructed with coral rock foundations, in Fighting Conch mound at the ancient Maya coastal trading port on Wild Cane Cay, Belize, revealed a sacrificial victim, Burial 10. Can genetic traits of her teeth help identify if she was an outsider, as suggested by the Las Vegas Orange Polychrome vessel imported from Honduras that was interred with her? In this study, we describe the skeletal and dental information about burial 10, the context of her interment, and the dental genetics. We compare burials from Fighting Conch mound and from the island trading port of Moho Cay.

Hein, Anke (UCLA) [95] Discussant [95] First Chair

Hein, Anno [270] see Burke Davies, Clare T.

Heitman, Carolyn [164] see Martin, Worthy N.

Heitman, Carrie (University of Virginia)

[229] *The Creation of a Holy House: A Case Study from Chaco Canyon, New Mexico, A.D. 800-1200*

In this paper, I first present the range of ritual offerings

embedded within both vernacular and monumental houses in Chaco Canyon, New Mexico (A.D. 800-1200) and discuss how these contexts and material contents both inscribed houses within a cosmologically defined landscape and recapitulated the conditions of cosmological origins within architecture – demonstrating differential access to those ancestral sources of power and authority. In the second half of the paper, I outline the changing use-life of an “origin house” and, using cross-cultural analogy, model how affiliation with such houses may have motivated cycles of labor exchange by multi-scalar corporate groups.

[229] First Chair

Heller, Eric (University of California Riverside)

[203] *Set in Stone: The Importance of Sociality and Materiality in the Placement of Stela 1, La Milpa North, Belize*

Recent excavations revealed a fallen stone monument at the Early to Late Classic Maya hilltop site of La Milpa North, Belize. Placed at the highest natural point in the area and amidst elite domestic architecture, evidence suggests that this stela was only lightly modified and set in a limestone bedrock outcropping that was deliberately left exposed. Through attention to the social, economic, and political concerns of this monument's erectors and contemporary insights into an ancient Maya ontology that assigned importance to the location and materiality of stelae, this paper addresses several potential significances of the placement of this stela.

Helmer, Matthew (University of East Anglia), David Chicoine (Louisiana State University) and Hugo Ikehara (University of Pittsburgh)

[26] *Plaza Settings and Ritual Performances at Caylán (800-10 BCE), Nepeña Valley, Coastal Ancash*

In this paper we examine the transformation of ritual spaces during the Late-Final Formative period at the site of Caylán in the Nepeña valley. At this time, groups abandon open mound-plaza complexes in favor of enclosure compounds with numerous sunken plazas. This transformation, we argue, is related to a shift in political behavior associated with the emergence of urban contexts. We present excavation and mapping data at one of Caylán's plazas which are discussed through performance. We argue that Caylán plaza settings were used during large-scale festivals as well as smaller-scale day-to-day social interactions in exclusive, neighborhood-based contexts.

Henderson, A. Gwynn (Kentucky Archaeological Survey) and Nicolas Laracuente (Kentucky Heritage Council/University of Kentucky)

[209] *Teachable Moments: Pedagogical Considerations in Teaching Public Archaeology at the Graduate Level*
Archaeologists have a responsibility to prepare today's graduate students to succeed in both academic and applied realms. Effectively working with and writing for the public has become a skill-set as important as excavating and conducting research. This paper assesses a public archaeology course taught in a traditional seminar format in the Spring of 2010, by its instructor and a student who took the class. It considers ways to improve pedagogy, since a seminar format does not appear to be conducive to experiential learning, and suggests ways to overcome this structural obstacle to

ensure a good fit within a university setting.

Henderson, Gwynn [239] *see Pollack, David*

Henderson, Lucia (The University of Texas at Austin)
[30] *Revealing Reliefs: Approaching the Origins and Development of Maya Ideology through the Sculptural Record of Kaminaljuyú, Guatemala*

Although the expansion of Guatemala City has almost completely destroyed the site, Kaminaljuyú has long been recognized as the largest and perhaps most important highland Maya center of the Late Preclassic period. This paper summarizes the results of an ongoing project to catalog, illustrate, and analyze the iconography of Kaminaljuyú sculpture. This effort has revealed sculptural forms and deities unique to the site, alongside early versions of gods seen in Classic period art. Such findings stress the importance of including Kaminaljuyú and other highland and Pacific coastal sites in discourse about the origins and development of Maya ideology and religion.

Henderson, Samantha (University of Massachusetts Boston) and Heather Trigg (University of Massachusetts Boston)

[133] *Understanding Foodways under Thomas Jefferson: Paleoethnobotany at the Wingos Site*

Artifactual and botanical remains from multiple sites connected to enslaved African and African American populations have contributed to our understanding of the nature of slave life at the Poplar Forest plantation and in Piedmont Virginia. Here we discuss the botanical remains from two subfloor pits at the Wingos site, a slave quarter, which dates to Jefferson's ownership of the plantation, to create a picture of slave foodways under this influential man. When added to the wealth of archaeobotanical data collected from Poplar Forest, these data can illustrate how slave life changed over the course of the 18th and 19th centuries.

Hendon, Julia (Gettysburg College)

[267] *Producing Goods, Shaping People: The Materiality of Crafting in Mesoamerica*

Craft production has been central to archaeological understandings of social complexity. Rather than focus on typologies of modes of production, this paper considers craft production as a social process that results in the creation of needed or desired things while also shaping people through their engagement with the material properties of what they make, with the technologies employed in the production process, and with the people with whom they interact, whether as teachers, apprentices, patrons, or family members. Crafting things is necessarily a part of daily life regardless of whether it is done intermittently or on a regular basis.

Hendrickson, Mitch (University of Illinois at Chicago)

[182] *The Hydraulic Nodes of Empire: Examining the cultural significance of artificial water tanks within the 6th to 15th c. Khmer landscape*

Elaborate water management systems in the form of canals, bridges and massive reservoirs (Baray) are a defining characteristic of medieval Khmer centers. Beyond the cities, hydraulic control is further manifest in the widespread distribution of smaller water tanks visible

across Cambodia and southern Laos. Found variously in association with temples, road infrastructure and settlement mounds these reservoirs represent a key data set for understanding the religious, political and socio-economic structure of the Khmer landscape. Analyzing the formal and spatial variation of these hydraulic nodes provides new insight into the development, expansion and downfall of the Khmer Empire.

Henning, Dale (Res. Assoc. ISM & USNM-SI)

[192] *Red Stone (Catlinite?) Distribution Patterns in the Upper Mississippi Valley*

Red stone objects, most assumed to be catlinite, circulated widely in the Upper Mississippi valley and beyond from around A.D. 1350, when intensive quarrying and distribution of catlinite from the quarries in southwest Minnesota probably began. This presentation focuses on the period A.D. 1400 to 1700, the presence or absence of catlinite objects found at specific locations and the types and quantities identified. Applying this information, some conclusions regarding distribution patterns are offered.

Henry, Amanda [145] *see Salazar-García, Domingo Carlos*

Henry, Edward (University of Mississippi), W. Stephen McBride (McBride Preservation Services, LLC.) and Philip B. Mink (University of Kentucky)

[7] *The Union Defense Against Southern Aggression at Tebbs Bend: Archaeological Geophysics and Excavation on a Civil War Battleground in Kentucky.*

Geophysical survey was employed to locate buried defensive features at two areas where the Battle of Tebbs Bend took place outside Campbellsville, KY. Geophysical methods included gradiometry, EM, and electrical resistance. Multiple anomalies were identified that correlated to the characteristics of defensive features historically reported to have been used during this Civil War battle. Excavation of select geophysical anomalies revealed the location of a first-line rifle pit, however the main defensive stockade was harder to delineate with geophysical techniques. Despite this projects many successes, further testing will be required to determine whether other Civil War features were mapped.

Henry, Edward [7] *see Mink, Philip B.*

Herbel, Brian [110] *see Ahlman, Todd*

Herbert, Joseph (Cultural Resources Management Program, Fort Bragg), Ann S. Cordell (Florida Museum of Natural History) and Michael S. Smith (University of North Carolina-Wilmington)

[162] *Grog Tempering and Woodland Interaction in the Carolina Sandhills and Coastal Plain*

Recent research challenges the notion that grog-tempered Hanover series pottery is a Middle Woodland cultural marker in the North Carolina Sandhills and Coastal Plain. Results of a petrographic analysis of 26 dated Hanover vessels (700 BC to AD 1600) and 14 modern grog-tempered briquettes serves to inventory visual characteristics and detect chronological shifts in grog-tempering technology. Although no major technological shifts are noted over this 2300-year period, surface treatment styles occupying briefer periods of

history allow the identification of a sequence of types more sensitive to cultural interaction among neighboring groups.

Herckis, Lauren (University of Pittsburgh)

[233] *Obsidian blade production and exchange in northern Chiapas, Mexico*

Excavations in commoner house groups in the hinterland of Palenque, Chiapas, have produced more than 300 obsidian blade fragments. At least four different sources have been identified via visual sourcing techniques. Most common was San Martín Jilotepeque followed closely by obsidian from El Chayal. Less than 10% of material was sourced to Ixtepeque, Mexican, or unknown sources. Evidence suggests that a local workshop supplied nearby house groups with finished blades. More than 80% of remains recovered represent prismatic blades with evidence of utilitarian use. Analysis of these materials reveals changing procurement and production patterns over time.

Heredia Espinoza, Verence (El Colegio de Michoacán)

[62] *Beyond the Teuchitlán polity: Late Classic and Postclassic sociopolitical developments in the central valleys of Jalisco*

The Teuchitlán polity arose in the central valleys of Jalisco during the Late Formative through Middle Classic. The polity suddenly foundered and disappeared. Until recently, scholars believed that these events left the central valleys empty of human occupation for centuries and that they were only recolonized just prior to the Spanish conquest. I present new data on a Late Classic and Postclassic component in the region's settlement history. These new data throw light on the dramatic sociopolitical changes that marked the end of Teuchitlán and their connection with larger historical processes playing out in both west Mexico and greater Mesoamerica.

Heredia Espinoza, Verence [190] *see Fargher, Lane F.*

Herhahn, Cynthia (Bureau of Land Management) [81] *Discussant*

Herhahn, Cynthia [53] *see Daugherty, Sean I.*

Hernandez, Christine (MARI, Tulane University)

[98] *A Revised Ceramic Sequence for the Ucareo-Zinapécuaro Obsidian Source Area in Northeastern Michoacán, Mexico*

This presentation honors Helen's work on ceramic chronology, typology, and sequencing in the Lake Pátzcuaro basin. These data matured into a regional history of the Tarascan state essential to Mesoamerican archaeology today. She worked on the Acámbaro Project which produced a preliminary ceramic sequence for the corridor known as the eastern Tarascan/Aztec frontier. With chronometric dating complete, I have revised this early regional sequence based on data from the UZ source area. Comparison to other sequences from neighboring sites in the Bajío and northern Michoacán confirm this imperial frontier to have been a culturally dynamic place since its pre-Tarascan beginnings.

Hernandez, Christine L [21] *see Healan, Dan M.*

Hernandez, Hector (Universidad Autónoma de Yucatán), Mario Zimmermann (Universidad Autónoma de Yucatán) and Lilia Fernandez Souza (Universidad Autónoma de Yucatán)

[58] *Archaeological and Chemical Activity Residues on House Lots from Hacienda San Pedro Cholul, Yucatán, Mexico*

Soil chemistry research in archaeology has challenged the study of domestic activity areas in Mesoamerica for the last decades. The application of soil chemistry on native domestic settings from northern Yucatán has been developing recently with the intention to contrast the archaeological and ethnoarchaeological evidence of household activity areas. Our intention in this paper is to show how the analysis of archaeological and chemical activity residues has provided us with an opportunity to overlook the domestic activities of the peones and their families, who used to live at Hacienda San Pedro Cholul during the first half of the twentieth century. We want to contribute to the debate on how the analysis of chemical residues can distinguish activities by a number of chemicals and if these studies could clarify the whole range of domestic activities across time and space.

Hernández Díaz, Gilberto [210] *see Ovilla Rayo, Gengis Judith*

Hernandez Espinoza, Patricia [62] *see Bullock Kreger, Meggan*

Hernandez Garavito, Carla (PUCP - Vanderbilt University), Gabriela Oré Menéndez (Pontificia Universidad Católica del Perú) and Grace Alexandrino Ocaña (Pontificia Universidad Católica del Perú)

[156] *Excavations at Canchaje, Huarochiri: the unfinished project of the Inka.*

Huarochiri, located in the highlands of Lima (Peru) has been known to Andean researchers for years as the location of the famous Huarochiri Manuscript. Archaeologically, however, not much work has been done in the last thirty years after the first archaeological surveys (Spalding 1984). Our work in the site of Canchaje, located in the district of Lahuytambo, has given us first hand data from a Late Horizon site, closely associated with the Qhapaq Ñan. We propose this complex was built under Inka direction by local people and that it was abandoned before it was completely occupied.

[156] *Second Chair [156] Second Organizer*

Herr, Sarah (Desert Archaeology, Inc.)

[260] *1000 Years of Solitude: The Mogollon Rim as a Structural Hole*

In virtually every archaeological reconstruction of the prehispanic Southwestern United States, the Mogollon Rim region has been depicted as an area between larger regional organizations. Located in the mountainous Transition Zone, this area has been called a cultural frontier, a demographic trough, a trade "cul de sac," and a weak pattern. Using ceramics, flaked stone, shell, and rare artifacts from well-dated, excavated contexts, this paper will consider how basic concepts of social network analysis, including "structural holes," can help interpret the regional and macro-regional interactions of Mogollon

Rim households between A.D. 200 and 1200.

[149] *First Chair*

Herrera, Roberto (University of New Mexico)

[122] *Investigating social complexity at the site of El Cholo (SJ-59ECh), Upper General Valley, Costa Rica.* While recent research has increased our knowledge of the Greater Chiriquí archaeological region, the Formative period remains poorly understood. Recent excavations conducted at the site of El Cholo have yielded new data, confronting issues such as the occupational and socio-ceremonial patterning of Formative period populations within the Southern Costa Rican sector of the Chiriquí. This presentation addresses issues relating to long-term site utilization, mortuary and commensal behavior as well as theoretical considerations pertinent to the ongoing debate on emergent complexity and inequality in the region.

Herrera Gorocica, Oscar Enrique [58] see *Martín Medina, Geiser G.*

Herring, Adam (SMU Art History)

[23] *On Andean Abstraction: Archaeology of an Idea* What is Andean Abstraction? In part, it is a term of description: a morphology of the artifacted object, a taxonomy of regular visual forms and compositional strategies. It offers a handy means to catalogue, attribute, seriate works of Andean—particularly Inca—material culture. Even so, abstraction is also describes an ascriptive aesthetic judgment. It signals a critical stance, an interpretive position prepared by post-Enlightenment cultural conditions, reproductive technologies, and historiographic traditions. This paper offers a brief history of abstraction in Andean Studies, a deep-archival foray into the heuristic entanglements of Andean art and archaeology.

Herringer, Susan (Brown University), Alexander Smith (Brown University) and Ian Brownstein (Brown University)

[213] *A "Viking Age" Iron Smelt: Assessment of the Experimental Process through the Analysis of an Iron Bloom*

An experimental iron smelt was performed, in conjunction with the Haffenreffer Museum, as a means to investigate the process in which iron blooms were formed during the Viking Age. Rarely, if ever, do archaeologists find the actual iron bloom. Instead, evidence of iron smelting comes in the form of the bloomery and slag. The experimental smelt offered a unique opportunity to investigate the internal progress of the iron bloom by studying the bloom's microstructure. Utilizing XRD, we were able to confirm a ferrite structure and with subsequent microstructural analysis we were able to discern the transformation of the iron bloom.

Herringer, Susan [109] see *Ryzewski, Krysta*

Herrmann, Edward (Glenn A. Black Laboratory of Archaeology), Robert Mahaney (Indiana University, Glenn A. Black Laboratory of Archaeology, Stone Age Institute), Timothy Baumann (Indiana University, Glenn A. Black Laboratory of Archaeology) and Loren Clark (Indiana University, Glenn A. Black Laboratory of Archaeology)

[114] *Midwest Lithic Raw Material Repository at the Glenn A. Black Laboratory of Archaeology*

The Midwest Lithic Raw Material Repository at GBL has been developed over the past 40 years to facilitate a better understanding of prehistoric acquisition and utilization of lithic resources in the midcontinent. This repository curates over 500 samples with 110 lithic types from across North America, focusing on the Midwest. Its primary function is to assist scholars in the proper identification of resource types and secondly to determine the range of resource extraction and/or trade networks. A 2010 rehabilitation project was initiated to recurate this collection, add spatial data for GIS analysis and increase its accessibility via the internet.

Herrmann, Nicholas [76] see *de Gregory, J Rocco*

[197] see *Harle, Michaelyn S.* [203] see *Stewart, Caitlin E.*

Herrmann, Nicholas P. [90] see *Schroedl, Gerald F.* [6] see *Sherwood, Sarah C.*

Herstad, Kaeleigh (Indiana University-Bloomington)

[125] *Collaborative Archaeology on a Global Scale: Challenges and Possibilities*

While the theories and methodology of Indigenous archaeology and community-based research (CBR) continue to gain ground in North American archaeology, their applicability in archaeological contexts outside of North America and with a range diverse communities has also been demonstrated. Using a variety of case studies, this paper explores the global, discipline-wide implications of recent research in which the key goals that have guided partnerships between Indigenous communities and archaeologists in North America—such as engagement of stakeholder groups, democratization of the research process, and intellectual property rights—have been or could be applied in international contexts.

Hesp, Patrick [113] see *Varney, R. A.*

Hester, Leslie (Delta Gateway Museum)

[189] *Portals of the Soul: Ancient Peoples of Northeast Arkansas*

An exhibition developed for the Arkansas State University Museum presents the iconography of native peoples who thrived in Arkansas hundreds of years before Anglo-Europeans traveled to North America. Skilled prehistoric artisans painted and inscribed images of hands, eyes, serpents, crosses, and a host of other visually powerful designs in works of pottery, shell, copper, and stone. For this exhibition, we explored these images as representations of the mythical creation of the universe, its division into realms, and the very doorways, or portals, through which spirit beings traveled from realm to realm.

Heupel, Katherine (Columbia University) and Albert Gonzalez (Columbia University)

[188] *The Chicano-Hippie War of Northern New Mexico*

In 1969, a prominently displayed banner in Taos - "DESTROY THE HIPPIES" - was just one of the many expressions of the Chicano-Hippie War in northern New Mexico. Though little-known, the violence impacted even the most routine aspects of life, for the hippies and Hispanos/Chicanos. However, the Chicano-Hippie "war"

does not entirely characterize Chicano-Hippie relations, though it certainly has indelibly marked them. In this presentation, I aim to explore the reality of competing narratives of Hispano-Hippie relations, within their regional historical context, local narrative context and with consideration of hippie artifacts intertwined in the lore of the Chicano-Hippie War.

Hickey, Robert [7] *see Keeney, Joseph W.*

Hicks, Brent (Historical Research Associates) and Kevin Lyons (Kalispel Tribe of Indians)

[207] *Late Prehistoric Ungulate Intensive Subsistence Strategy on the Northwest Interior Plateau; A Non-salmon Centric Economic Model.*

The dietary importance of ungulates throughout the Columbia River Basin increased geographically with the relative decline in salmon, especially in tributaries with limited access to anadromous fish. Whereas fishing was seasonally predictable, hunting is not. The centrality of deer to the Kalispel resulted in three contemporaneously occupied winter villages located adjacent to winter deer yards. Potential localized overhunting presented three contingent responses: remain focused on deer, but hunt more broadly; relocate their winter village to another resource patch; broaden their prey spectrum to include less desirable (more costly) game. All three contingencies can be measured diachronically in the archaeological record.

Hicks, John (Univ. of Illinois at Chicago/The Field Museum) and Lucy Burgchardt (Cambridge University)

[104] *Obsidian Craft Specialists and Domestic Production at Cerro Mejía, Peru*

Unidad 19 is a non-elite domestic structure located on the southern slope of Cerro Mejía, a Middle Horizon (AD 500-1000) Wari site in the upper Moquegua Valley (2300m) of Southern Peru. During the excavation, we recovered a substantial volume of obsidian debitage and concluded that this structure was a lithic workshop and its occupants craft specialists charged with manufacturing goods for the Wari colony. In this paper, we discuss raw-material provenance, the nature of domestic production and craft specialization in a Middle Horizon context, and how these aspects define the workshop's role in the colonial political economy.

Hicks, Megan

[263] *The Late Middle Ages at the District Center farm of Skútustaðir, N. Iceland*

Extensive archaeological and paleoenvironmental investigations have been carried out in the Mývatn area of N. Iceland since 1991 (see McGovern et al. 2007). However, the period including 1300 CE through the present is less understood when compared to the Settlement Age and High Middle Ages (incl. 871-1300 CE). The present work describes new findings from the zooarchaeological analysis of a long term farm called Skútustaðir that thrived through major shifts in land tenure, environment, and economy that destabilized other farms in the Mývatn area leading to farm abandonments around 1300 CE.

Higgitt, Catherine [213] *see McEwan, Colin*

Hijel, Roi [227] *see Goodman Tchernov, Beverly N.*

Hildebrand, Elisabeth (Stony Brook University) and Katherine Grillo (Washington University in St. Louis)

[108] *Exploring public architecture in sub-Saharan Africa: What is monumental?*

Archaeological investigations in Africa have revealed numerous structures and other architectural features whose purposes transcended daily domestic activities. Compared to prototypical instances of monumental architecture (Egypt, Mesopotamia, Mesoamerica, Andes), many public structures in Africa appear in unusual economic circumstances (herding without farming), or amidst less extreme social differentiation. Although often smaller in scale, and employing different structural elements, African constructions combine open and restricted spaces to shape human experience. Examining these public structures and spaces should stimulate archaeologists to reconsider concepts of monumental architecture, and re-evaluate the circumstances under which public construction developed, and the purposes it served.

[108] *First Chair*

Hildebrand, Elisabeth [108] *see Grillo, Katherine*

Hildebrandt, William (Far Western Anthropological Research Group) and Richard Fitzgerald (California Department of Parks and Recreation)

[126] *Excavation Of A 7945 Year-Old House In The Mountains Of Northwest California: An Important Moment In The Study Of Early And Middle Holocene Adaptations In Western North America*

The early Borax Lake Pattern was thought to represent the basement culture of northwest California for many years, but it was never securely dated until the excavation of the Pilot Rock Site (CA-HUM-573) in 1982. The site contained several activity areas, including the remains of a house with a rich assemblage of artifacts, many originating from discrete caches. These findings provided important cultural historical information and, when combined with data from other sites in the region, led to the development of a trans-Holocene subsistence-settlement pattern model that is still in use today.

Hilditch, Jill [155] *see Gorogianni, Eugenia*

Hill, Austin (University of Connecticut)

[63] *Surplus production and uneven distribution: Subsistence at Chalcolithic Tel Tsaf, Israel*

The Near Eastern Chalcolithic period was a time of momentous subsistence change. Specialized production of secondary products may have supported the development of surplus production, leading to significant agricultural and social change. However, this hypothesis has rarely been investigated through intensive faunal analysis. Faunal remains from the Middle Chalcolithic site of Tel Tsaf (Jordan Valley, Israel) provide an ideal data set for investigating animal production strategies using traditional zooarchaeological methods and spatial analyses. Pathological evidence from cattle phalanges suggests that plowing provided critical surplus agricultural production. Additionally, spatial analysis provides hints of uneven access to food among households.

[226] Discussant

Hill, Brett (Hendrix College), Deborah Huntley (Center for Desert Archaeology) and Hannah Jane Carmack (Hendrix College)

[260] *Spatializing Social Network Analysis in the Late Precolumbian Southwest*

We explore the relationship between spatial proximity and indices of social connectivity during the A.D. 1250-1500 interval in the American Southwest. Using GIS, we develop matrices of spatial proximity based on terrain-adjusted cost distance between sites in the Southwest Social Networks database. We evaluate the hypothesis that earlier sites show a relatively close correlation between spatial measures of proximity and artifact measures of connectivity, and that this correlation breaks down over time. We discuss how processes of migration and diaspora after A.D. 1300 produce disparities between spatial proximity and other indices of connectivity.

Hill, David (Metropolitan State College of Denver)

[270] *Why are Those Things There Anyway? A Technological Choice Approach To Understanding Inclusions In Ceramics*

Understanding the sources of variability that control the types of inclusions observed in archaeological ceramics has been the goal of archaeological ceramic petrography since its inception. Petrographic studies primarily focus on the identification of inclusions observed in ceramics to identify their origin. By applying a "technological choice" approach archaeological petrography can better explain sources of variation in the type of inclusion that are present in archaeological ceramics and contribute to anthropological theory. Examples from the authors' archaeological and ethnographic work in the American Southwest will be used to illustrate examples of sources of variation in the sources of inclusions observed in archaeological pottery.

Hill, Erica (University of Alaska Southeast)

[105] *Sex and Sacrifice: Moche Women in Biocultural Perspective*

Women in Moche society (AD 100–800) are represented in iconography in a limited number of roles: as mothers, as sex partners, as sacrifices, and as ritual officiants. In tandem with iconography, bioarchaeological data greatly expand our understanding of these roles and others that mark the human body in terms of age, health, reproductive status, and manner of death. This paper combines iconographic evidence with that derived from Moche burials in order to reconstruct the ways in which women—sometimes literally—sacrificed themselves for Moche society, both privately at the household level and publicly during ritual performances.

Hill, J. Brett [260] see Clark, Jeffery J.

Hill, Jane (University of Arizona)

[21] *How Mesoamerican are the Nahua languages?*

The Nahua languages share many properties with neighboring Mesoamerican languages belonging to other families. Along with lexicostatistical data on the extent of divergence among the Nahua languages, this evidence has been thought to be consistent with involvement of Nahua-speaking peoples in the Mesoamerican core for

about 1500 years. Other lines of investigation, including evidence from epigraphy and ancient Uto-Aztecan loan material in other Mesoamerican languages, along with possibly Mesoamerican features in some northern Uto-Aztecan languages, suggest the possibility of an earlier involvement. These conflicting proposals are reviewed, with an emphasis on clarifying the issues and methods for non-specialists.

Hill, Mark (Ball State University) and Emily Murray (Ball State University)

[239] *White River Oneota: Perspectives from the Taylor Village Site*

Oneota occupation of the White River Valley of central Indiana is a poorly known aspect of the Late Prehistory of the Ohio Valley. This is due in part to the scarcity of known components as well as the limited research conducted at these sites. Yet, significant Oneota occupations did occur and Oneota populations appear to have interacted with neighboring Oliver phase communities during the 14th century. This paper presents recent research conducted at one fortified Oneota village known as the Taylor Village site that sheds light on the nature of Oneota occupation and interaction with Oliver populations in central Indiana.

Hill, Matthew (Iowa State University) and Marlin Hawley (Wisconsin Historical Society)

[100] *The Interstate Park Bison Site, Wisconsin: New Deal Archaeology and the Search for Early Man in the Upper Midwest*

Excavated in 1936-7 by CCC workers, two side-notched points and a bi-pointed copper tool were recovered in association with the remains of extinct bison at Interstate Park. The scientific community, most notably E.B. Howard and A.V. Kidder, was immediately skeptical of the situation because it did not square with expectations of Early Man sites (extinct bison and Folsom points). As one of two sites in Wisconsin excavated with New Deal relief monies and the only putative Early Man site in the state excavated during this era, the site and discourse surrounding it offers a glimpse of regional archaeology as it was practiced during the period when it was changing from a largely museum based discipline to an academic discipline.

Hill, Matthew G. [140] see Lambert, John

Hill, Tyler [227] see Patterson, James W.

Hillgruber, Kurt, Stefan Winghart (Lower Saxony State Service for Cultural Heritage) and Gabriele Zipf (Lower Saxony State Service for Cultural Heritage)

[93] *A new center for prehistoric research and for experiencing Paleolithic lifeways*

A new Paleolithic research and experience center will open in 2013 near Schöningen, Germany. The center consists of two components, the research section focusing on Paleolithic studies conducted in Lower Saxony, and the exhibit section presenting new results through experience-oriented exhibitions and events. New findings will be displayed by allowing close-up experience of the "adventure of science" at the excavation sites and at the "transparent laboratories"

designed to be visible to the public. This connection between the public and science is anticipated to be mutually beneficial for both sides, thus enriching both, the viewing and the research experience.

Hilliard, Jerry

[252] *Carden Bottoms Phase Houses*

In 2011 we excavated three geophysical anomalies, all of which are large, square domestic structures, two of which were burned and buried. Each incorporated four large, interior center roof support posts and a centrally located hearth. The regularity of center post placement, and similarity of the size and depth of post molds indicate use of exacting measurements. This degree of engineering suggests houses were built communally with construction guided by one or more craft specialists knowledgeable in a house-building tradition. Artifacts found on the house floors include stone tools and tool-making kits as well as ceramics and other items.

Hills, Kendall [61] *see Schwake, Sonja A.*

Hilton, Michael (Black Hills National Forest), Nadine Hallmann (Institute of Geosciences, University of Mainz) and Gail V. Irvine (U.S. Geological Survey, Alaska Science Center)

[164] *A Paleohydrologic Model of Changes in the Alaska Coastal Current Utilizing Archaeologically Derived Bivalve Shell*

The research potential of curated archaeological collections is frequently overlooked and underexploited. In this paper, bivalve mollusk shells (*Saxidomus gigantea*) recovered from a Southwest Alaska coastal midden site are utilized as proxy data to develop a model of hydrological change in the Alaska Coastal Current. The model is calibrated and tested using modern shell from the same geographic location. Oxygen isotope analysis combined with measurable variation in the widths of lunar daily growth increments (sclerochronology) are used to estimate changes in salinity and variation in saltwater temperature. The paleohydrologic model applies to a period roughly 600–1500 calibrated years BP.

Hirshman, Amy (West Virginia University)

[98] *Petrography of Tarascan ritual pipes*

The use of pipes and tobacco in Tarascan state ritual is well established, and pipe fragments are found archaeologically in Tarascan ritual contexts. However, nothing is known of their production, though visual inspection of their pastes indicates variability similar to that of other ceramics within the Tarascan core. Previous research indicates general ceramic production, including state-associated fine wares, was not centrally organized. This petrographic study of pipes fragments, a special-use ceramic category from the Tarascan capital of Tzintzuntzan, provides an additional perspective into the use of ceramics in the Tarascan political economy.

[98] *First Chair*

Hirth, Kenneth (Penn State University) [102]

Discussant

Hixon, David [167] *see Beach, Timothy*

Hixson, David (Tulane University)

[128] *Roads to a Market Economy Revisited: Andadores of the Western Maya Wetlands.*

Dahlin once proposed that a fruitful line of inquiry into Maya markets would be to examine transportation arteries that facilitated the importation and exchange of both perishable and durable goods. While several Maya centers exhibit formalized networks of causeways leading to open public spaces, most imply a heavy hand of centralized coordination. The andadores of the western Maya wetlands provide a stark contrast to this centralized model. When these regional transportation features are viewed alongside a meandering urban landscape like Chunchucmil, the resulting pattern implies a non-centralized institution of exchange that falls outside the standard rubric of elite redistribution.

Hlubik, Sarah (Rutgers University), Jason Lewis (Rutgers University) and David Braun (Baylor University)

[258] *Remote Sensing in the Remote Past: Data Collection Standards for Paleolithic Landscapes*

Anything that happened, happened somewhere. Recovering fossil and archaeological remains is no different. Paleoanthropological fieldwork involves the integration of geological, geographical, and environmental data in order to plan, execute, and record results in a spatially informed way. This paper presents current state of the art techniques using high resolution multispectral satellite imagery and supervised classification methods to identify targets of interest, differential GPS and georeferenced photographs to document survey, and to set up landscape and/or excavation-based archaeological work. Standards for these analyses are proposed, and ways of employing tablet/smart devices in such work is also discussed.

Hoag, Elizabeth, Mallory Haas (Center for Community Studies) and Jarrod Burks (Ohio Valley Archaeology, Inc.)

[240] *Re-Discovering Rockefeller: Geophysical and Archaeological Investigations at Forest Hill Park, East Cleveland, OH*

Today, Forest Hill Park is a quiet urban refuge in East Cleveland. It sits empty, giving no clue that it was once the summer home of John Rockefeller. The house served as his retreat from 1875 until it burned down in 1917. Working from ground-penetrating radar results, aerial photographs, historic maps and images, we conducted limited archaeological testing to locate the structure's foundations. Our work, along with the help of high school students and community volunteers, is beginning to create new interest and shed new information onto the life of one of America's most influential businessmen.

Hockett, Bryan (Bureau of Land Management), Cliff Cregar (Nevada Department of Transportation), Beth Smith (Nevada Department of Transportation), Craig Young (Far Western Anthropological Research Group) and James Carter (Bureau of Land Management)

[234] *Variability in Large Game Trapping Strategies in the Great Basin, U.S.A.: Communal Fandangos, Prestige Hunting, or Optimal Foraging?*

Large game trapping facilities including corrals and fences are known to date to the Middle Archaic (3,500 –

5,000 years ago) in the Great Basin. In eastern Nevada, these facilities were usually constructed of juniper tree limbs and sagebrush, and often consisted of circular corrals with associated wings. In western Nevada and eastern California, rock alignments and fences seem to be more common. However, they were all built for a similar purpose: trap migrating herds of large game, principally pronghorn and mountain sheep. Explaining the initiation of the construction and use of these facilities in the Great Basin will be explored.

Hodgetts, Lisa [141] see Booth, Laura [124] see Morris, Zoe H.

Hodgins, Greg [183] see Towner, Ronald

Hodgins, Gregory W.L. [183] see Rosenstein, Dana Drake

Hoefler, David (University of Louisville)

[85] *The Archaeology of Ghost Ranch: Intersite Analysis of Faunal Remains at Two Archaic Hunter-Gatherer Sites*
Ongoing excavations at Ghost Ranch of two hunter-gatherer rock shelters, GR-2 and GR-145, offer new opportunities for assessing prehistoric land-use in the Piedra Lumbre Basin of north-central New Mexico. Intersite analysis of these remains provides new data for understanding subsistence organization during the Southwestern Archaic. Faunal assemblages from the two sites, located 6 km apart and overlapping chronologically, suggest divergent patterns of game collection, processing, and use by groups taking up temporary residence in a seasonal round. Initial assessment points to cultural practice, rather than preservational difference, as the primary cause.

Hoekman-Sites, Hanneke [155] see Gibling, Julia I.

Hoffecker, John [204] see Mason, Owen K.

Hoffman, Brett (University of Wisconsin-Madison)

[217] *The Role of Metals on the Indus Civilization*
Traditionally, metals are thought to function as wealth and status items in complex societies. Metal is used in service to the economic, social, political, and ideological realms. Due to this variety of functions, metals have often played a prominent role in models of complexity. Few of the previous reviews of metallurgy within the Indus Civilization have attempted to integrate the existing evidence for Indus metallurgy into a political and economic framework that allows for cross-cultural comparisons. This paper will review the role of metals within the Indus and compare that with the roles that metals play within other complex civilizations.

Hoffman, Brian (Hamline University)

[204] *Manufacturing Status: Social Networks in an Eastern Aleutian Maritime Economy, ca. AD 1650*
The Unangan of the eastern Aleutian Islands lived in large villages organized around multi-family dwellings. Analyses of three communal houses from Agayadan, a 17th Century AD village on Unimak Island, provide evidence for differential participation in regional trade networks. The larger household at Agayadan emphasized the trade of prestige goods produced by both male and female household members. The exotic

materials obtained in return were recovered in equal quantities from all three dwellings. These patterns suggest prestige goods production, competitive feasting, and the maintenance of regional trade networks were strategies the larger household used to increase social power not wealth.

Hofmann, Daniela (Cardiff University)

[251] *Intimate connection: bodies and substances in flux in the early Neolithic of central Europe*

The Neolithic is traditionally seen as a time when animals, objects and (human) persons become separate categories in a hierarchical relationship to each other. However, the funerary rites and anthropomorphic figurines of the central European early Neolithic (LBK) challenge these rigid boundaries, stressing the dissolution of the corpse and its admixture with animals and objects. Similarly, key items such as spondylus shells were intimately connected with the human body, both sustaining and marking it and allowing accepted ways of performing personhood. Changes towards a more rigid separation between human and non-human only take place over the longer term.

Hogan, Maura (Indiana University)

[125] *The Ethics and Economics of Education: Considerations of Curriculum Reform in North American Archaeology*

In recent years, members of the academic and professional archaeological community have given increasing attention to issues such as ethical conservation methods, public outreach and education, and indigenous collaboration. In anticipation of major shifts in job market demands, this community—including faculty, private and government sector professionals, graduate students, indigenous stakeholders, and national and international organizations—must continually re-evaluate how well academic institutions are negotiating these new responsibilities. This paper presents an overview of the state of the national archaeological curriculum present and past, and what improvements or trajectories have been set in motion for future educational agendas.

Hogan, Patrick [112] see Worman, F. Scott

Hoil Guttierrez, Julio [150] see Armstrong-Fumero, Fernando T.

Hoiness, Amanda (New Mexico State University)

[213] *Bone Grease, Stews, and Cannibalism: The Physical Effects of Boiling Bones*

Pot polish is the polish on bone fragments that is believed to originate by boiling bones in ceramic vessels while processing for bone grease. This specific characteristic of boiling has been, almost exclusively, linked to cannibalism. By comparing and evaluating polish, abrasion, beveling and rounding it will be possible to determine at what stage these characteristics arise and if stewing bones also produces these same characteristics. Preliminary results suggest that higher frequencies of all the characteristics evaluated are present on assemblages that have undergone boiling. Furthermore, bones specimens that have been stewed possess even greater, relative frequencies.

Holcomb, Justin (Oregon State University) and Loren Davis (Oregon State University)

[37] *Landscape Evolution and Geoarchaeology of Columbia River Plateau Alluvial Systems: Lessons and New Directions for Early Sites Research*
Nearly all known late Pleistocene-aged (LP) archaeological sites of the Columbia River Plateau region are located in alluvial geomorphic contexts; however, we lack a clear understanding of why and where early sites should be found in river systems. Seeking a solution, we consider four questions, including: Where are LP-aged sites found in Plateau river basins? Where are suitable LP-aged deposits found in the Plateau? How did particular geological events work to potentially preserve or destroy early sites? Given these patterns, where might we find other sites? Recent geoarchaeological research at the Cooper's Ferry site is featured as a case study.

Hole, Frank [234] *see Zeder, Melinda A.*

Holeman, Abigail (University of Virginia)

[229] *Ritual Attractors at Paquimé: Political Dynamics in Northern Mexico*

The site of Paquimé in northwestern Chihuahua, Mexico developed into one of the largest primate centers in the U.S. Southwest/Mexican Northwest during the late prehistoric Medio Period. The layering of rich ceremonial deposits at different loci throughout the site is a testament to the processes that attempted to concentrate ritual power at the site. Utilizing the concept of the "ritual attractor" this study explores the spatial patterning of Paquimé's ritual deposits. Ritual is often an arena of political negotiations, and the concentrations of large quantities of ritual items can be interpreted as attempts to establish more permanent positions of hierarchy.

Holeman, Abigail [164] *see Martin, Worthy N.*

Holen, Kathleen (Denver Museum of Nature & Science) and Steven R. Holen (Denver Museum of Nature & Science)

[96] *An Application of Metric Analysis to Proboscidean Bone Notches*

Previous research has employed a method of quantitative analysis to differentiate notches on bone by agent but applied it primarily to smaller ungulate bone and early hominin sites in Africa. Our study utilized metric analysis to compare experimental and Pleistocene proboscidean bone notches. Preliminary results suggest that notch shape, defined by notch breadth to notch depth and flake scar breadth to notch depth ratios, identify human modification of proboscidean limb bone. This method of quantitative analysis augments qualitative evidence of bone modification from Pleistocene assemblages that support a human presence in North America during the Last Glacial Maximum.

Holen, Steven (Denver Museum of Nature & Science)

[225] *Evidence for a Mid-Wisconsin Human Presence in the Americas*

A mid-Wisconsin human presence in the Americas was hypothesized decades ago. This idea has been revisited by a few scholars sporadically in recent years; however, the archaeological community has generally ignored the theory. In this paper, this hypothesis is revisited using

lithic and taphonomic evidence to argue in support of the proposition that there is a human presence between 20,000 and 40,000 years ago in both North and South America. Data supporting this hypothesis indicate that both academic and cultural resource management archaeologists should expand their survey and excavation methodologies to include mid-Wisconsin and earlier geological deposits.

[225] *Second Organizer*

Holen, Steven R. [96] *see Holen, Kathleen*

Holland, Thomas [14] *see Fox, Gregory L.*

Hollenbach, Kandace (University of Tennessee)

[45] *Settlement and Subsistence Strategies in the Late Archaic and Early Woodland Periods in Tuckaleechee Cove, Eastern Tennessee*

Large-scale excavations in Tuckaleechee Cove, in the Appalachian foothills of eastern Tennessee, revealed a nearly continuous occupation from the end of the Late Archaic through the Early Woodland period (roughly 1750-300 cal B.C.). This paper examines changes in settlement patterns, as evidenced by feature types and layouts, alongside the relative continuity in their subsistence economy, which is based on nuts, fruits, native cultigens, and hunted and trapped game. I use these patterns to explore changes in the strategies employed by these groups living in the rich foothills as they deepened their investment in horticulture.

[45] *First Chair*

Hollenback, Kacy (University of Arizona)

[154] *Technological Continuity and Change Post-Disaster: A Behavioral Model*

This paper explores post-disaster technological continuities and change by drawing on ethnohistoric, ethnographic, and archaeological data from the Northern Plains. Specifically, I examine how Hidatsa women altered potting practices after the smallpox epidemics of the 18th and 19th centuries by drawing on several concepts from Behavioral Archaeology, including the life history approach, behavioral chains, and performance characteristics. Additionally, I explore the role of material objects in post-catastrophe coping and the implications for survivors and descendant communities. Important to this research is the behavioral tenet that material objects hold a central place in the daily lives of people.

Holliday, Vance (University of Arizona), Susan Mentzer (Eberhard Karls Universität Tübingen), Javier Vasquez (TRC Environmental, El Paso) and David Carmichael (University of Texas at El Paso)

[20] *Preliminary Geoarchaeological Investigations at Sierra Diablo Cave, Hudspeth County, Texas*

Paleoindian occupations of caves and rockshelters are poorly understood, particularly in the American Southwest. A limestone cave in the Sierra Diablo Mountains (Trans-Pecos Texas) contains, in addition to Archaic materials, extinct late Pleistocene fauna and lithic debris that suggest a possible Paleoindian presence. Field stratigraphy, micromorphology, and radiocarbon dating provide insights into site formation processes and geochronology. Animal activities, including rodent burrowing, have contributed to the formation of the multi-meter sedimentary sequence.

Continued research is focused on 1) isolating mixed materials, and 2) recovering in situ archaeological materials and samples for dating.

Holliday, PhD, Vance [100] *see Vasquez, Jose Javier*

Hollimon, Sandra (Santa Rosa Junior College)
[105] *Women and Warfare in Native North America: Bioarchaeological Evidence, Traumatic Injuries and Gendered Interpretations*

A promising approach to the examination of skeletal remains as material culture involves the identification of traumatic injuries in sexed skeletons. It may also be possible to identify third- and fourth-gender persons in skeletal populations. My work has tentatively identified possible fourth-gender females in precontact California and the protohistoric northern Plains. In both of these areas, traumatic injuries consistent with participation in warfare as combatants have been found in female skeletons. Normative women in these societies could be combatants, but ethnographic evidence also supports the possibility that at least some of these persons were fourth-gender individuals.

Hollund, Hege [176] *see Denham, Sean Dexter*

Holly, Donald (Eastern Illinois University), Christopher Wolff (SUNY Plattsburgh) and John Erwin (Department of Tourism, Culture and Recreation, Government of Newfoundland and Labrador)

[232] *The Beothuk Indians of Newfoundland and the Archaeology of Abandonment: Perspectives from Southeastern Newfoundland and the Stock Cove West Site*

The Beothuk Indians of Newfoundland had a significant presence in Southeastern Newfoundland on the eve of European contact in the late 15th century. By the middle of the 17th century, however, the Beothuk had all but abandoned the region in the wake of European expansion. This paper charts this process as it is evident in the archaeological record, incorporating new data from the recently excavated Stock Cove West site in Trinity Bay. Social and historical factors that may have contributed to the Beothuk's retreat from this region also are discussed.

Holmer, Marie [109] *see Holmer, Nicholas A.*

Holmer, Nicholas (Idaho State University), Monica Tromp (Idaho State University), Marie Holmer and John Dudgeon (Idaho State University)

[109] *Bone char as a proxy for archaeological bone? An assessment of diagenetic element uptake in biological material*

Distinguishing diagenetic trace element uptake from biological incorporation in bone for reconstructing archaeological life histories is an important, but not well understood problem in bioarchaeology. Bone char has been suggested as a suitable analogue for studying diagenetically-altered bone, despite the fact that it does not approximate archaeological bone either biochemically or structurally. We assess the validity of bone char as an archaeological proxy by comparing elemental uptake in bone char with archaeological and modern bone (altered and un-altered). We propose that

bone char does not adequately represent the various classes of diagenetic modification and overestimates the effects of post-depositional processes.

Holmer, Nicholas [129] *see Schlader, Robert*

Holmes, Callista (Indiana University of Pennsylvania)
[7] *Modeling Magnetic Signatures of Sunken Ships: 1750-1900*

With the use of geophysical equipment such as a marine magnetometer the process of finding sunken ship sites has become more effective. However, distinguishing magnetic anomalies of shipwrecks from general debris has proven difficult for underwater archaeologists. Through intensive research of wooden ship construction, including the amount of ferrous materials used in construction, variations in the magnitude of magnetic anomalies for different ships can be identified. With this information it is possible to develop a model that will allow archaeologists to identify the size and age range of a sunken ship through a magnetometer survey.

Holmes, Jon [129] *see Schou, Corey D.*

Holmes, Jonathan [129] *see Betts, Matthew W.*

Holt, Julie (Southern Illinois University Edwardsville)
[266] *Was Cahokia the Center of a Theatre State?*

In recent decades, the dominant archaeological paradigm, whether explicit or implicit, has been that Cahokia was the center of a chiefdom. Few archaeologists have seriously considered the possibility that Cahokia might have been the capital of a state, and when they have considered it, they have relied on a Eurocentric notion of the state. I propose the Geertzian model of the theatre state as an alternative way to interpret Cahokia. In the theatre state, power is based on ritual performance. The theatre state model seems a better fit with evidence from Cahokia than our usual notions of chiefdom or state.

Holthus, Laura [171] *see Lynch, Elizabeth M.*

Holzer, Adrian (University of South Dakota)
[43] *Gender Specific Violence at Crow Creek, South Dakota*

Near Chamberlain, South Dakota lays a mass grave of more than 486 individuals. The Crow Creek site dates to the mid 1300's where these ancestral Arikara once lived. Upon study of their remains, similarities in gender/age specific violence began to appear. Cause of death seemed to be predetermined based on age and sex of the individuals. The remains were excavated in 1978 and only allowed to be studied briefly. Upon return of the remains, they were reburied and made unavailable for further analysis.

Homsey, Lara K. [124] *see Roe, Lori*

Honeychurch, William [237] *see Wright, Joshua*

Honeycutt, Linda (Independent Researcher)

[164] *Tracking Early Pottery Motifs in the Four Corners Region: If it's June, this must be Santa Fe*

This project examines the distribution of Anasazi Basketmaker III bowl motifs throughout the Four Corners

Region. The data set is derived from photographs of bowls that are more than 50% complete from provenienced Basketmaker III sites dating between A.D. 500-750. Photographs of such bowls have been obtained from museum collections in Colorado, Utah and New Mexico; additional photographs from other collections are anticipated over the next three years. For each bowl, motif variables and site information are entered into a data base and GIS mapping program. Region-wide distribution maps are then generated through queries for specific variables.

Hoopes, John (University of Kansas)

[118] *Emic and Etic Models for Sorcery as Medicine in Pre-Hispanic Central and South America*

Pre-Hispanic sorcery can be understood in the context of internally consistent, non-biomedical models for the diagnosis and treatment of diseases that resulted from maleficent magic. Magic workers employed sorcery to counteract sources of personal illnesses as well as "macro-illnesses," maladies that affected entire communities, regions, and the world at large. Their methods drew heavily upon concepts of therianthropy (human-animal transformation) that emphasized emically defined qualities of jaguars, saurians, and raptorial birds. This paper uses specific emic and etic interpretations from studies of non-state complex societies in Central and South America to explain sorcery as practiced in ancient Mesoamerica.

Hoopes, John [122] see Aguilar Bonilla, Mónica

Hopkins, Nicholas (Jaguar Tours) and Karen Bassie (Independent Scholar)

[4] *Birds of a Feather*

In his seminal 1976 volume *Deciphering the Maya Script*, David Kelley reviewed numerous topics, including the correct identification of several bird species in Maya art and hieroglyphic writing. In this paper, we examine a number of important bird species found in Maya art and mythology, and discuss how some of these birds have been misidentified or incorrectly characterized by other scholars over the last 35 years. It is our position that scholars must pay more attention to indigenous classification systems in order to ascertain the significance of these birds.

Hoppa, Kristin [166] see VanDerwarker, Amber M.

Horgen, Daniel [223] see Hedden, John

Hori, Kyoussuke [211] see Terry, Karisa

Horlacher, Jacob (Brigham Young University), Richard Terry (Brigham Young University) Laura Pyper (Brigham Young University)

[128] *Geochemical analysis of Ancient Maya activities in selected plazas of Sayil and Kiuc in the Puuc Hills of Yucatan, MX.*

We applied geochemical and spatial analysis of the floors of the Mirador group at Sayil and the plazas and open spaces at the site center of Kiuc in the Puuc hills of Yucatan to discover the chemical residues of phosphorus (P) and trace metals associated with ancient Maya activities in plazas. Some of those activities may have included the exchange of foodstuffs and workshop items

in the marketplace. Patterns of P accumulation at a proposed marketplace in the Mirador group of Sayil appeared typical of household activities rather than marketplace. One corner of the Kiuc plaza complex shows evidence of a public eating establishment with associated P concentrations but most of the plaza areas at Kiuc were either ceremonial or under construction at the time of abandonment.

Horn, Sherman (Tulane University)

[70] *A New Spin on the Old Shell Game: Middle Preclassic Marine Shell and Socioeconomic Networks in the Maya Lowlands*

Previous studies of Middle Preclassic marine shell industries in the Maya lowlands focus on patterns of production, consumption, and the nature of ornaments as proxies for understanding social organization. New information from Cahal Pech in the upper Belize Valley indicates that inhabitants of the site were intensively engaging in such activities. This study investigates the role of shell industries in the development of increasing sociopolitical complexity. It presents a formal and contextual analysis of marine shell ornaments, with a focus on elucidating aspects of the complex, multidimensional socioeconomic networks operating during this critical period of cultural development in Maya prehistory.

Horne, Christopher, Timothy Ward (Millsaps College), Michael Galaty (Millsaps College), Jiyan Gu (Millsaps College) and Marlaina Berch (Millsaps College)

[114] *ICP-MS and LA-ICP-MS Analysis of Albanian Artifacts*

A Varian 820 ICP-MS was used to analyze artifacts collected from Albanian. Pottery samples are transferred into liquid by microwave total digestion. Chert stone tools collected in northern Albania by the Shala Valley Project were analyzed by a New Wave Research UP-213 Nd/YAG laser ablation system. Solid samples were ablated and introduced into the ICP-MS by focusing the laser beam on the sample surface. The 612 glass standard reference material from NIST was used as the external standard and the isotope ²⁹Si was used as the internal standard. The elemental composition of the pottery and cherts provided valuable information for provenance study.

Horne, Christopher [220] see Gu, Jiyan [119] see Ward, Timothy J.

Horowitz, Rachel (Tulane University)

[203] *Preliminary Investigations at Callar Creek Quarry, Belize*

The acquisition and reduction of lithic raw materials are important components of lithic economies. This paper will discuss preliminary investigations at the Callar Creek Quarry. Callar Creek Quarry, a chert quarry, is located in the Mopan Valley near numerous other sites including Xunantunich, Buenavista del Cayo, Callar Creek, and Actuncan. The investigations at the quarry focus on its extent and a preliminary analysis of the extraction and processing of chert. These investigations, and the quarry's location in a well investigated area, contribute to an understanding of the structure of the lithic economy in the Mopan Valley.

Horton, Elizabeth A. [90] *see Wilson, Douglas C.*

Horton, Katharine (Colorado State University), Michelle Glantz (Colorado State University) and Zhaken Taimagambetov (Al-Farabi, Kazakhstan State University)

[38] *Piecing together the Paleoclimate of late Pleistocene Kazakhstan: pedologic analyses of Valikhanova and Maibulak*

It has been hypothesized that drastic paleoclimatic fluctuations during the terminal phases of oxygen isotope stage (OIS) 3 led to hominin evacuation of Central Asian landscapes. These fluctuations have been described as more severe than those of Western Europe and responsible for the relative dearth of early Upper Paleolithic sites in the region. To address this hypothesis, we present preliminary pedological analyses from the Upper Paleolithic open-air sites of Valikhanova and Maibulak, Kazakhstan. We also compare these results to sediment analyses of chronologically congruent stratigraphic units from the cave sites of Anghilak and Obi-Rakhmat in Uzbekistan.

Houk, Brett (Texas Tech University) and Gregory Zaro (University of Maine)

[61] *The Cities on the Edge of History*

Because of a general paucity of hieroglyphic texts, ancient Maya cities of the eastern Lowlands are often treated as peripheral to major cultural developments of the Classic period. While it is difficult to link the chronologies of many eastern Lowland cities into the increasingly detailed history of the Classic period, the study of these sites contributes greatly to our understanding of ancient Maya civilization. This paper examines theoretical and methodological challenges to studying "cities without history." We focus on investigative approaches to the built environment and look at the difficulties inherent in merging datasets with vastly different levels of resolution.

Houk, Brett A. [61] *see Moats, Lindsey R.*

Houle, Jean-Luc (Western Kentucky University)

[103] *A Long-Term Perspective on Pastoralist Resiliency and Political Institutions: Local and Regional Considerations from Central Mongolia*

Recent research has underscored the importance that flexibility and opportunism in subsistence practices, mobility patterns and group configuration has had for the sustainability of Mongolian pastoralism. Here, I consider these practices and patterns through time in order to identify key factors that may explain the successes and failures of various political institutions.

House, John (Arkansas Archeological Survey)

[189] *Regional variation in Mississippian Effigy Vessels in Eastern Arkansas*

Mississippian effigy vessels, those incorporating forms of various animals including humans, have been studied in terms of iconography. Relatively little attention, however, has been paid to aspects of stylistic variation cross-cutting iconographic content. Comprehensive description of individual effigies in terms of the techniques used to produce their visual elements offer an approach to delineating both interregional stylistic variation among

effigy vessels and the presence of "foreign" effigy vessels in local assemblages.

Houston, Stephen (Brown University), Thomas Garrison (Brown University) and Edwin Roman (University of Texas at Austin)

[66] *A Fortress in Heaven: Long-Term Regional Research at the Maya City of El Zotz, Guatemala*

This presentation introduces long-term, interdisciplinary research at the Maya city of El Zotz, Guatemala, and environs. From 2006 on, a Brown University project has addressed the role of dynastic settlement, from inception to extinction, in a region that bordered a major power, in this case Tikal. Through a suite of related surveys, excavations, artifact studies, and environmental reconstructions, it has posed the question of what such a location might mean for a "buffer polity" that juggled, over time, broader alliances and economic stratagems against a pattern of purely local entrenchment.

[199] *Discussant [66]* **Second Organizer**

Houston, Stephen [66] *see Roman-Ramirez, Edwin R. [66]* *see Garrison, Thomas G.*

Houston, Steve [66] *see Flood, Jonathan M.*

Hovsepian, Roman (Institute of Archaeology and Ethnography NAS RA)

[130] *On the Specifics and Origin of Agriculture of the Kura-Araxes Culture: Recent Archaeobotanical Data from the South Caucasus*

Traditional ideas about prehistoric agriculturalists posit their opportunistic strategy concerning the cultivation of plants. However recent archaeobotanical data from Kura-Araxes sites (Early Bronze Age, mid IV-first half of III millennium BC) suggest a farming strategy based on a very narrow range of plants, relying almost exclusively on common and club bread wheat, two- and six-rowed hulled barleys, and emmer while passing over other resources that were equally available for cultivation. This paper presents data supporting the hypothesis that Kura-Araxes agriculture originated in montane areas, perhaps ranges of the Lesser Caucasus, where the above-mentioned crops could be cultivated with limited risk.

Howard, Jerry (UC Berkeley)

[276] *Culture Change and Identity Formation in Bocas del Toro, Panama*

Today Bocas del Toro, Panama is a diverse racial and cultural melting pot that has produced a unique multi-ethnic culture. Until now this multi-ethnic culture and its origins have spurred little archaeological research in regards to the occupational history, internal structure, external connections, subsistence economy, and socio-political organization of the historic period. Through collaboration and a common interest in the historic past, scholars and self-identified Bocatorenos are working together to better understand the process and affects of culture change by offering insight into the interaction and trade spheres that developed and supported the early post contact inhabitants.

Howell, Cameron (University of South Carolina)

[162] *Interaction Along the Mississippian Frontier: Oscillation, Migration, or Integration in Upstate South Carolina?*

Admixture of contemporaneous components on archaeological sites is a common archaeological "problem," however these may be indicative of important cultural transformations. Ongoing investigations at two sites in the Upstate of South Carolina are well situated to examine competing spheres of influence by Savannah River based Mississippian polities and Appalachian summit oriented Pisgah cultural groups. A battery of methods are utilized to try and understand the cultural processes which resulted in the current nature of these mixed archaeological deposits, the implications for Mississippian cultural transmission, and the way in which sites are representative of larger complex cultural landscapes.

Howey, Meghan (University of New Hampshire)

[125] *A More Personal and Less Academic Collaborative Archaeology: Reflections from Northern Michigan*
Academic collaborative archaeology seeks to incorporate indigenous peoples into archaeological research projects and to publish about these collaborations. The view is that indigenous peoples will become interested in archaeology when archaeologists just find the right way to make their projects relevant. Working with the Burt Lake Band, this academic pose failed me. Once I stopped engaging by trying to find (force) shared archaeological research interests, I found private and affective relationships offered the only means of collaboration. A personal collaborative archaeology accepts distance and discomfort between academic archaeological goals and tribal interests while still finding powerful ways of relating knowledge.

Howey, Meghan [213] see *Frederick, Kathryn M.*

Howie, Linda [270] see *Ford, Anabel* **[61]** see *Simmons, Scott E.*

Howse, Lesley (University of Toronto)

[27] *The Impacts of Hunting Technologies on Late Dorset and Early Thule archaeofaunas in the Canadian High Arctic*

This research focuses on Late Dorset Palaeoeskimo and Early Thule Inuit, who in the eastern Arctic overlapped in space, and probably time, and can therefore be considered to have occupied virtually identical environments. These societies were descended from very different cultural traditions, as manifested in technology, social organization, and ideology. In this paper, I compare archaeofaunas excavated from two sites, one Thule and one Dorset, on northwest Devon Island in the Canadian High Arctic. In particular, I focus on how the observed variability is linked to the different hunting technologies employed by these two traditions.

Hranicky, William (Retired)

[100] *America's Oldest Above Ground Site...in Virginia*
The recently discovered prehistoric site, the Spout Run site of Clarke County, Virginia, has above-ground concentric rings and an altar and, because of the harsh environment around it, the site has survived for 12,000 years. The concentric ringed site has solar alignments which were used by the Paleoindians to calculate a knapping season at the world famous Thunderbird Paleoindian quarry site in Warren County, namely the time from the summer solstice to the fall equinox. This

knapping season was used for the Younger Dryas' harsh winters in the valley. It discusses the various investigations and excavation at the site.

Hristova, Petya (UCLA alumna)

[155] *Wearing Your Brand: Ritual Economy and Emergence of Social Complexity in the Bulgarian Chalcolithic and Early Bronze Age*

This paper considers the existing evidence about ritual economy in Katherine Spielmann's terms (*American Anthropologist* (2002) 104, 195-207) – multimedia workshops, figural representations, as well as assemblages of worktools in their contexts. The data is reviewed with respect to storage, redistribution, and social complexity; religion and workshops; craft specialization, branding, and commodization; raw materials, imports and influences. It appears that during the transition from the Late Neolithic / Chalcolithic to the Early Bronze Age, small, self-sufficient communities have undergone a transformation into an integrated network of urban centers and villages.

Hritz, Carrie A. [99] see *Murdock, Matthieu J.*

Hroncich-Conner, Maria (University of New Mexico)

[18] *An Investigation of Spanish Colonial Ceramic Production and Acquisition at LA 20,000*

A continuing question is where early Colonial Spanish households on the northern frontier obtained everyday pottery. Using a sample of 100 utility ware sherds from LA 20000, this study examines variability in ceramic sources for the period from A.D. 1629-1680 through examination of aplastics, clays, and original firing temperatures. The results contribute to what little is known about early colonial economies in New Mexico and provide insight into the production and acquisition of everyday essentials that were not produced by Spanish households.

Hronec, Laura (Eastern New Mexico University)

[6] *Eolian Deposits at the Locality X Site: An Investigation of the Depositional History*

Locality X, also called 09-ENMU-FS1, is a newly identified site located southeast of Blackwater Draw Locality No. 1. The site contains many small lithic artifacts present within the first stratigraphic unit; however, origin and age of the site is still unknown. To begin solving this problem, a geoarchaeological approach is needed to understand the site's context and depositional history. Several analyses were performed on sediments recovered from auger tests that included granulometric, hydrometer, and weight loss on ignition. The results indicated eolian deposited sediments with little variation between depositional periods and a gradual shift to drier, more stable environmental conditions.

Hruby, Zachary (College of the Redwoods)

[66] *The Evolution of Lithic Technologies and Ancient Maya*

El Zotz and nearby sites were occupied from the Preclassic to the Postclassic, which provides an excellent opportunity to examine changes in lithic technology over 2000 years. Since occupation was not continuous at any one site, the sample also sheds light on how a dynamic and ever-changing political landscape affected

production and exchange. Political and geographical shifts in the El Zotz region are reflected in imported obsidians over time, as well as the exploitation of local chert resources.

Huang, J.J. [117] *see Blackwell, Bonnie A. B.*

Huang, Yongsong [51] *see D'Andrea, William J*

Hubbe, Mark (Universidad Católica del Norte) and André Strauss (Max Planck Institute for Evolutionary Anthropology)

[158] *The initial Settlement of South America: Perspectives from bioanthropology.*

This paper introduces the symposium by synthesizing the main results presented in the first half of the symposium (held at the 81st AAPA Meeting). The AAPA symposium focused on bioanthropological aspects of the early occupation of South America, and reviewed the actual models for human dispersion into the continent from the perspectives of molecular biology, morphological affinities, and dental anthropology. The present paper aims to offer a framework from which the archaeological discussion might benefit and to promote a more interdisciplinary perspective on discussions of the initial settlement of South America.

Huckell, Bruce (University of New Mexico)

[20] *By Design: Early Paleoindian Lithic Technological Organization and Foraging in the North American Plains*

The application of design theory to flaked lithic tool kits has an uneven history, but it is clear that decisions regarding the size and form of tool kits are ultimately founded on perceived environmental opportunities and constraints. Comparative metric analyses of Clovis, Folsom, and Plainview/Goshen projectile points and other tools are used to identify these differences. Clovis tools exhibit several features that differ markedly from those of slightly younger Paleoindian industries. The ramifications of design decisions for Clovis and later technological organization and land use strategies are explored, and an explanation for design change using end-Pleistocene biotic changes is offered.

[55] *First Chair*

Huckell, Bruce [20] *see Kornfeld, Marcel*

Hudgell, Gemma [268] *see Cowie, Ellen R.*

Hudson, Nicholas (University of North Carolina Wilmington)

[264] *Imported clay at Tell Timai: a unique find of trade, process, and production from 4th century Egypt*

Excavations at Tell Timai produced a cache of juglets from kiln contexts. The juglets were made of a fine fabric unlike local Nile Silts that dominate other production at the site. The discovery of a transport jar containing raw clay similar to the juglets suggested the clay was imported. Chemical analysis of the clay and juglets confirmed this. This paper presents the archaeological data of the Thmuisian production history of the juglets and imported clay. Interpretations are offered that explain the artifact categories and how they relate to the changing fortunes of Mendes and Thmuis in the fourth century BC.

Huelster, Richard [85] *see Turnbow, Christopher A.*

Huff, Jennifer (University of Washington)

[177] *Lithic Reduction and Mobility in late Pleistocene and Holocene Eastern Highland New Guinea*

Mobility – movement around the landscape – is complex behavior with multiple benefits: knowledge of the landscape, exchange of knowledge and goods, opportunity to exploit a broader range of resources to name a few. To date, archaeology of highland New Guinea has generally focused on the antiquity of initial colonization, or on changes to the floral ecology (including the independent development of agriculture). This new research explores alternate models of mobility and sedentism by using lithic tool reduction to discover changes in mobility as a response to environmental variability and man-made landscape alterations in the eastern highlands of Papua New Guinea.

Hufthammer, Anne Karin [138] *see Dolphin, Alexis E.*

Hughes, Ryan (University of Michigan)

[130] *The Eastern Vani Survey: A Preliminary Report*

The ancient site of Vani in western Georgia has been the focus of sustained archaeological investigation for over 60 years. Despite the intensity of research at the site, many questions concerning Vani's specific role in regional settlement dynamics remain unanswered. The Eastern Vani Survey, as part of a larger survey effort, was developed to investigate Vani's role in regional settlement dynamics through intensive survey techniques. This paper presents the preliminary results of the first season of field work and lays out future research goals. In addition, these preliminary project results will be placed within the context of larger regional processes.

Hughes Markovics, Michelle (Santa Rosa College), Robert H. Tykot (University of South Florida) and Benjamin Benson (Pepperwood Preserve)

[112] *pXRF Sourcing of Obsidian Artifacts from Pepperwood Preserve, Sonoma County, California*

We present the results of a pilot study conducted on archaeological materials from the Pepperwood Preserve Museum in Sonoma County and on obsidian source samples from this region of northern California. Our study utilized a portable non-destructive X-ray fluorescence spectrometer to provide quantitative elemental data on obsidian sources and artifacts. Our results discriminate among the different sources, and allows us to attribute archaeological artifacts to sources, and address issues about obsidian procurement, trade and usage in this region. This study complements the small number of other studies done and enhances our understanding of Native American lifeways in northern California.

Hulit, Elissa (University of Wisconsin - Milwaukee)

[187] *Compositional Analysis and GIS Mapping of Clay Deposits in the Greater Aztalan Area*

Clay samples gathered from locations within Aztalan State Park were analyzed using energy dispersive x-ray fluorescence (EDXRF) to collect data on elemental composition. Results were compared to EDXRF data collected from a sample of ceramic sherds recovered from the Aztalan site. Results were modeled using a GIS analysis of clay sources in the greater Aztalan area. Results suggest a variety of clay sources were utilized by

Aztalan potters.

Hulitt, Elissa [187] *see Kolb, Michael F.*

Hull, Kerry (Reitaku University)

[242] *Function and Form of Jaay Vessels from the Classic Period to the Modern Maya*

Classic-period ceramics labeled as jaay are a limited class of vessels, a sizable portion of which are in the Chocholá style of the northern Yucatan. This paper argues for a dual usage of jaay vessels as containers for both food and drink. I suggest a functional distinction between jaay vessels marked epigraphically as yuk'ib ('his/her/its drinking vessel') and those labeled simply as jaay; fieldwork data with the Mopan Maya, the only Maya group today still producing jaay vessels, corroborate these proposed distinctions. I also contextualize jaay vessels' usage based on epigraphic, archaeological, and iconographic evidence from the Classic period.

Hull-Walski, Deborah (Smithsonian Institution), Kimball M. Banks (Metcalf Archaeological Consultants, Inc), Edward B. Jelks (Illinois State University), Jon S. Czaplicki (Bureau of Reclamation) and Lynn M. Snyder

[245] *Dammed If We Do And Dammed If We Don't: The River Basin Surveys And Interagency Archeological Salvage Programs 60 Years After*

The Flood Control Act of 1944 authorized one of the largest civil works programs ever undertaken in this country. The act also resulted in the most ambitious archaeology program yet undertaken in this country: the River Basin Surveys and the Interagency Archeological Salvage Program. Their establishment marked the onset of modern cultural resource management as they spurred passage of the cultural resource legislation that still guides federal agencies. The projects authorized under the Flood Control Act and the associated archaeological activities inexorably linked the two together, as those of us in cultural resource management today are products of this legacy.

Hunt, Guy [64] *see Dufton, Andrew*

Hunt, Timothy [241] *see Lipo, Carl P.*

Hunter, Charlotte (BLM CA STATE LEAD)

[53] *Homesteads And Hucksters: How Federal Land Records Reveal All*

Federal land records offer the archaeological researcher a wealth of historic information. This paper offers both an introduction to the types of records that are available for archaeologists who are unfamiliar with these records as well as a deeper understanding of the relationship between the federal government and homesteaders, patentees, warrantees, and others, including American Indians, who received federal lands.

Hunter-Anderson, Rosalind (Dept. of Anthropology, Univ. of New Mexico) [132] *Discussant*

Huntley, Deborah (Center for Desert Archaeology)

[247] *Ceramic Production and the Development of Salado Identity in the Upper Gila Region of the American Southwest*

This poster presents an analysis of 13th through 15th

century ceramic production and exchange in the Mule Creek area and broader Upper Gila region of Arizona and New Mexico. Using a combination of Neutron Activation Analysis and petrography, I am able to identify production locations for utility ware, Maverick Mountain Series ware, and Salado polychromes and trace the networks within which these vessels were exchanged. Stylistic and technological analyses shed further light on local and long-distance interaction networks, the roles of Kayenta immigrants in these networks, interactions among communities of potters, and the development of a broadly shared Salado identity.

[247] *Second Organizer*

Huntley, Deborah [260] *see Hill, Brett*

Hurst, Winston [216] *see Ferguson, Jeffrey R.*

Hussey, R (University of Florida)

[44] *Construction of the Top of the Egyptian Pyramids: An Experimental Test of a Levering Device*

Research designed to investigate Egyptian Pyramid construction techniques lack experimental tests to demonstrate whether a levering device, composed of appropriate materials and technology, can lift a block in the limited space available at the top of the superstructure. This study examines various levering methods and presents an experimental device composed of appropriate materials designed with technologies available to the ancient Egyptian pyramid builders. The levering device successfully lifted over 5560 pounds and raised a 2530-pound block up one tier of blocks in less than one minute.

Hutcheson, Charlene

[165] *The Impressions of Long Bay: Basketry Impressed Ceramics from the Long Bay Site, San Salvador Island, Bahamas.*

The Long Bay site, San Salvador Island, like other late occupation Bahamian sites, has a number of negative basketry impressed ceramics. This class of artifacts is critical to our understanding of Lucayan fiber art and technology. This paper will discuss the weave types and materials identified at Long Bay. Comparisons to findings from other sites on San Salvador will help expand our understanding of Lucayan basketry technology and grammar. While overall homogeneity is seen, some striking site-to-site differences were noted. Weaver selection of patterns and materials seem to express some aspects of personal and group identity.

Hutira, Johna (Northland Research, Inc), Rachel Most (University of Virginia) and Shereen Lerner (Mesa Community College)

[115] *Cowboys and Aliens and Archaeologists*

Do movies such as the Indiana Jones series and Lara Croft: Tomb Raider have a negative or a positive impact on archaeology? These movies glamorize the discipline yet the portrayal of archaeology as a discipline for the wealthy and white has been said to drive others away. Do these films and others like it promote the search for artifacts for their art value rather than their scientific value? How movies portray archaeologists and the way they do their work and the impact that this rendering has on the public perception of modern archaeology is the focus of this paper.

Hutson, Jarod (University of Nevada-Reno)

[96] *Modern carnivore serial predation at Ngamo Pan and its taphonomic relevance to the interpretation of open-air faunal accumulations*

Landscape-scale studies of natural bone accumulations on the open savannas of Africa offer crucial insights into the trophic dynamics of the modern ecosystem and can provide a backdrop against which to interpret open-air faunal assemblages. Here I present data on the modern bone accumulations at Ngamo Pan in Hwange National Park, Zimbabwe, that have resulted from carnivore serial predation surrounding a complex of seasonal waterholes. The taphonomic patterning of the bones can ultimately prove useful in determining the relative impacts of humans and non-human carnivores at potential archaeological sites where stone tools are found in apparent context with faunal assemblages.

[96] *Second Organizer*

Hutson, Jarod [248] *see Taylor, Anthony W.*

Hutson, Scott (University of Kentucky), Gavin Davies (University of Kentucky), Willem Vanessendelft (Harvard University) and Camille Westmont (University of Kentucky)

[267] *Megalithic Materialities in the Northern Maya Lowlands*

The 2010 and 2011 excavations of domestic contexts along the 18km-long raised stone causeway connecting the Prehispanic ruins of Uci and Cansahcab, Yucatan, Mexico, have revealed two important contrasts in the daily lives of ancient farmers. First, unlike non-built spaces in other parts of the Maya world, the open spaces around domestic platforms near Uci do not appear to have been important spaces for daily activities. Second, despite the fact that the occupants of these platforms shared a very distinctive megalithic architectural tradition, their lives were objectified very differently in terms of portable artifacts.

Hutson, Scott [58] *see Larsen, Zachary [229]* *see Stair, Joseph S. [167]* *see Luzzadder-Beach, Sheryl*

Hyde, David (Western State College of Colorado)

[131] *Hinterland Complexity at the Medicinal Trail Site, Northwestern Belize*

Social status in Maya studies has often been presented dichotomously as Elites, those in the large centers, and Commoners, those outside the major centers. However, recent hinterland research has demonstrated that social status is much more complex and should be viewed as a continuum with a wide range of variability in each category. Findings from a "commoner" household at the Medicinal Trail Site more closely align with traditional notions of "elite" social status among the Prehistoric Maya, demonstrating the difficulty of distinguishing between the two, as well as the complex nature of non-urban Maya in Prehispanic times.

[131] *First Chair*

Iannone, Gyles (Trent University)

[61] *Transdisciplinary Research in Belize's North Vaca Plateau*

In recent years there has been a move towards the establishment of more unified, collaborative projects

aimed at examining coupled socio-environmental systems over the long-term. The principal goal of this research is to generate data sets that are sufficiently detailed to permit the exploration of what makes communities resilient or vulnerable when faced with environmental change. This paper provides an overview of thirteen years of transdisciplinary research that has been conducted in Belize's north Vaca Plateau, with particular emphasis on what we have learned about resilience and vulnerability within ancient Maya communities.

Iannone, Gyles [203] *see Lamoureux St-Hilaire, Maxime [153]* *see Grant, Sarah [61]* *see Beauregard, Esther [61]* *see Schwake, Sonja A.*

Ibañez, Juan

[228] *Connecting the southern and northern Levant: Implications for understanding the origins of the Neolithic*
Multi-focus models have been proposed to explain Neolithic origins in the Near East. We are aware that neolithization was a protracted process, yet despite the regional cultural variability, the rhythm of innovations is very similar across the Near East. The exchange of experiences and objects among regions is becoming the focus for understanding of how the Neolithic took place. Recent excavations in the underrepresented region located between Jordan and the Euphrates is changing our vision. New data stress the intensity of cultural contacts in the Levant from the Natufian and throughout the entire neolithization process.

Ibarra Morales, Emilio [62] *see McClung De Tapia, Emily S.*

Iizuka, Fumie (Fumie Iizuka)

[154] *Panamanian Pottery Life History: Intertwining Raw Material Formation, Production, and Post-depositional Processes*

Behavioral archaeologists study artifact life history evaluating producers' intentionality and the social state behind production. I present a case study of artifact life history reconstruction, examining Monagrillo ware of Panama (ca. 4500-3200 B.P.) and its raw materials. In addition to allowing us to make inferences on human behaviors, the study reveals that (1) technical choices may be correlated with the degree of diagenesis and (2) the understanding of the raw material formation process helps evaluate life history. Raw material formation, production, and post-depositional processes should be linked and researched together to better reconstruct life history.

Ikehara, Hugo [26] *see Helmer, Matthew R.*

Ikehara-Quebral, Rona (Int'l Archaeological Research Institute, Inc.)

[60] *Early Historic Inhabitants of Vat Komnou, Angkor Borei, Southern Cambodia: A Bioarchaeological Assessment of Health*

Agricultural intensification, dependence on a few staple crops, & associated cultural & environmental changes are often accompanied by a decline in health (Cohen and Crane-Kramer, 2007). Yet most Southeast Asia groups were relatively healthy compared to other groups undergoing agricultural intensification (Oxenham and

Tayles, 2006). In this paper, a biocultural stress model is used to examine the health of ancient inhabitants of Vat Komnou, Angkor Borei (200 B.C. to A.D. 200), during the dynamic period of an emerging social-complexity in Cambodia. Low rates of dental disease, linear enamel hypoplasia, trauma, and infectious disease suggest a relatively healthy group of people.

Ikehara-Quebral, Rona [60] *see Halcrow, Sian E.*

Iliff, Jeremy [245] *see Smith, James B.*

Illingworth, Jeff (Mercyhurst College) and J.

M. Adovasio (Mercyhurst Archaeological Institute)

[79] *An Enigmatic Impression on a Manatee Bone*

In the summer of 2011, a section of partially fossilized (?) manatee bone (*Trichechus* sp.) from a private collection was submitted to the Mercyhurst Archaeological Institute for analysis and description of a presumed perishable impression extant upon its surface. The specimen apparently derives from a sub-aqueous context in Florida and may represent a square-knot net. The technology and relative significance of this specimen is discussed at length and compared to other bone and antler impressions.

Ingram, Scott (Arizona State University)

[86] *Archaeological Methods for Vulnerability Assessment*

Archaeologists can contribute to sustainability research by investigating conditions that influenced human vulnerability to natural hazards. Understanding these conditions in the past could direct adaptation and mitigation efforts in the present and future to the most vulnerable people and places. A method of assessing the influence of social and environmental conditions on vulnerability to drought is explained in this presentation. The method is applicable where regional-scale settlement and paleoclimatic data are available. Examples and results from the application of the method in the prehistoric U.S. Southwest are provided.

Inomata, Takeshi (University of Arizona)

[19] *Ritual and power in an early Maya community: New data from Ceibal, Guatemala*

Recent excavations at the Maya center of Ceibal, Guatemala, documented a rapid transformation around 900 BC from mobile horticulturalist populations to a settled community with a formal ceremonial center and elaborate ritual. The emergent elite of this newly established center enjoyed privileged access to symbolically-charged objects and knowledge brought from afar and played a central role in public ritual while they showed little difference in material wealth from the rest of the community. These forms of social relations and practices appear to have strongly defined the nature of later Maya rulership.

Inomata, Takeshi [70] *see Munson, Jessica L.*

Iovita, Radu (RGZM-Monrepos, Germany)

[261] *Aterian tanged tools: scrapers or projectile tips? A geometric scaling perspective*

The North African Aterian is a Middle Stone Age technocomplex dating to 145-40 ka BP. It is defined in contrast to the Mousterian by the presence of tanged

tools which are presumed to imply the existence of one of the earliest projectile technologies. This paper showcases the results of a geometric scaling analysis using Elliptical Fourier Analysis, demonstrating a size-dependent shape continuum between point- and scraper-like forms, which suggests rather an edge-tool-like ontogeny for tanged tools than one would expect from rejuvenations of penetrating weapon tips.

Irelan, Derik (University of Wisconsin - Milwaukee)

[143] *Geographical and Cultural Setting of the Stone Street Site*

This paper situates the Stone Street site within a changing geographic landscape in which fluvial patterns and considerations of cultural-historical events help to reconstruct the neighborhood and its environment leading up to the discovery and partial destruction of this previously undocumented Late Woodland cemetery site in a downtown urban setting. The potential for other archaeological sites in the Carriagetown district of Flint, MI has implications for cultural resource planning and policy.

Iriarte, Jose, Ruth Dickau (University of Exeter),

Mayle (University of Edinburgh, School of Geosciences) and Bronwen Whitney

(University of Edinburgh, School of Geosciences)

[39] *Differentiation of Neotropical Ecosystems by Modern*

Soil Phytoliths Assemblages and its Implications for Paleoenvironmental and Archaeological Reconstruction
The interpretation of Neotropical fossil phytolith assemblages for paleoenvironmental and archaeological reconstruction relies on the existence of appropriate modern reference analogs. As part of our project "Pre-Columbian Impact and Land Use in the Bolivian Amazon", we analyzed modern phytolith assemblages from the soils of ten distinctive tropical vegetation formations, ranging from humid evergreen forest to seasonally inundated savanna. Results show that major vegetation formations can be differentiated by their phytolith spectra. Furthermore, comparison with pollen rain data and stable carbon-isotope analysis from the same vegetation plots show that these proxies are not only complementary, but significantly improve taxonomic resolution.

Iriarte, José [277] *see Dickau, Ruth*

Irvine, Gail V. [164] *see Hilton, Michael R.*

Istok, Kimberly [7] *see Mink, Philip B.*

Iwaniszewski, Stanislaw (National School of Anthropology and History, Mexico)

[269] *The Ciudadela scheme of an observational calendar at Teotihuacan*

Archaeoastronomers have long discussed that knowledge of the time of the year had been reflected in the Teotihuacan grid street system, arguing that calendrically defined 20-day units could have been encoded in alignments of its major structures. However, the alignments of the Sun Pyramid and the Ciudadela appear to display different schemes of observational calendars. The motives for their alignments are not apparent. Since recent archaeological excavations carried out on the summit of Mt. Tlaloc revealed the

presence of Teotihuacan wares, I will describe the possible significance of the Ciudadela dates in light of Mt. Tlaloc alignments.

Izuho, Masami [211] *see Terry, Karisa*

Jackson, Donald [231] *see Mendez, Cesar*

Jackson, Edwin (U Southern Mississippi) [50]
Discussant

Jackson, Sarah (University of Cincinnati) and Linda Brown (George Washington University)

[203] *Tangible and intangible resources at Classic Maya secondary sites: A view from Say Kah, Belize*

Excavations at the Classic Maya site of Say Kah, Belize focus on contextualizing this secondary site within the Three Rivers region, an area dominated by the nearby center of La Milpa. Utilizing a heterarchical model of organization, we explore possible resources—both material and non-material—that may have been focuses of local identity assertion and power for the ancient occupants. We consider burial contexts, subfloor artifact deposits, and architectural organization as avenues for illuminating expressed identities and relationships; these are also fruitful contexts for comparison with other “secondary centers,” clarifying the roles such sites played within sociopolitical hierarchies.

Jackson, Scott [112] *see Whelan, Carly S.*

Jackson-Kelly, Loretta (Hualapai Tribal Historic Preservation Officer) and Kurt E Dongoske

[31] *Confluence of Values: The Role of Science and Native Americans in the Glen Canyon Dam Adaptive Management Program*

The Grand Canyon and the Colorado River are important places on the landscape for many Native American tribes. The Glen Canyon Dam Adaptive Management Program is designed to employ science as a means for gathering, analyzing, and disseminating information on the condition of resources. A Western science perspective dominates this program with recognition of Native American traditional perspectives as a valued component. Analogous to a confluence of rivers, Native American traditional perspectives were initially envisioned as enhancing the Western science approach by creating a more holistic understanding of this valued ecosystem; however, this integration has not been realized. Identified barriers to effective participation by Native American stakeholders are vast cultural differences that express themselves in complex socio-cultural scenarios such as conflict resolution discourse and a lack of understanding on how to incorporate Native American values. Also explored is the use of “science” as a socio-political tool to validate authoritative roles that has had the unintended effect of further disenfranchising Native Americans through the promotion of colonialist attitudes. Solutions to these barriers are offered to advance a more effective and inclusive participation of Native American stakeholders in this program. Finally, drawing from the social sciences, a reflexive approach to the entire Adaptive Management Program is advocated.

Jacobs, Zenobia, Michael Meyer (University of

Innsbruck) and Richard Roberts (University of Wollongong)

[117] *Single-grain OSL dating at La Grotte des Contrebandiers: age constraints for the Middle Palaeolithic levels*

Optically stimulated luminescence (OSL) measurements of individual quartz grains are reported for Middle Paleolithic (MP) deposits in Contrebandiers, Morocco. These ages suggest that MP occupation of Contrebandiers was restricted to an interval between about 120 and 90 ka ago. We will compare the new ages with those obtained by us for nearby El Harhoura 2 and El Mnasra, and with those obtained by others at Dar es-Soltan 1 and 2 and elsewhere in Morocco. These new chronologies will then be used to discuss our current understanding of when and where humans were present in Morocco, set within the environmental context.

Jacobucci, Susan (Andrew Fiske Memorial Center for Archaeological Research, UMass Boston) and Heather Trigg (Andrew Fiske Memorial Center for Archaeological Research, UMass Boston)

[133] *Vegetation History and Social Relations at Thomas Jefferson's Poplar Forest*

Archaeologists have utilized palynology to decipher landscapes in which people lived, identify the plants used, and understand site function. Thomas Jefferson's Poplar Forest provides an opportunity to investigate the complex cultural and environmental relationships of a plantation's social landscape. This paper utilizes palynology to examine the environmental history and land use at Poplar Forest, a landscape comprising the home and formal ornamental grounds, agricultural fields, and enslaved African American dwellings. Numerous activities to sustain the plantation were performed by slaves, hired workmen, and overseers. Through time, the activities of this diverse population shaped and were molded by Poplar Forest's landscape.

Jago-On, Clyde [177] *see Smith, Cecilia A.*

Jaillet, Angela (IUP, Archaeological Services)

[69] *Restructuring Freedom: Archaeological Investigation and Landscape Analysis of Pandenarium*

Historical accounts of Pandenarium, Site 36ME253, an antebellum settlement of freed African Americans in northwestern Pennsylvania, describe a dynamic community – socially and physically. Built through the bequest of southern slave-owners and by northern abolitionists, Pandenarium began as a structured environment for the 63 freed residents that arrived on-site in 1854. Pandenarium's physical layout underwent several phases of construction and reconstruction by its inhabitants. Seeking to understand the rationale for these changes, archaeological investigations at the site provide an alternative history to traditional historic accounts of the people living at Pandenarium.

James, Emma (The University of Queensland) and Jessica Thompson (The University of Queensland)

[96] *What is a cut mark? Terminological obstacles to comparability between zooarchaeological datasets*

There has historically been an enormous amount of debate over how to identify butchery marks in the archaeological record, and recent controversies show that there is still no consensus. Terminology is not

consistent between researchers, and there is ambiguity in how characteristics of marks are described and interpreted. There is also a lack of understanding of what causes individual variables within the different mark types, especially when mark morphology is described in terms that imply its causality. This paper will examine these two problems and propose ways to describe marks that may facilitate more effective communication between researchers.

James, Jenna (University of Alabama)

[50] *Social Houses of the Dead at Carson Mounds, 22-Co-518, Coahoma County, Mississippi*

Mortuary data recovered from the Mississippian era cemetery at Carson Mounds calls for the re-evaluation of "chiefly power" and necessitates the reconception of social organization in Mississippian societies. Using ethnohistoric literature on Southeastern American Indians and non-metric epigenetic data from the Carson skeletal material, each mass burial pit from Carson Mounds is interpreted as the final stage of mortuary ritual for a single social house, as they venerated their dead as powerful ancestral members. The social houses represented within the cemetery constitute the elite houses at Carson, which would have competed for co-dominance while cooperating to maintain a stable community.

Jamison, Gregg (University of Wisconsin-Madison)

[217] *Seal Production and Use at Harappa: new insights into craft production and control*

Inscribed steatite seals are among the most important material components of the Indus or Harappan Civilization (2600-1900 BCE). Yet in spite of their significance, many questions remain regarding how production was organized and controlled, and how this important craft industry affected and was influenced by larger social, political, and economic structures. Using new and complementary research methods, this study explores the relationship between seal production, use, and socio-political structure at the major urban center of Harappa.

[217] *First Chair*

Janelidze, Zurab [206] *see Demetradze, Irina*

Jarratt, Tricia (University of New Brunswick, Fredericton) and Susan Blair (University of New Brunswick)

[185] *The Augustine Mound Copper Assemblage*

The Augustine Mound is an Early Woodland burial mound and ceremonial site located on the lands of Metepenagiag Mi'kmaq Nation on the Miramichi River, New Brunswick, Canada. It was excavated in the 1970s as part of a community-run project that continues to the present day. The site produced a large assemblage of copper beads and tools. This poster will explore recent research on this copper assemblage, and present preliminary research on the ideological, technological and economic role copper played in the lives of ancestral Mi'kmaq, and other ancient peoples of the Northeast of North America.

Jarratt, Tricia [159] *see Blair, Susan E.*

Jastremski, Nikki [235] *see Martinez, Valentina L.*

Jazwa, Christopher (Pennsylvania State University), Lynn H Gamble (University of California, Santa Barbara) and Douglas Kennett (Pennsylvania State University)

[126] *A High-Precision Chronology for an Early Village Site on Western Santa Cruz Island*

Using accelerator mass spectrometry (AMS) techniques, we have established a high-precision radiocarbon chronology for SCRI-333, on the western end of Santa Cruz Island, California. We selected carbonized twig and marine shell (*Mytilus californianus*) samples from well defined stratigraphic levels of two house depressions. Analytical error for these measurements is +/- 20 14C years. Using calibration software that incorporates Bayesian statistics, we have greatly improved the chronology of this site. This site contains more than 40 house depressions and provides some of the earliest evidence for house construction on the California Channel Islands, dating between 3250 and 2500 BP.

Jazwa, Christopher S. [123] *see Kennett, Douglas J.*

Jefferies, Richard (University of Kentucky) and Christopher Moore (University of Indianapolis)

[136] *Mission San Joseph de Sapala: Archaeological Investigation of a 17th Century Spanish Mission Period Site on the Central Georgia Coast*

Seven years of archaeological investigations on the north end of Sapelo Island, Georgia have yielded abundant evidence for a mid-to-late 17th century Guale-Spanish occupation. Material remains, consisting of Guale-manufactured Altamaha pottery and Spanish ceramics, military items, architectural hardware, and personal gear, indicate that these two culturally diverse groups lived in close contact and shared the experiences of a constantly shifting socio-political environment. This paper presents the results of analyses of artifact, subsistence, architectural, and ethnohistorical data and evaluates the nature of the site's Mission period occupation.

[136] *First Chair*

Jefferies, Richard [136] *see Moore, Christopher R.*

Jelinek, Lauren (University of Arizona) and Dale Brenneman (University of Arizona)

[25] *A New Look at 'Old' Data: Population Dynamics in the Pimería Alta*

Compared with most current interpretations of available archaeological data for the Spanish contact and colonial periods, the documentary record depicts a much more dynamic population inhabiting the Pimería Alta. Analyses of scarce archaeological evidence provide few indications of population differentiation, whereas reports of Jesuit missionaries and Spanish authorities describe ethnically diverse groups with shifting alliances and a far-reaching exchange system. New translations of seventeenth- and eighteenth-century documents combined with a reanalysis of archaeological data provide new insights into the dynamics of this social landscape during a time when the ancestral boundaries and interrelationships of modern tribes were in constant flux.

Jelks, Edward [17] *Discussant*

Jelks, Edward B. [245] *see Hull-Walski, Deborah A*

Jenkins, Dennis (Museum of Nat. & Cult. Hist., University of Oregon), Patrick W. O'Grady (Museum of Natural and Cultural History, University of Oregon), Loren G. Davis (Oregon State University), Thomas W. Stafford (Stafford Research, Inc.) and Eske Willerslev (Centre for GeoGenetics, University of Copenhagen)

[20] *Snap-shot in Time: A Sealed-in Late Younger Dryas (10,200 BP) Cultural Component in the Paisley Caves*
A unique lens of coarse white hair, hide, grass, bulrush, shredded sagebrush bark, stone, bone, wood, and fiber artifacts covered roughly 6 square meters of floor near the bottom of Paisley Cave #2. Dated between 10,160 and 10,365 BP, this 5-8 centimeter thick, organic cultural lens is sandwiched between culturally sterile upper and lower compact alluvial silt lenses, providing an unusually discrete and accurate picture of late Younger Dryas Western Stemmed cultural-ecology.

Jenks, Kelly (Fort Lewis College)

[25] *Becoming Vecinos: Constructing Civic Identities in Late Colonial New Mexico*
Centuries of interaction between Hispanic and indigenous populations in New Mexico blurred the traditional social categories of caste and race, prompting colonists to conceptualize themselves in novel ways. In the late eighteenth century, Hispanic New Mexicans began to self-identify as Vecinos (literally, "neighbors")—a term that prioritized affiliation with Hispanic corporate communities over ethnic heritage. Because this identity was defined by village membership, it would have been expressed and reinforced in the structure and routine of village life. This paper explores how Vecino identity was manifested in the spatial organization of villages and material remains of daily practices.

Jennings, Justin (Royal Ontario Museum) and Lidio Valdez (University of Calgary)

[121] *Ingredients matter: maize versus molle brewing in ancient Andean feasting*
Just as in many other regions of the world, beer was an essential item in the feasts that structured, and sometimes transformed, Pre-Columbian Andean societies. Two of the more commonly consumed beers were made from maize kernels and molle drupes (the fruits of the Peruvian peppertree). How these beers are made today is quite different — only maize beer, for example, needs to be boiled, and these differences have wide implications on the time, labor, tools, and resources that were likely needed at each stage of production to brew the massive quantities of beer consumed at ancient Andean feasts.

Jennings, Thomas (Texas A&M University) and Michael R. Waters (Center for the Study of the First Americans, Texas A&M University)

[169] *The Hogeye Clovis Cache, Texas*
The Hogeye cache, found near Bastrop, Texas, consists of 53 Clovis bifaces, including bifacial core/knives, point preforms, and finished points made of Edwards chert. This poster presents the results of geoarchaeological investigations of the discovery site and technological analyses of the bifaces. We document two separate

biface reduction trajectories and identify at least two unique Clovis flaking strategies.

Jennings, Thomas A. [20] *see Smallwood, Ashley M.*

Jensen, Anne (UIC Science LLC)

[27] *Ipiutak Infrastructure: New Details from Recent Excavations*

Since the identification of the Ipiutak culture over sixty years ago, quite a number of Ipiutak residential structures have been excavated. Perhaps because of their apparent fondness for gravel beaches, the details of their structures remain somewhat unclear. Excavations of a recently discovered Ipiutak occupation at Nuvuk, Point Barrow, Alaska, as well as a house at Point Hope, Alaska, have shed light on some reported features of these structures, while revealing some architectural features which previously have not been recorded for Ipiutak structures.

Jerrems, William (Independent)

[100] *Did the Younger Dryas have an effect on Great Basin residents? A synthesis of research in the Western Lake Lahontan System*

Pyramid and Winnemucca Lakes are an integral part of the Pleistocene Western Lake Lahontan system of Nevada's northern Great Basin, which during the Younger Dryas expanded into an expansive body of water. Late Pleistocene horse hunting is suggested on the shores of Winnemucca Lake. Possibly mammoth ivory and bone were fashioned into projectile points at the end of the Younger Dryas. Osseous barbed points and rods from shores of Pyramid Lake are reminiscent of Magdalenian projectile points and Clovis beveled rods. Unusual preservation has evidenced a unique Younger Dryas adaptation in the Lake Lahontan Basin.

Jeske, Robert (University of Wisconsin Milwaukee) and Richard Edwards IV (University of Wisconsin Milwaukee)

[78] *Differential Land Use Patterns in the Rock River Watershed: Horicon Marsh versus Lake Koshkonong*
Horicon Marsh and Lake Koshkonong are two very large and rich wetland environments in the Rock River drainage of Southeastern Wisconsin. Separated by 70 km, site distribution data indicate similar land use patterns in early time periods, but differential land use patterns in the late prehistoric period. Differential histories of landscape use by prehistoric occupants of the two regions is documented and explained using environmental productivity and historical contingency models.

[78] *First Chair*

Jeter, Marvin D. (Arkansas Archeological Survey), Katherine R. Mickelson (University of Memphis) and Lee J. Arco (Washington University in St. Louis)

[2] *A Terminal Poverty Point Period Mound in Southeast Arkansas*

The Lake Enterprise Mound, on an ancient Arkansas River cutoff, dates to about 1200 BC, making it the oldest known mound in Arkansas, although much older mounds have been documented nearby in northeast Louisiana. This small mound has produced Poverty Point Objects and predominantly exotic lithics, plus pit features and intricate microstratigraphy. The plant remains show no

definite evidence of domestication. The site's overall context appears to be part of a process of "balkanization" during or after the decline and fall of Poverty Point itself, only 50 km to the southeast.

Jew, Nicholas [126] *see Reeder-Myers, Leslie A.*

Jiang, Zhanghua [200] *see Chen, Pochan*

Jiao, Tianlong (Bishop Museum)

[163] *Investigating the economic process of prehistoric southeast China*

Recent investigations have demonstrated that Neolithic and Bronze Age societies (ca. 3000-7000 BP) in southeast China generally had a low-level food production economy subsidized heavily by foraging. In the coastal area and offshore islands, these economies had significant maritime components. The combination of low-level food production and maritime adaptations was likely responsible for the low population and the slow pace of social complexity in this region. This economic pattern also challenges the hypothesis about the direct relationship between agriculture and population expansions.

[163] *First Chair*

Jiao, Tianlong [60] *see Krigbaum, John S. [60]* *see Lauer, Adam*

Jimenez, Peter (INAH-Zacatecas), Enrique Perez Cortez (Proyecto Cerro del Teul- INAH Zacatecas) and Laura Solar Valverde (Proyecto Cerro del Teul- INAH Zacatecas)

[98] *Evidence for Early Metallurgy in Mesoamerica: The Cerro del Teúl Context*

Recent archaeological fieldwork at Cerro del Teúl in southern Zacatecas led to the discovery of a possible metallurgical furnace associated with remains of fragments of fired clay and vitrified material that may be metallurgical slag. This material was also found adhered to the inner lining of one of the walls, suggesting that high temperatures were reached. Stratigraphic evidence and a 14C date of a charred maize cob dates the use of this oven to the Early Postclassic period. These findings make Cerro del Teúl a key site for understanding how this technology was introduced from the Pacific coastal plain to inland regions.

Jimenez, Socorro and Luis Lobando (Escuela Centroamericana de Geología de la Universidad de Costa Rica)

[58] *Uso y distribución de los vidrios volcánicos en las cerámicas de la Costa de Campeche y Yucatán*

Se sabe que el desarrollo y la evolución de las sociedades están íntimamente vinculados con la capacidad de sus miembros para producir y conformar los materiales necesarios para satisfacer sus necesidades. Existen muchas razones para estudiar cómo la gente antigua confrontó su ambiente natural y social a través del proceso de conocimiento de los recursos naturales del pasado. Como tema de interés es importante saber si estamos estudiando un intercambio cerámico regional o más bien el consumo de materias primas que fueron traídas desde lugares tan distantes con respecto a las comunidades arcaicas de la franja costera peninsular.

Jiménez Moscoll, Milagritos and Krzysztof Makowski (Pontificia Universidad Católica del Perú - Programa Arqueológico Valle de Pachacamac)

[156] *Camps outside the Second Wall of Pachacamac*

This paper presents the results of our investigations at the site of Pachacamac entailing surveys with gradiometers and excavations between the old Panamerican Highway and the Second Wall. We found an increase in the density of architectural remains from different chronological periods near the Second Wall. The superimposition of the Second Wall above earlier constructions attests to its late (Late Horizon) construction. Also, our research has allowed us to recognize the functional characteristics of the architecture that hosted visitors and housed the builders of the Pachacamac sanctuary, where the architecture is denser and more organized.

Jin, Guiyun and Fuqiang Wang (Yantai Municipal Museum, Shandong Province, China)

[163] *Intensive agriculture development during the Longshan Period in the Shandong highlands, eastern China*

The recent archaeobotanic data indicate that the area around the Shandong highlands was the important place for the intensive agriculture development during the Longshan Period. Until now, systematic archaeobotanic remains from more than 25 sites show that (1) agriculture developed in each settlement; (2) generally, the crops include rice, two kinds of millet, soybean and wheat; (3) irrigation system has been developed in some settlements.

Johansen, Peter (University of British Columbia)

[206] *The Politics of Spatial Renovation and Re-emplottment: the production of power, value and meaning in the appropriation of ritual and prosaic places in Iron Age and Early Historic South India*

In South India during the late prehistoric and early historic periods the occupation and renovation of the space and meaning of ritual and prosaic places was strategically employed by particular social groups to mediate transitional logics of value and power. In the lower Krishna River Valley at the outset of the early historic period Buddhist monastic communities appear to have located several monasteries on, or proximal to, extant megalithic mortuary complexes. Further inland in northern Karnataka during the preceding Iron Age, megalithic monuments were built on the sites of earlier Neolithic ritual places and settlements as part of a wider practice of spatial appropriation that included important socio-economic resources. This paper explores how these strategic appropriations of socially significant places emplotted new narratives of value and power by inscribing the landscape with novel forms of politically salient ritual architecture reordering the experience and perception of socio-ritual practice and place.

Johansson, Lindsay (Brigham Young University)

[161] *The Promontory as Large Game Hunters: Fact or Fiction?*

The Promontory Caves were first excavated in 1930 by Julian Steward and he defined Promontory culture based on the artifacts recovered. Steward believed that the emphasis of Promontory subsistence was on large game,

specifically bison. Since this original definition of the Promontory culture, other sites dating to the Promontory phase have been found and dramatic differences between subsistence strategies at these sites and the caves have been documented. This paper uses faunal material recovered during recent test excavations at the Promontory Caves to evaluate Steward's initial characterization of Promontory lifeways and provide potential explanations for differences among Promontory subsistence strategies.

Johnson, Amber (Truman State University) [132] *First Chair*

Johnson, Amber [132] *see Franco, Nora V.*

Johnson, Angel [101] *see Castaneda, Amanda M.*

Johnson, Derek [97] *see Kimball, Larry R.*

Johnson, Eileen (Museum of Texas Tech University) and Patrick J. Lewis (Sam Houston State University) [55] *Bison by the numbers – late Quaternary geochronology and bison evolution on the Southern Plains*

Postcranial morphometrics are used within a stratigraphic and chronologic framework to examine bison evolution on the Southern Plains during the late Quaternary. Timing of the changeover from archaic to modern form and the driving force is explored. A rapid body size decrease reflected in decreasing bone size occurs in the early Holocene and transition to the modern form is complete by 6500 rcyBP. The decrease is accompanied by a slight change in shape but a later decrease in robusticity. This diminution and shift appears correlated with the rise and spread of the short grass ecosystem between 8,000 to 6,500 rcyBP.

Johnson, Erlend (Tulane)

[87] *Results from a Preliminary Reconnaissance of the Cucuyagua and Sensenti Valleys of Southwestern Honduras*

The Sensenti and Cucuyagua valleys, though only 30km south of the site of Copan, have seen limited archaeological attention. Besides excavations at La Union by Carleen Sanchez, only brief written descriptions exist of the archaeology exist from the region. This paper presents results from an initial survey undertaken in June of 2011. During this time three sites were mapped, two of which were completely unknown and one of which had never been mapped before. This data show both commonalities and differences in site layouts between these sites and previously known sites from the Southeastern Mesoamerican Area.

Johnson, James [103] *see Hanks, Bryan K.*

Johnson, Jay (University of Mississippi)

[261] *Thumbnail Scraper in the Midsouth*

Thumbnail scrapers are excellent markers of the Late Protohistoric and Early Colonial periods in the Midsouth. However, what appears to be a unitary phenomenon can be seen as the result of two distinct economic forces. Throughout the Mississippi River Valley these tools coincide with the first intrusion of bison and date to the late 16th and early 17th centuries. In the uplands, they

date to the last 17th and early 18th centuries and correlate with the fluorescence of the deer skin trade. This paper explores the differences between these two occurrences using two well documented assemblages. **[50]** *Discussant*

Johnson, John (Santa Barbara Museum of Natural History), Thomas Stafford (Stafford Research Laboratories, Inc.) and G. James West (University of California, Davis)

[164] *Arlington Springs Man: Trials and Successes in Analyzing Ancient Bone*

In 1960 Phil C. Orr excavated two femora and a patella from deeply buried sediments at Arlington Springs, Santa Rosa Island. Orr estimated Arlington Springs Man's geologic age to be about 10,000 years. Forty years later, benefiting from advances in bone protein analysis and AMS radiocarbon dating, we reported 11,000 RC-yr. ages on collagen from the fossil bone, thereby making the Arlington Springs remains the oldest human skeleton in the Americas. In addition to undertaking further fieldwork at the site we have collaborated with a series of other researchers to apply recently-developed techniques to analyze the Arlington Springs remains.

Johnson, Matthew (Northwestern University)

[267] *Everyday Living In English Houses*

My previous work developed a structural model for understanding English vernacular houses, stressing how the house reflected wider household values. In this paper, I balance this account by starting with everyday life rather than formal structure. I examine material traces of dwelling within and around the house, rather than the presumed mental template governing its building. I discuss material items which flowed through the house in sometimes unpredictable and alarming ways (for example through witchcraft). These artefacts reflect gendered tensions and anxieties that ran through the rhythms of everyday life, rather than a patriarchal structure that directed them.

[190] *Discussant*

Johnson, Peri (University of Pennsylvania) and Ömür Harmansah (Brown University)

[134] *Karstic mountains and infilled valleys: a comparison of Late Bronze Age through first millennium places surveyed by the Yalburt Yaylasi Archaeological Landscape Research Project*

In 2010 a landscape survey with a focus on the intensive exploration places, the Yalburt Project, was begun in western central Turkey. This paper compares the pastoral karstic landscape around the Hittite sacred pool and Hellenistic sinkhole sanctuary near Yalburt Yaylasi with the settlement clusters around the Kaletepesi spring in the Bulasan Valley and the southern shore of Çavuşçu Lake. Although these landscapes experienced imperial Hittite interventions and participated in Hellenistic urbanization projects of both a sacred and agricultural character, the differences in their density of settlement emphasize the impact of first millennium BCE expansion and subsequent landscape changes.

Johnson, Scott (Tulane University)

[22] *Popola, Yucatan, Mexico: The Effects of Political Transition on Non-Elites*

Popola is a Late-to-Terminal-Classic site located

between Chichen Itza and Yaxuna in the Northern Maya Lowlands. Recent research has examined the effects of large-scale regional political upheaval and transition on the non-elite population of this small site. This paper will examine the current reconstructions of the local political history, specifically the collapse of Yaxuna and the rise of Chichen Itza, and discuss how, if at all, these so-called major changes affected non-elites. Theories from community and border/frontier studies will be used to frame this discussion.

Johnson, William (Saginaw Chippewa Indian Tribe of Michigan) and Frank Raslich (Michigan State University)

[143] *Mitigation Through Collaboration*

This paper examines the processes of mitigation resulting from the inadvertent discovery of a Late Woodland cemetery (20GS136) in Flint, Michigan. The Stone Street Ancestral Recovery and Reburial Project, a participatory and inclusive community recovery project developed by the Saginaw Chippewa Indian Tribe of Michigan and the University of Michigan-Flint, conducted an archaeological recovery of ancestral remains and their associated funerary objects over three field seasons. Beginning from the initial discovery and ending with the final reburial, this paper focuses on the legalities, decision-making processes, and the political climate of indigenous archaeology and reburial in Michigan.

Johnson, William (University of Kansas), Alicia Mein (University of Kansas), Kevin Dobbs (Kansas Biological Survey) and Gwen Macpherson (University of Kansas)

[37] *Landscape Setting Of Ancient Kariz Irrigation Systems In Southern Afghanistan*

Karez irrigation systems, which first occurred in Persia about 3000 years ago, are underground conduits constructed to tap groundwater from alluvium in arid environments. An ongoing investigation in southern Afghanistan is mapping the karez systems, establishing the relationship to the geomorphology, modeling groundwater flow to karezes, and documenting karez adaptation to prehistoric environmental changes. Research is relying primarily on remote sensing, i.e., databases such as LIDAR, IFSAR, ASTER, SPOT, and Landsat, and is being conducted in a GIS environment. A field component is underway by a geology team, which is characterizing geomorphic units and collecting samples for optical dating.

Johnson, William [110] see Gaines, Edmund P.

Johnston, Andrew (Harvard University)

[57] *Public Feasting and Community Formation in the Western Roman Provinces*

This paper examines the role of public feasts in the Roman provinces of Spain, Gaul, and North Africa, regions generally neglected in previous scholarship, which has tended to focus instead on public feasts in the cities of the Greek East (e.g. Schmitt-Pantel 1992). Archaeological and epigraphic evidence will shed light on the manifold ways in which feasting – as a projection of local power, as an act of memory, as a means of focalizing monuments of civic munificence – contributed to processes of communalization and identity formation, and to the building of networks beyond the bounds of a

single community.

Jolie, Edward (Mercyhurst College)

[164] *Prehispanic Social Diversity in the American Southwest: New Insights from Chaco Canyon Museum Collections*

Between A.D. 850 and 1150, Chaco Canyon, New Mexico, witnessed the rapid construction of large communal structures where smaller settlements had existed previously and became the core of an extensive regional system in the U.S. Southwest. Despite more than a century of excavation and research, debate continues about many fundamental issues surrounding these developments. This presentation discusses new data and insights obtained from the reanalysis of previously neglected perishable artifacts (basketry, matting, sandals) from Chaco Canyon and outlying sites and considers their implications for the archaeology of the Chacoan regional system in the context of contemporary archaeological and museum practice.

Jolie, Ruth (Mercyhurst Archaeological Institute), Gwendolyn Saul (University of New Mexico) and Clarence Cruz (University of New Mexico)

[65] *Elements of the earth: Using museum collections to revitalize pottery traditions at Ohkay Owingeh Pueblo.*

A new exhibit by the Maxwell Museum of Anthropology and the Alfonso Ortiz Center for Intercultural Studies features ceramics by contemporary Ohkway Owingeh artist Clarence Cruz and archaeological and historic Ohkway Owingeh ceramics that inspired his work. Artifacts in archaeological museum collections have played an integral role in the development of Ohkay Owingeh ceramics over the past fifty years. The exhibit further explores this relationship and new forms of intercultural expression that this collaboration encourages. The exhibit showcases continuity in Ohkay Owingeh ceramics while maintaining connections to the past and inviting new perceptions of contemporary ceramic making in the Southwest.

Jones, Brian (Archaeological and Historical Services, Inc.)

[268] *A New Collection from the DEDIC Site, Deerfield Massachusetts*

The DEDIC Paleoindian Site in South Deerfield, Massachusetts has been known to collectors since the 1930s, but it was first professionally evaluated in 1978. At that time, the discovery of eighteen Paleoindian tools and nearly two thousand associated chert flakes resulted in its listing on the National Register of Historic Places and subsequent burial to deter further looting. Recently, thirty-five artifacts likely associated with the site were identified in a local collection. It is believed that these artifacts have never been previously documented and represent a significant addition to the limited assemblage associated with this important site.

Jones, Dennis [128] see Dixon, Boyd M.

Jones, Emily (University of New Mexico)

[135] *Resource patchiness, predictability, and human settlement in Upper Paleolithic Spain*

It has been argued that the resource patchiness and predictability which fostered the classic seasonal round and agriculture were a product of the Holocene, and that

the more unpredictable environments characteristic of the Pleistocene made such cultural developments an impossibility. But what of refugium environments, such as those hypothesized for the Iberian Peninsula during the Last Glacial Maximum? This paper examines evidence for resource patchiness and predictability in the late Pleistocene Spanish Mediterranean, and uses archaeological site location and subsistence data to explore human response to a refugium environment. [3] *Discussant*

Jones, Eric (Wake Forest University)

[162] *The role of ecology and interaction in the formation of complex societies in the North Carolina Piedmont* After AD 800, the North Carolina Piedmont saw the development of several Mississippian chiefdoms. It was contemporaneously home to a number of more egalitarian tribal societies. Given the spatial proximity of these groups and evidence of interaction between them, this is a prime area for studying why some societies developed complex sociopolitical organizations and others did not. Through analyses of regional settlement patterns as well as assemblages from Yadkin River Valley sites, this research compares the settlement ecology of chiefdoms and tribes to explore the role that ecology played in the differential formation of complex societies across time and space.

Jones, George T. [84] *see Bennett, Kathryn A. [241]* *see Beck, Charlotte*

Jones, John (Washington State University)

[70] *Pollen Evidence for Human Settlement in Belize: Agriculture and the Environment* Detailed palynological analyses of over 25 sediment cores collected throughout Belize has provided a high resolution picture of past environmental conditions and the impact of humans on their landscape. Evidence of early occupation and pre-Maya agricultural efforts is common in cores indicating widespread settlement throughout the northern part of the country during late Archaic times. Maya clearing and agriculture are also apparent as is evidence of their crops, including maize, manioc, squash, chiles, and several probably cultivated arboreal food sources. Efforts are underway in the southern part of the country to round out our understanding of this important area.

Jones, John [87] *see Larmon, Jean T.*

Jones, John G. [38] *see Williams, Sarah A. [67]* *see Perrotti, Angelina G.*

Jones, Robert

[247] *Black Rocks During Black Mountain: Mule Creek Obsidian use during the 13th and 14th Centuries* Mule Creek obsidian use has varied in distribution and intensity throughout the Pueblo I–V periods. Recent excavations near Mule Creek, New Mexico have refined understandings of demographic patterns and social connections near the Mule Creek source. Combined with sourcing of existing collections, our data indicate both exploitation of the source in the thirteenth century (at the Fornsolt site and others) and a dynamic shift in the distribution of the Mule Creek obsidian in the fourteenth century. I use obsidian sourcing data and technological

style analysis to explore these shifts in distribution and intensity of Mule Creek.

[10] *Discussant*

Jones, Sharyn (University of Alabama at Birmingham), Mallory Messersmith (UAB), Anna McCown (UAB), Courtney Andrews (UAB) and Ashley Wilson (UAB)

[250] *Digesting the past thought the present: results from an ethnoarchaeological fieldschool in Fiji*

This paper describes results from an ethnoarchaeological field school funded by the National Science Foundation Research Experiences for Undergraduates (NSF-REU) Program. We discuss the project aims and pedagogy of the student-scholar model we utilized, whereby undergraduates are incorporated into faculty research in Fiji's Lau Island Group. We also present a summary of findings from student and faculty research. Research projects included: archaeological excavations of households and ritual cooking features; a study of modern consumption and garbage; a study of food and body image; an examination of traditional foodways and preferences; and research on gender marked domestic spaces within households.

Jones, Sharyn [177] *see Messersmith, Mallory*

Jones, Tate (LandAir Surveying) and Martin E. McAllister

[14] *The Use of 3D Laser Scanning in Forensic Archaeology to Document Unauthorized Archaeological Damage]*

Archaeological Damage Investigation & Assessment (ADIA) recently worked with the firm of LandAir Surveying to document graffiti damage to a complex rock art panel using 3D laser scanning. The use of this sophisticated technology produced results that could not have been achieved with conventional damage documentation methods and also was highly cost effective. A video sample of the results of documenting the rock art panel will be presented and the application of 3D laser scanning to document other types of unauthorized archaeological damage will be discussed. The potential for its use in other forensic archaeology applications also will be considered.

Jordan, Amy (University of Washington)

[211] *The Price of Spice: Plantation Archaeology in the Early Colonial Period in the Banda Islands, Indonesia* The Banda Islands are part of the Moluccas, or Spice Islands, and were the location of early Dutch colonialism in Asia and were part of a global trade network. My research investigates how social negotiation in a pluralistic society may have influenced food choices. Preliminary research into the ethnogenesis of plantation-based society during the Early Colonial Period in the Banda Islands, Indonesia, is discussed.

Jordan, Jillian (University of New Mexico)

[70] *Preliminary Ceramic Analysis and Chronology Building at Uxbenka, Belize*

Several studies have suggested that sites in southern Belize share similar patterns in architecture and settlement that are distinct from other areas of the Maya Lowlands. We suspect the same is true of the ceramics, though the lack of a well-defined regional ceramic

typology makes comparisons with other regions problematic. Radiocarbon dates indicate that Uxbenka is the earliest and longest continually occupied site in the region making it ideal for chronology building. This poster presents preliminary results of ceramic analysis from site core contexts at Uxbenka, compares these data to published data from nearby sites, and begins the process of defining a regional chronology.

Jordan, Keith (California State University, Fresno) and Cynthia Kristan-Graham (Auburn University)

[21] *Bones of Contention at Tula: Migration Theories, Art, and Ancestry*

Bones of Contention at Tula: Migration Theories, Art, and Ancestry Keith Jordan, Dept. of Art and Design, California State University, Fresno Cynthia Kristan-Graham, Dept. of Art, Auburn University This paper questions long-distance migration as a panacea to explain the curious nature of the Tula art tradition. By careful analysis of the Coatepantli ("serpent wall"), the Tzompantli (skull rack), and evidence of ancestor veneration in a regional perspective, we suggest that Tula's art tradition primarily developed as the result of artistic stratagems and local and long-distance social interactions, as well as actual movements of peoples in Central, North, and West Mexico. While parallels with Chichen Itza are unmistakable, these are likely the results of Epiclassic political and economic conditions and a shared visual language throughout Epiclassic Mesoamerica.

Jordan, Kurt (Cornell University), Charlotte L. Pearson (Cornell University) and Darren S. Dale (Cornell University)

[192] *Genealogies and Biographies of Seneca Iroquois Red Stone Use, circa 1688-1754*

Seneca Iroquois peoples used two categories of red-colored lithic raw materials during 1688-1754. Fine-grained red pipestone and coarser red slate came from several distinct geographical sources (often presumed to be Minnesota and Wisconsin and the New York-Vermont border region, respectively), and likely entered Iroquois sites along different trade routes. This paper reviews assemblage-level genealogies (historical trends) in Seneca use and manufacture of red stone items, and provides an elemental characterization of red stone artifacts using Scanning X-Ray Fluorescence Microscopy (SXFPM). Hierarchical cluster analysis is employed to establish possible provenance and contribute to the understanding of the "biography" of these items.

Jorgenson, Jason (University of Liverpool)

[103] *Modelling Landscapes: Landuse Analyst*

This paper presents a modelling methodology and software which focusses on looking at subsistence strategies to help determine land use and landscape engagement. This open source software has been specially developed to be capable of being used anywhere in the world, and during any period.

Joslin, Terry (Central Coast Archaeological Research Consultants)

[126] *Reconsidering Perceptions of Late Holocene Maritime Adaptations on the Central California Coast* Late Holocene research along the central California Coast has predominately focused on data from interior

Monterey County sites and the intensive use of terrestrial resources. Absent from these studies is comparable emphasis on coastal resources. On the Southern San Simeon Reef, the White Rock Site, a single component deposit dating to 700-400 cal BP, provides significant insights into coastal adaptations and interior-coastal settlement patterns. Occupied immediately after the Medieval droughts, this faunal-rich deposit has contributed to our understanding of the dynamic nature of human-environment interactions, and forces a reconsideration of the role of coastal resources in late Holocene adaptations.

Joyce, Arthur (University of Colorado at Boulder), Michelle Goman (Sonoma State University), Raymond Mueller (Richard Stockton College) and Aleksander Borejsza (Universidad Autónoma de San Luis Potosi)

[167] *Human Impact on the Landscapes of Ancient Oaxaca, Mexico*

This paper summarizes interdisciplinary research on the history of human impact on the Río Verde drainage basin, Oaxaca. Geomorphological research in the Río Verde's upper drainage basin indicates that after 2000 B.C. agricultural practices of sedentary farmers contributed to erosion. As early as ca. 900 B.C. farmers modified streams by building cross-channel agricultural terraces known as lama-bordos. The erosion in the highlands altered the drainage system and led to ecological changes in the lower Río Verde Valley on the Pacific coast more than 100 km downriver. The implications for human settlement and subsistence in the lowlands are considered.

Joyce, Arthur [19] see Barber, Sarah B.

Joyce, Rosemary (University California Berkeley)

[205] *Businessmen, Naturalists, and Priests: The Material Past Before Professional Archaeology*

Institutionalization of archaeology in US museums and universities created a group of professional archaeologists in the late nineteenth century. They determined what questions, objects, and sites were significant, and subsequent generations of students followed in their footsteps. Based on study of European museum collections assembled by 18th and 19th century investigators working in Honduras, this paper considers the motivations for study of antiquities of businessmen, naturalists and ecclesiastical collectors, to understand what was lost as archaeology took shape as a discipline, and what can be rediscovered by returning to curated collections excluded from discussion as North American archaeology professionalized.

[267] *Discussant*

Joyce, Rosemary [191] see Winemiller, Terance **[172]** see Heim, Kelly N.

Ju, Yu-ten [256] see Li, Kuang-ti

Judd, Margaret (University of Pittsburgh) [94]

Discussant

Judge, Christopher (University of SC Lancaster)

[162] *Out on the Edge: Mississippian/Late Woodland Interactions in Eastern South Carolina*

South Appalachian Mississippian and Late Woodland groups lived in close proximity to one another in the Great Pee Dee river drainage creating local and long-distance communities of interaction. Differing cosmologies, settlement patterns and subsistence practices allowed these groups to occupy adjacent spaces without becoming competitive. The Mississippian groups maintained ties to the west while the Late Woodland groups were anchored to the east resulting in rather different material assemblages. Mississippian efforts at colonizing the Great Pee Dee River in South Carolina met with limited success and Late Woodland lifeways continued up to and into the contact period.

Juengst, Sara (UNC-Chapel Hill) and Sergio Chavez (Central Michigan University)

[5] *The Health of Archaic Foraging Groups in the Lake Titicaca Basin*

The shift from foraging to farming resulted in a decline in nutritional health in many regions of the world. However, this pattern is not universal, with many past foraging groups exposed to harsh environmental conditions and/or seasonal starvation. The highland Andes would have been and remain a challenging environment for both foragers and farmers alike; however, few skeletal remains are available to contribute to the discussion. Archaic skeletal remains from the site Muruqullu, on the Copacabana Peninsula of Bolivia, shed light on this debate, giving some indication of the health profile for mobile foragers living on the high lake shores.

Julien, Marie-Anne (University of Tübingen), Jordi Serangeli (Institute for Prehistory, University of Tübingen), Mareike Stahlschmidt (Institute for Archaeological Sciences, University of Tübingen), Hannes Napierala (Institute for Archaeological Sciences, University of Tübingen) and Nicholas J. Conard (University of Tübingen)

[93] *What happened to those bones? Insights on the taphonomic history of the large mammal remains from Schöningen*

Paleolithic faunal assemblages usually reflect a complex taphonomic history in which natural and anthropogenic processes are often superimposed. Although preservation in open air settings is often poor, the excavations at Schöningen provide exceptionally well preserved mammalian faunal material. Here we consider a number of case studies including an aurochs skeleton and a number of examples of bone and ivory finds that resemble tools. This paper presents the results of taphonomic analyses that aim to identify the processes and agents implicated in the formation and modification of this rich faunal accumulation.

Junker, Laura (University of Illinois Chicago)

[190] *Modeling Socio-political Diversity and Change in Southeast Asia*

Southeast Asia is one of the regions of complex society emergence that has confounded anthropological cultural evolutionary models like that of Lewis Henry Morgan and his twentieth century successors. Power structures and forms of social competition in pre-colonial Southeast Asia do not conform readily to stereotypical definitions of socio-political complexity and its implied trajectories due to a number of factors, including ecological, historical, and ideological. Using historic and archaeological studies

of Southeast Asian polities ranging from island chiefdoms to expansive states, the paper examines alternative ways of characterizing diversity in Southeast polities and elsewhere through an emphasis on performance-centered strategizing.

Junker, Laura [57] *see Smith, Larissa M.*

Justeson, John

[269] *Modelling indigenous Mesoamerican eclipse theory*

The 260-day Mesoamerican divinatory calendar has a well-known correlation with the timing of eclipses. This correlation is generally expressed in terms of the near equivalence of the span of two divinatory-calendar cycles (520 days) with the time to pass from a node of the eclipse cycle to the third subsequent node (519.93 days). However, Mesoamericans are not known to have had an explicit concept of eclipse nodes. This paper presents a Mesoamerican-type model for eclipse occurrence based on historical patterns of eclipse recurrence in the divinatory calendar, along with reflections of these patterns in the practices of Mesoamerican calendar specialists.

Kabata, Shigeru (Aichi Prefectural University)

[73] *Obsidian Procurement and Production, and the Political Centralization at Teotihuacan*

In the process of the consolidation of the Teotihuacan state, it is generally thought that Otumba and Pachuca obsidian resources were monopolized by the central authority and were distributed throughout the Central Highlands. Nevertheless, this is an inadequate perspective of the political economy during the Classic period mainly because obsidian from other sources was also circulated in this region. In order to better understand the process of political centralization and the expansion of economic systems, this study examines how acquired resources were manufactured to materialize the symbol of the authority based on the changes and continuities in obsidian procurement systems.

Kadambi, Hemanth (Museum of Anthropology) [82]

Discussant [82] First Moderator

Kaestle, Frederika [184] *see Marshall, Charla*

Kahn, Jennifer (Bishop Museum)

[229] *Holy Houses, Principal Houses, and Precedence in the Late Prehistoric Society Islands*

In prehistoric Society Island chiefdoms, the ritual nature of dwellings translated into avenues for emerging elites to gain greater socio-political power. A comparison of residential complexes in the 'Opunohu Valley demonstrates the ways in which houses were sanctified. Early dwellings were transformed into "holy houses" where monumental temples were constructed, creating fixity in the relationship to the ancestors. Principal houses established precedence via placement of the dwelling on the landscape and the use of architectural features as legitimating devices. Through time, expressions of social hierarchy allowed for corporate groups to assert exclusionary rights rather than integrative principles within the community.

[229] *Second Chair*

Kalayci, Tuna [64] see Casana, Jesse

Kamiya, Masahiro (Texas A&M University)

[132] *Hands of the Past, View to the Future: Seeking Knowledge Growth via a Processual Approach to Paleoethnobotany*

Microbotanical analysis in Paleoethnobotany (PEB; aka Archaeobotany [AB]) has yet to fully incorporate lessons in site-formation processes and taphonomy already learned by palynologists. New knowledge stems from rigorous testing, verification, and falsification in conjunction with source-side knowledge. In the absence of a systemic research framework within the field, questions and analytical results from PEB/AB cannot be reliably interconnected, spatially or temporally, and analytical results remain dependent on the competency of the analysts. Mitigation of this scientific dilemma should begin with objectively measuring the competence of analysts by informed assessment via analysis of known samples and detailed taphonomic experiments.

Kansa, Eric (Open Context / UC Berkeley)

[129] *Linking Archaeological Data to Enable Collaboration on a Massive Scale*

Archaeology is inherently multidisciplinary, touching upon many areas of the humanities and sciences. The Web can facilitate interdisciplinary work as illustrated by recent integration of data published by OpenContext, Nomisma, Pleiades, Arachne, the Encyclopedia of Life, and many other online research collections. While "Linked Open Data" methods can enhance the relevance of archaeology across many domains, appropriate use of these methods requires balancing the costs as well as the benefits of formalized standards. In such efforts, workflow, participation issues, and the evolvability of systems remain crucial concerns, especially if we are to expand and not hardcode interpretive outcomes.

[3] *First Moderator*

Kansa, Sarah (AAI / Open Context)

[129] *Data Sharing as Publication: Establishing Editorial Policies and Workflows around Archaeological Data Dissemination*

An increasing emphasis on archaeological data sharing has motivated investment in cyberinfrastructure involving technologies, archival practices, standards, and semantics for managing and exchanging scholarly data. However, such investments will have limited impact if research data remain outside professional workflows and incentive structures. Using a model of "data sharing as publication," we explore how editorial workflows can make research data valuable for both data contributors and data users. Our approach, demonstrated using case studies from Open Context (<http://opencontext.org>), an open-access, web-based platform for publishing archaeological data, adapts familiar patterns of publication to meet the particular needs of sharing structured analytic data.

[3] *Discussant*

Kantor, Loni (Arizona State University)

[62] *Movement and Landscape among the Huichol of Jalisco, Mexico*

Patterned movements among differentiated places weave a landscape together. Thus, a comprehensive understanding of any landscape, be it ancient or

contemporary, entails a consideration of movement. In this paper I describe the native categories of movement that make up a present-day Huichol landscape and discuss how they enrich our thinking about movement in ancient contexts. Movement for the Huichol is not simply a means to get from one place to another, rather, it is a multifaceted and symbolically charged activity that is integral to the practice of Huichol ancestral tradition.

Kaplan, Jessica [26] see Bautista, Stefanie L.

Karacic, Steven (Bryn Mawr College)

[155] *The Household and Patterns of Descent in Mochlos, Crete*

Mochlos, an Early Bronze Age site in Crete, has been at the center of a century-long discussion of social organization. Most previous studies have stressed the existence of two classes, the rulers and the ruled, within the community. Such approaches have contributed to broader discussions of social structure, but they often overlook the smallest archaeologically detectable social group, the household. This paper focuses on this smaller social unit, arguing that the settlement of Mochlos consisted of an agglomeration of competing households which may have practiced matrilineal descent.

Karberg, Rebecca (US General Services Administration)

[99] *Constructor as Curator: GSA's Archaeological Collections*

As the principal provider of federal workspace, the United States General Services Administration (GSA) is responsible for the care and interpretation of the artifacts recovered during the construction of federal office buildings, thanks to ARPA and NHPA requirements. In this paper I examine four collections that originated from projects within GSA's Pacific Rim Region, which includes Arizona, California, Hawaii, and Nevada. By displaying these collections, I contend that the federal government can both fulfill its legal obligations and increase the visibility of artifacts that are important to the histories of the cities in which these projects originated.

Kardulias, Paul (College of Wooster)

[132] *Peripheries as Contact Zones in the Eastern Mediterranean: World-Systems Analysis and the Processual Mandate*

A key item of the processual agenda is to use general models to explore the nature of intersocietal connections in the past. This paper argues that world-systems analysis (WSA) is ideally suited to advance this goal. Through its emphasis on systemic relations between cores, peripheries, and semiperipheries, WSA enhances our understanding of inter-societal interaction in prehistory. A number of recent efforts have explored the nature of intergroup relations in frontier zones and suggest a complex network linked societies, and that peripheries were dynamic, integral players. The present study examines this relationship in the eastern Mediterranean, with a focus on Cyprus.

Karr, Landon [55] see Outram, Alan K.

Karsten, Jordan (SUNY Albany), Gwyn Madden (Grand Valley State University) and Taras Tkachuk

[176] *Above and Below in Western Ukraine: A*

Comparative View of Tripolye mortuary practices from Bilshivitsi Village and Verteba Cave

Bilshivitsi Village located in Western Ukraine is a Trypolie site dating from 3800-2600 calBC. This site is of particular interest as the human remains of four adult individuals were found in what appears to be a ritual deposit. Three male skulls were found in association with a complete female skeleton overlain with the remains of a sheep and located near a dog burial. The Bilshivitsi Village remains were compared to a commingled deposit located approximately 151 km away at the Verteba Cave burial site dating to the same time period. The data are then compared to other European mortuary practices.

Karsten, Jordan K. [5] see *Madden, Gwyn D.*

Kasper, Kimberly (University of Massachusetts-Amherst) and Margaret Morris (University of Wyoming)

[80] *Footprints in the Soil: Exposing Cultural Patterns of Plant Use with Geographic Information Systems*

This paper intertwines archaeobotanical data with the application of GIS to explore food-related activity areas associated with plants. Depending upon context and preservation, archaeobotanical remains may not be present in high quantities, making it difficult to discern patterns of plant use and its importance within the community. We discuss the impacts of recovery and analysis and advocate for more systematic spatial investigations to record shifts in plant use across time and space. This analysis deepens our understanding of how plants (both the presence and non-presence) are in embedded and reflective of the social organization in past archaeological communities.

[80] *First Chair*

Kassabaum, Megan [185] see *Steponaitis, Vincas P.*

Katz, Jared (Lafayette College)

[191] *Music of the Grave: Ceremonial Music of the Classic Maya*

Judging from archaeological and art historical evidence, it is clear that music played a major role in classic Maya ceremonies. Musicians, frequently depicted on various media, such as polychrome vessels, are present in scenes of courtly activities, ballgames and warfare. Music also appears to have held an important position in upper-class Maya society, as suggested by the presence of single or multiple instruments within elite burials. Analysis of excavated instruments and their representations in art helps us to better understand the role that music played in the ceremonial practices of the classic Maya world.

Kaufman, Laura (Indiana University of Pennsylvania)

[170] *What Difference Does Fifty Years Make? The Comparability of Johnston Site Faunal Assemblages*

The Johnston Site has become an important Middle Monongahela site, as it remains the type site of the Johnston Phase for the Monongahela tradition. First excavated by Don Dragoo in 1952, and since 2005 by Indiana University of Pennsylvania, two large faunal assemblages are available for study from the site. In order to use these assemblages to address questions of subsistence and site occupation, their comparability must be assessed. Examination of degree of fragmentation,

breakage type and weight suggests there is variation between the assemblages. Nevertheless, integrating data from both assemblages provides a fuller picture of animal use at Johnston.

[170] *First Chair*

Kaufmann, Cristian [96] see *Gutierrez, Maria A.*

Kaufmann, Kira

[99] *A Quarter Century of History: Research, Resurvey, and Public Outreach of Indiana's Historic Shipwrecks of Lake Michigan*

A quarter century ago, the Indiana DNR surveyed historic shipwrecks in Lake Michigan. The Lake Michigan Coastal Program sponsored another survey in summer 2011 to re-locate these wrecks and search for previously unidentified sites. The project involved historical research, archaeological survey, remote sensing, and public outreach. Nine previously identified sites were relocated as well as several new sites. Numerous presentations, meetings, and volunteer opportunities involved a broad range of public users. The project has developed a management plan focused on conservation of these resources that allows for current and future public uses while minimizing impacts to these resources.

Kay, Marvin (University of Arkansas), Ivan Gatsov (New Bulgarian University-Sofia, Bulgaria) and Petranka Nedelcheva (New Bulgarian University-Sofia, Bulgaria)

[63] *Stylistic and functional study of lithic and bronze tools from later prehistory in Eastern Balkans*

Stone tools of the lower Danube River valley of Romania and Bulgaria differentiate domestic and agricultural activities of the Chalcolithic period of the 5 millennium BC. They also connect with the system of belief or status of their holders. These similar technological and typological features and exploitation of a common raw material base are indicative of widespread communication and interaction within agricultural communities that stretch from the Neolithic, the Chalcolithic and into the Bronze Age.

Kaye, Quetta

[121] *Power from, power to, power over? Ritual drug-taking and the social context of power among the indigenous peoples of the Caribbean.*

This paper explores links between artefacts and power. By utilizing different bodies of evidence, I address empowerment as manifested in material culture and how representational objects and ritual drug-taking were used to elicit meaning. The relationship between material objects and ritual is explored as the basis of empowerment of the political-religious leadership of the prehistoric and historic people of the Caribbean. Using archaeology and ethnohistory to contextualize both the deployment of drugs and the material culture of drug use, this paper seeks to examine ritual drug use as part of the dynamics of power and power relations.

Kaye, Quetta Patricia [24] see *Swogger, John G.*

Keagle, Carolyn (Penn State University)

[240] *Mapping Social Landscapes: reconstructing pedestrian movement and accessibility for Contact Period Huron Territory*

This project reconstructs the physical and social landscapes of Contact-Period Huron territory, examining how landscape impacted settlement and social interaction. I combine historically recorded village locations and trail routes, archaeological site locations, modern environmental data, and mathematical algorithms for pedestrian travel, in a model of movement and accessibility. Trail locations are compared with derived least-cost routes, and site location and distribution are analyzed in terms of accessibility within the regional landscape. The result is a more accurate representation of movement and interaction during this period, as well as a model for the formation of social landscapes in small-scale pedestrian societies.

Kearns, Catherine (Cornell University) and Lori Khatchadourian (Cornell University)

[130] *An Imperial Style?: 'Achaemenid' Pottery and the Practice of Empire in Satrapal Armenia*

Advances in the archaeology of the Achaemenid Empire over the past decade are due in no small measure to fieldwork underway across the South Caucasus. Drawing on the ceramic assemblage from Armenia's Iron 3 settlement at Tsaghkahovit, this paper offers a case study in how institutions of Achaemenid hegemony linked to the consumption of food and drink extended into the empire's satrapal communities. Is it possible to speak of an Achaemenid imperial style, as both a suite of formal properties that inhere to material objects like ceramics, and a set of consumption practices that reproduced social conventions of the empire?

Keegan, William (Florida Museum of Natural History)

[193] *Crossing the Mona Passage: The Archaeology of Hispaniola, Jamaica, Cuba, and the Southern Bahamas*
Irving Rouse proposed that pottery-making agriculturalists (called Saladoid) entered the Lesser Antilles from northeastern South America around 500 BC and halted their expansion in Puerto Rico shortly thereafter. After 1000 years of cultural development on Puerto Rico they resumed their expansion to the west and in the process developed into the Classic Tainos encountered by the Spanish in 1492. My goal here is to highlight the significant cultural differences that arise upon crossing the Mona Passage between Puerto Rico and Hispaniola. Differences that indicate that Caribbean prehistory cannot be written solely from a Puerto Rican perspective.

[165] *Discussant*

Keeley, Lawrence [123] *Discussant*

Keene, Joshua (CSFA, Texas A&M University) and Clayton Marler (Battelle Energy Alliance, Idaho National Laboratory)

[169] *Geoarchaeological Survey at the Idaho National Laboratory: Initial Findings at the Pioneer Site (10BT636)*
The Human Riverine and Lacustrine Adaptations archaeological testing project at the Idaho National Laboratory is a multi-year project intended to explore prehistoric adaptations on the eastern Snake River Plain. The goal of field work in 2010 was to test along the Big Lost River to understand the geomorphology of the area and identify potential locations for subsurface Paleoindian occupations, the most significant of which was the Pioneer site (10BT636). This site was then the

focus of testing in the summer of 2011, where initial block excavations revealed a complex, stratified multi-component site potentially dating back to the terminal Pleistocene.

Keeney, Joseph (Central Washington University) and Robert Hickey (Central Washington University)

[7] *Using High-Resolution Satellite Imagery and Vegetative Indices to Locate Potential Archaeological Sites; Lake Matcharak, Alaska*

Using 1 meter resolution multispectral satellite imagery of Lake Matcharak, Alaska, we employed a method to apply a combination of vegetation indices, a digital elevation model, and unsupervised classification to classify ground cover types surrounding the lake. After overlaying GIS data of known archaeological sites, a land cover pattern was found to be associated with known sites. Here we report on these methods and the results from field testing, which included the location of one new archaeological site and suggests potential for the application of satellite imaging as a means for predicting high potential areas for archaeological survey.

Kehl, Martin [135] *see Weniger, Gerd-Christian*

Kehoe, Alice (University of Wisconsin-Milwaukee)

[195] *Bag Ladies: Twined bags, fabric-impressed ceramics, and the Great Tradition of American fabrics.*
From the same earliest-Holocene population as Kennewick Man come corpses in Nevada caves wrapped in full-length finely twined shrouds--earliest complete fabrics in the world--and accompanied by fine twined bags. Twining continued as the dominant fabric method north of Mesoamerica-Southwest into the twentieth century AD. It is preserved largely as impressions on ceramics. Historic twined bags hold ritual paraphernalia and regalia, and may have thunderbird and panther designs. Twining was a woman's art.

[4] *Discussant*

Kei, Lo

[95] *Preliminary studies on the military rule in Southwestern China after the takeover by the Han Empire*

In the Qin and Han dynasties, bronze production was thriving in Southwestern China, as can be seen from artifacts of the Dian culture in Yunnan. Bronze daggers were one of their important artifacts. They were decorated with spike patterns on the blade and a highly ornate handle. Some daggers from Lingnan, Guizhou and Northern Vietnam had similar patterns, showing a clear connection between these areas. They were an important symbol but vanished after the invasion of the Han. This paper studies the decoration on the dagger to investigate the changes brought about by the military rule of the Han dynasty.

Keith, Scot (New South Associates)

[97] *Reconceptualizing Swift Creek*

The presence of Swift Creek pottery in Hopewellian ceremonial contexts in the Eastern Woodlands has long been recognized, and it also is commonly found in "domestic" contexts in the Southeast. However, there is little consensus as to the nature of Swift Creek "culture", particularly in terms of its organization and relationship to the more commonly found Middle Woodland

archaeological cultures in the Southeast. In this paper, I explore the nature of Swift Creek, focusing on social organization, interaction, archaeological context, and the sacred/secular dichotomy that has been used in explaining the pottery.

[97] *First Chair* [97] *Second Organizer*

Keith, Scot J. [45] *see Bonhage-Freund, Mary Theresa*

Keller, Angela (University of Texas at Arlington)

[203] *What Happened at Maya Centers? A Preliminary View from Actuncan, Belize, Central America*

After decades of research, we know a great deal about how the Maya buried their honored dead but precious little about the daily activities of the living in their civic centers. We hypothesize that a wide variety of activities occurred in Maya centers – from sacrifice to market trade – but we have scant archaeological documentation. This paper presents the preliminary results of a project at the site of Actuncan aimed at identifying the archaeological correlates of activity in public plazas through the use of rapid systematic testing, soil chemistry sampling, macro- and micro-artifact analysis, remote sensing, and targeted excavations.

[203] *First Chair*

Keller, Christine (Ball State University)

[2] *Glacial Kame Sandal Sole Shell Gorgets*

The sandal sole shell gorget is a diagnostic artifact of the Late Archaic Glacial Kame culture. This paper focuses on results of a master's thesis which explored the manufacture, use, and distribution of sandal sole shell gorgets. A total of 59 gorgets representing at least 13 Glacial Kame sites were analyzed. Primary methods included a comprehensive literature review, detailed metric and morphological analyses, research discussions and museum visits. Results include presence of a common hole wear pattern and engraving supporting possible use; measurement and distribution data supporting possible trade and exchange; and compilation of gorget inventory data supporting future research.

Kelley, David H. [4] *see McCafferty, Geoffrey*

Kellner, Corina (Corina M. Kellner), Kevin Vaughn (Purdue University), Hendrik Van Gijseghem (University of Montreal) and Verity Whalen (Purdue University)

[29] *Bioarchaeological analysis of unlooted tombs from Cocahuischo in Nasca, Peru (AD 650-750)*

The latter portion of the Early Intermediate Period in Nasca, Peru (AD 650-750) was characterized by burgeoning social networks before Wari state expansion. The Nasca were important to Wari, but recent studies reveal variation in their response to Wari incursion. Ten individuals from unlooted tombs at Cocahuischo, one of the largest Nasca sites and near the later Wari outpost of Pataraya, were analyzed. Fractures and arthritis attest to hard physical lives, while a rare headless burial may clarify Nasca "trophy" head taking. These bioarchaeological analyses contribute new data on Nasca individuals during a period of great social change.

Kelly, John (Washington University) and James Brown (Northwestern University)

[196] *Assessing the Impact of the Ramey Plaza and its*

Creation on the Cahokian Landscape.

This presentation focuses on the Ramey Plaza complex and the way a portion of Cahokia's cultural and natural landscape was altered. Created and constructed shortly after Cahokia's 12th century climax, as this incipient city and region underwent significant changes. While certain cosmological principles underlie the plaza's design, we examine the manner the plaza as a sunken layer was created, along with the removal of earth from a large residential area to the north of the plaza. Both activities had a major impact on the landscape in that a substantial area of the site is no longer part of archaeological record.

[196] *First Chair*

Kelly, John [185] *see Kelly, Lucretia S.*

Kelly, Lucretia (Washington University in St. Louis), Davide Domenici (University of Bologna), Maurizio Cattani (University of Bologna), John Kelly (Washington University in St. Louis) and Maurizio Tosi (University of Bologna)

[185] *Mapping Cahokia: New Perspectives and Approaches to Cahokia's West Plaza*

As part of an exchange agreement with the University of Bologna, Italy and Washington University in St. Louis, efforts are under way to employ at the Cahokia Mounds State Historic Site some of the methodologies used on various projects conducted by the University of Bologna in Italy, Oman, Turkmenistan, and Chiapas, Mexico. This presentation examines the 2011 efforts defining one of the large enclosures at the north end of the West Plaza at Cahokia.

Kelly, Sophia (Arizona State University)

[270] *A Refined Methodology to Source Schist-Tempered Hohokam Pottery*

Hohokam red-on-buff pottery is manufactured using both sand and schist temper. While the petrographic identification of geographically discrete sand composition zones in the Phoenix Basin allows archaeologists to source sand-tempered pottery with unprecedented precision, archaeologists cannot provenance the large number of sherds that are tempered only with schist. This study assesses whether the chemical composition of the schist grains in red-on-buff sherds varies consistently with the source of the sand temper in those sherds. If the schist composition and the sand source co-vary, then the chemistry of schist grains can be used to source sherds tempered only with schist.

[270] *Second Organizer* [116] *First Chair*

Kemp, Brian M. [88] *see Newbold, Bradley*

Kemp, Leonard [127] *see Mauldin, Raymond P.*

Kempe, Stephan (Inst. for Applied Geosciences, TU Darmstadt)

[234] *Desert kites in Jordan and Saudi Arabia, structure, statistics and function, a GoogleEarth Study*

Google Earth offers the opportunity to study "desert kites", large, presumably Neolithic gazelle-hunting structures, shaped like children's kites. They occur throughout the Near East where large stones were available, e.g. in the Harrats (lava deserts). Kites typically consist of km-long guiding walls, ending in a ha-sized enclosure. In Jordan at least 450 kites are counted, and

another 252 in Saudi Arabia. The Jordanian and the 45 northern SA kites are of a different type ("star-shaped" and arranged in chains) than the 207 in the Harrat Khaybar in Central SA ("barbed" and individual). Size statistics are presented and kite functions discussed.

Kendall, Aaron (CUNY Graduate Center)

[263] *Viking Age and early medieval trade in the North Atlantic: a comparative study of common artifacts from settlement sites in Iceland and Greenland*

A quantitative approach is used to address trade and exchange between Iceland and Greenland and between these islands and continental Europe during the Viking Age. For this preliminary analysis the artifact assemblages from settlement sites in Iceland and Greenland are compared and two competing hypotheses regarding North Atlantic trade are addressed. Based on the quantities of imported material and the temporal change in composition of the material assemblages, it appears that trade between these islands, and between the islands and continental Europe, was minimal during the Viking Age.

Kendall, Bryan (University of Iowa) and Jonathan T. Thomas (University of Iowa)

[114] *Raw Material Use in the Personal Ornaments of Late Neolithic and Copper Age Iberia*

The Late Neolithic/Copper Age (3500-2500BC) of southern Iberia witnessed a host of changes in social complexity and craft production in which new types of raw materials and long-distance exchange patterns appear. The preference for and exchange of specific types of rare raw materials for the production of beads and pendants found in LN/CA collective tombs suggest that some symbolic values may have been shared by groups in distant regions. To better understand the movement of these materials, this project presents a compositional analysis of several thousand LN/CA personal ornaments using petrographic microscopy and inductively coupled plasma mass spectroscopy (ICP-MS).

Kendall, Ashley (Michigan State University) and P. Willey (California State University, Chico)

[94] *Crow Creek Commingling: A Re-Evaluation and Implications*

To better understand how to interpret issues of commingling, anthropologists must re-assess established methods for the evaluation of commingled remains. Estimation of MNI has proven to be one of the most difficult calculations in all commingling cases. This presentation re-evaluates commingling at the Crow Creek Site. At Crow Creek, nearly 500 individuals were recovered from a commingled human bone bed. Site MNI was probably affected by the bone mineral density of different skeletal elements, leading to higher attrition in certain elements. Element attrition, therefore, must be considered when attempting to identify individuals and determine an MNI for commingled human remains.

Kendrick, Christine (Eastern New Mexico University)

[221] *Economic And Ritual Use Of Animals At The Sterling Site (LA 22652): A Chacoan Outlier In The Middle San Juan Basin*

The Post-Chacoan period is one of transition in the American Southwest. While the regional center at Chaco

Canyon withered, the Northern San Juan Basin experienced population aggregation. Within that region, the Sterling Site is a Chacoan outlier occupied from AD 900 until the abandonment of the region. A faunal analysis of approximately 2000 bones was undertaken to better understand the economic and ritual use of fauna in the Chacoan and Post-Chacoan periods. Preliminary data indicate that small mammals and turkeys were proportionally more important than artiodactyls in the Post-Chacoan period, and that turkeys played both a ritual and utilitarian role.

Kenline, Brooke (University of South Carolina)

[162] *Searching for the Enslaved Laborers at the Reverend John Landrum Site*

The initial development of alkaline glazed stoneware in North America occurred in the Old Edgefield District of South Carolina in the early 19th century. One district pottery, established by Reverend John Landrum, produced enormous quantities of stoneware enabled by a system of slave labor. Although much attention has focused on the technological innovations of the ceramic tradition, little is known about the lives of those that made the Edgefield stoneware industry possible. Preliminary ceramic analysis from data collected during the 2011 field season reveals evidence of ceramic production for personal use, exchange between potteries, and the production of face jugs.

Kenmotsu, Nancy (Geo-Marine, Inc.)

[17] *The Influence of Dee Ann Story: Never Boring, Always Engaging, Demanding Critical Thinking*

Dee Ann Suhm Story is best known for her research on the Caddo cultures of Northeast Texas and adjoining states. Yet, this was only part of her contributions to archeology. She also had a significant influence in the archaeology of the Gulf Coastal Plain, the Trans-Pecos of Texas, and northern Mexico, as well as on the research trajectories of the students she mentored. She urged contextual studies to better understand human choices in the past, and pushed thoughtful field and analytical approaches with the hope that we would critically evaluate our results. As one of those students, this paper discusses her role as a mentor for my career and research.

Kennedy, Anthony [109] see McCandless, Kyle

Kennedy, Colleen (Texas A&M University)

[247] *Migrants and Maize*

The presence of corn at a site can help us answer temporal, subsistence, and climatic questions, but can it also be a marker of ethnic identity? While wild food may primarily mark climate and season, humans selected maize for traits and shared it through trade networks. Excavations in southern Arizona and New Mexico have uncovered carbonized corn at sites believed to have been occupied by migrants from northern Arizona around the mid-13th century. While researchers have defined migrant signatures in ceramic technologies and building techniques, patterning in variety of corn has not been examined.

Kennedy, John (SWCA Environmental Consultants) and Paul Burnett (SWCA Environmental Consultants)

[110] 48SW1157: A Middle and Late Archaic Camp Site in the Wyoming Basin

48SW1157 is a stratified Middle to Late Archaic site in Sweetwater County, Wyoming. Data recovery excavation identified hearth features and recovered flaked stone and faunal remains. Occupations appear to be short-term logistical camps associated with tool stone procurement at the nearby Delaney Rim chert source and secondary processing of bison and deer or pronghorn. A unique feature of 2000 lithic artifacts was present in the Late Archaic component. Also of interest is evidence of bison hunting during the Middle Archaic, adding to the growing body of data on bison procurement in the Wyoming Basin during the period.

Kennedy, Ryan (Indiana University)

[166] *Approaching food in Overseas Chinese archaeology*

Beginning in the middle of the nineteenth century, nearly 400,000 Chinese individuals arrived in the mainland United States, and they brought with them their own unique beliefs about food, cuisine, and medicine. Archaeology is uniquely situated to explore these beliefs and the role that food played in Overseas Chinese communities through a mixture of field and laboratory techniques and documentary research. This paper explores the suite of evidence needed to fully explore food in Overseas Chinese communities and ways to interpret this evidence while being mindful of food's role in cuisine, medicine, and identity in nineteenth century Chinese foodways.

**Kennedy, Sarah (University of Wyoming),
Maev Skidmore (Southern Methodist University)
and Kylie Quave (Southern Methodist University)**

[141] *A Comparison of Middle Horizon Herding and Diet From Two Settlements in the Cusco Region, Peru*
Between AD 600-1000 the Wari state colonized various parts of Peru, including the Cusco region where Huaro and Pikillacta were the locations of significant political, social, and economic change. Elsewhere in the region, archaeological evidence indicates that Wari influence was more indirect. This poster presents contemporaneous faunal data sets from Hatun Cotuyoc, in Huaro, and Cheqoq-Maras, a site on the periphery of Wari's regional sphere of influence. We compare household use of domesticates and non-domesticates to assess differences in herding and diet from an area where state needs may have impacted community practices, to one independent of such demands.

Kennedy Richardson, Karimah (Autry - Southwest Museum of American Indian) [74] *Discussant* [74] *Third Organizer*

Kennett, Douglas (Penn State), Brendan J. Culleton (The Pennsylvania State University) and Christopher S. Jazwa (The Pennsylvania State University)

[123] *A Prehistoric Arms Race on the Northern Channel Islands of California*

The bow and arrow was introduced to California at AD 500 and this technology spread rapidly through the region and its offshore islands. Population levels on the Northern Channel islands were on the increase at this time and unstable climatic and social conditions fostered inter-group conflict and the strategic placement of

villages on promontories along the coast. Within this context the bow and arrow was adopted rapidly and exacerbated violent interactions and sociopolitical instability that resulted in further population increase/expansion and the first appearance of hereditary inequality on the Northern Channel islands between AD 900 and 1300.

Kennett, Douglas [126] *see Jazwa, Christopher S.*

Kennett, Douglas J. [32] *see Garcia, Oreto* [43] *see Lohse, Jon C.* [70] *see Ebert, Claire E.* [141] *see Beck, R Kelly*

Keremedjiev, Helen (University of Montana)

[24] *Telling the Stories of Bear Paw, Big Hole, Little Bighorn, and Rosebud: The On-Site Archaeological Interpretations of Four Historic Battlefields*

Archaeological interpretations of an historic event at a heritage site provide tangible links for interpreters and visitors to understand the past. On-site interpreted archaeological resources present a perspective within the meta-narrative of the historic event. These place-based stories not only add or refine an understanding of the event but also educate an audience of the need to preserve the heritage site. Based on participant observations conducted in 2010-2011, this paper focuses on publicly interpreted archaeological resources in on-site signs, museums, and guided tours at four historic sites in Montana: Bear Paw, Big Hole, Little Bighorn, and Rosebud battlefields.

Kerr, Matthew (University of North Carolina Wilmington) and Eleanora Reber (University of North Carolina Wilmington)

[64] *The Brunswick Town – Fort Anderson Project: A Baseline Analysis of Absorbed Pottery Residues from 31BW37612***

Brunswick Town – Fort Anderson, a State Historic site in Winnabow, NC, is a multi-component site with distinct Native American, Colonial, and Civil War occupations. The Civil War barracks west of Battery A, as well as parts of the Colonial Era Wooten-Marnen Lot, underwent archaeological excavation in the summer of 2011. A cross section of unglazed pottery sherds from Native American and Colonial components at the site was analyzed by the UNCW Residue Lab to ascertain the presence and viability of chemical residues and to provide a baseline interpretation of unglazed pottery use across the occupation timeline.

Kersel, Morag (DePaul University)

[209] *Beyond Indiana Jones and Night at the Museum: Archaeology, Cultural Heritage and Museums for Non-majors*

The Liberal Studies Program at DePaul University is the curriculum taken by most students. Courses like Introduction to Archaeology and The Science of Archaeology are designed to broaden students' knowledge base beyond their major. Discover Chicago courses acquaint freshmen with Chicago, its neighborhoods, people and institutions, through first-hand observation, active participation, and reflection. Introducing 22 freshmen to museums in Objects 'R' Us was more intriguing than I could have anticipated. Making archaeology and museums relevant and

engaging for students of business, marketing, economics, philosophy and a host of other non-majors is challenging but rewarding in very surprising ways.

Kestle, Caleb [153] *see Golitko, Mark L*

Kestle, Caleb Kestle [233] *see Palka, Joel*

Ketchum, Sheena (Indiana University) and Sonya Atalay (Indiana University)

[238] *The Heart of the Home - Fire installations and daily life at Catalhöyük, Turkey.*

Fire installations are arguably the most common feature found inside Çatalhöyük buildings. The botanical remains associated with these features indicate they were used in food preparation. But they likely served other purposes as well, including heating the house and providing a source of light and a central focal point and gathering area. The excavations provide evidence that nearly every building had a fire installation. This paper provides a picture of the type and variability of fire installations; their production and repair; and ideas of how they can inform our understanding of daily life, practice, and foodways.

Ketron, Caroline

[180] *Early Paleoindian Colonization and Fluted Point Transport*

Many have suggested that Early Paleoindians colonized the Americas quickly from the Northwest. The Solutrean colonization model, on the other hand, suggests that people colonized North America from Europe. Recently, archaeologists have suggested that the distribution of Early Paleoindian fluted projectile points from their geologic sources indicates directional patterns of movement resulting from the colonization of the Americas. To evaluate this idea, I calculate the frequency of fluted points distributed in various directions from their geologic sources, for a continent-wide sample of source fluted points, and suggest interpretations for the pattern shown.

Khatchadourian, Lori (Cornell University)

[237] *The Satrapal Condition: Achaemenid Armenia and the Archaeology of Empire*

This paper develops an archaeologically-derived framework for theorizing the (re)production of imperial subjectivities within noncolonial empires that looks to the satrapies (or provinces) of the Achaemenid Persian Empire as both a source of theoretical stimulation and as rich archaeological terrain. The 'satrapal condition' refers to that state of affairs through which the violently imposed predicament of subjection to dominion is counterposed by terms of limitation upon sovereign prerogative that render imperial experiments contingent and provisional. The paper explores the workings of the satrapal condition in the Achaemenid satrapy of Armenia, drawing on ongoing fieldwork at the site of Tsaghkahovit.

Khatchadourian, Lori [130] *see Kearns, Catherine*

Kiahtipes, Christopher (Washington State University), Karen Lupo (Washington State University), Dave Schmitt (Washington State University), Jean-Paul Ndanga (Centre Universitaire de Recherche et de Documentation en Histoire et Archéologie Centrafricaine) and Ray Lee (Washington

State University)

[38] *The Proof is in the Proxy: Termite Mounds, Archaeological Sediments, and Paleoenvironmental Research in the Northern Congo Basin*

Long assumed to be primordial, rain forests across the globe have yielded evidence for dramatic environmental change during the Holocene. Although there has been a long-term interest in the Late Holocene pollen records from Congo Basin rain forests, there is a general absence of proxy data to support inferences of human impacts or climate change from these records. Supposed termite mounds and archaeological sedimentary profiles encountered in the Ngotto Forest, Central African Republic yielded isometric data that may compliment existing paleoenvironmental, archaeological, historic, and genetic records of human occupation and environmental change in the Ngotto Forest.

Kidder, T.R. [6] *see Storozum, Michael*

Kidder, Tristram (Washington University) and Sarah Sherwood (Sewanee- The University of the South)

[274] *Geoarchaeological Perspective on Mound Building and Earthwork Construction in the Life History of Sacred Landscapes: Examples from the Mississippi River Basin, USA*

Mounds and earthen structures are commonly linked to ritual behavior and sacred places in the Mississippi River Basin. This paper focuses on the stratigraphy of these structures and what it reveals about the choices for construction, maintenance and the techniques used to create lasting and meaningful monuments. Drawing especially on recent work at Poverty Point and Shiloh Mounds, we discuss how geoarchaeological perspectives inform understandings of life histories of sacred landscapes and shed light on the recursive roles these features play in structuring and facilitating ritual behavior.

Kidder, Tristram [6] *see Qin, Zhen*

Kieffer, C. L. (University of New Mexico, Maxwell Museum), James E. Brady (California State University, Los Angeles) and Keith M. Prufer (University of New Mexico)

[208] *Petitions in the Dark: Understanding the Source of Unslipped Ceramics of Naj Tunich, Guatemala*
Naj Tunich, a cave pilgrimage site in the southeastern Maya lowlands, was utilized throughout the Classic Period. A previous INAA study conducted by the Smithsonian Institution determined limited paste compositional variation suggesting local production. The present study samples fine paste, monochrome slipped and unslipped ceramics with portable ED-XRF. The latter two ceramic categories were not tested using INAA. The more inclusive sampling allows comparison of compositional variation between ceramic wares to provide evidence concerning the organization of production for the ritual economic system. Additionally this paper will discuss methodological issues of ED-XRF analysis and how results compare to INAA.

[179] *First Chair*

Kielhofer, Jennifer (University of Arizona)

[114] *A Look at Paleoindian vs. Archaic Mobility: Results of XRF Analysis of Tools and Debitage from Warner*

Valley, Oregon

This study presents the results of a 2010 X-ray fluorescence (XRF) analysis of tools and debitage from the LSP-1 rockshelter in Warner Valley, Oregon. At LSP-1, the record of human occupation dates back to at least ~8,300 14C B.P. when Paleoindians inhabited the region. Thus, the assemblage offers a better understanding of Paleoindian technological organization and mobility. Additionally, because the occupational record is so extensive, the assemblage allows for comparison between mobility strategies of Paleoindian and later occupants. Overall, this source provenance study enhances our knowledge of Great Basin mobility patterns and allows for the testing of prevailing models of mobility for both Paleoindian and later groups.

Killick, David [159] *see Fenn, Thomas*

Kim, Nam (University of Wisconsin-Madison)

[95] *Interregional Exchange and Emergent Sociopolitical Complexity in Iron Age Northern Vietnam*

Recent research findings for the urban site of Co Loa in northern Vietnam suggest the emergence of an early state-like polity during the closing centuries BC. This development occurred within the Dongson Culture Period, which is renowned for its hundreds of ceremonial bronze drums. Interestingly, stylistically similar specimens have been found also in high concentration in Southwest China, and scattered finds have been located throughout Southeast Asia. Given the distribution of these and other materials, this paper examines the likelihood that cultural contact, influence and exchange throughout the region fostered the reciprocal development of sociopolitical complexity in Vietnam and elsewhere.

Kim, Nanny (Heidelberg University)

[95] *The mining boom of the 18th century and the transformation of the Yunnan-Burmese borderlands*

This paper discusses findings from an ongoing project on Qing period mines and transport systems by Yang Yuda, Fudan University and the presenter based on archival materials and fieldwork. It focuses on two methodological issues: the importance of fieldwork and the potential of archaeology in the reconstruction of dynamic change poorly documented in written records and questions of transformations in cultural patterns, technology and landscape. It explores discrepancies between remains and oral traditions and written records, raises unsolved issues in smelting techniques and uses geographic analysis to determine landscape changes through deforestation.

Kimball, Larry (Appalachian State University) and Derek Johnson (Appalachian State University)

[97] *The Ritualized Landscape at Biltmore Mound*

The cultural context of the Biltmore Mound is an example of the multiple levels of Hopewellian ritual landscape in the Southern Appalachians. The assemblage reveals inter-group participation in rituals and other kinds of social interaction (feasting, exchange, etc.) from far afield. The nature of mound-building, public structure construction, and alignments of the same with natural (mountains and rivers), cultural (native trails), and astronomical domains in this rugged mountain setting. Computer animations of select solar and lunar

astronomical events are used as a heuristic tool to illustrate long-distance foci of astronomical alignments in the Asheville Basin.

Kimble, Elicia

[79] *St. Vincent Island: A Case Study in Coastal Archaeology*

St. Vincent Island National Wildlife Refuge, off the Apalachicola Delta, is an unusually wide, near-shore barrier island with a rich history. Though the island boasts 18 prehistoric sites, the Paradise Point site may be the most significant. Containing midden strata that occur above and below a clay layer, it indicates there was a higher than present sea-level between 2000 and 1250 years ago. This paper will combine new data with our current knowledge to demonstrate how the inhabitants of St. Vincent Island reacted to sea-level fluctuations and to compare the use of this island with northwest Florida's other barrier islands.

Kindon, Andrew [61] *see Fries, Eric C.*

King, Clinton [129] *see Means, Bernard K.*

King, Eleanor (Howard University) and Leslie Shaw (Bowdoin College)

[128] *Maax Na and Bolsa Verde: Contrasts in Maya Economic Strategies in the Three Rivers Region*

Although Late Classic (A.D. 600-900) Maya sites may appear similar in composition, recent investigations indicate that they can no longer be viewed as functional replicas of each other, nor did they operate in isolation. Sites both large and small varied in the strategies they used for economic success by developing alliances in the collection and/or growing of raw materials and in the production and distribution of goods needed at all levels of society. Two sites in the Three Rivers Region of Belize illustrate how decision-making and economic variability work together to generate wealth and political stability at the regional level.

[69] *First Chair*

King, Eleanor [70] *see Brennan, Michael*

King, Eleanor M. [131] *see Shaw, Leslie C.*

King, Erin [101] *see Goodmaster, Christopher*

King, Jason (Center for American Archeology), Douglas K. Charles (Wesleyan University) and Jane E. Buikstra (Arizona State University)

[124] *Middle Woodland Chronology in the Lower Illinois Valley*

The chronology of Middle Woodland period settlement and occupation of the Lower Illinois Valley remains problematic, in part because of a lack of adequate dates to establish high resolution temporal control. In this paper, we present and analyze new, unpublished radiocarbon assays from previously undated Lower Illinois Valley mound sites. These dates are used to evaluate regional temporal questions concerning the pattern of Middle Woodland settlement of the valley, focusing the north-to-south occupation model and the temporal pattern of habitation and mound sites.

King, Jason [271] *see Halling, Christine [59]* *see*

Buikstra, Jane E.

King, Robert (Bureau of Land Management)

[53] *Homesteading in America 1862-1988: Its History and Archaeological Consequences*

This paper looks at the history of homesteading including why it is of interest to today's archaeologists. When President Lincoln signed the first Homestead Act on May 20, 1862, he set into motion a popular federal land disposal program that involved over 2,000,000 people claiming land in 30 states for the next 126 years. Over one-tenth of the nation was homesteaded resulting in new settlements and land use patterns. The Bureau of Land Management now manages many areas where homesteading occurred or was attempted, with those areas now viewed as important historical and archaeological properties.

[53] *Second Organizer*

King, Stacie (Indiana University)

[199] *Rethinking the unoccupied in Nejapa, Oaxaca*

A typical explanation of culture change based on data collected during archaeological survey relies on examining shifts in site distributions and variation between delineated sites through time. Accepting that humans occupy an ever-shifting world of entangled webs of relationships quickly renders such analyses meaningless. The task becomes even more futile if we acknowledge spaces animated and occupied by non-human entities. Movements of diverse peoples into new areas, such as the high mountaintops in Nejapa, represent a re-negotiation of habitation and the outcome of a conversation between multiple human and non-human agents rather than occupation of previously unoccupied space.

King, Stacie M. [181] *see Konwest, Elizabeth R.*

Kingsley, Melanie (Brandeis University) and Laura Gamez (University of Pittsburgh)

[66] *In the Wake of Collapse: The Early Postclassic Period at El Zotz, Guatemala*

Stratigraphy, relative ceramic dating, and radiocarbon testing at the urban center of El Zotz, Guatemala, reveal that despite the collapse of its ruling dynasty in the mid-9th century C.E., El Zotz was continuously occupied through the Early Postclassic Period (1000-1250 CE). Excavations and analysis of material gathered from 2008-2011 show a reconfiguring of production practices inwards towards a localization of manufacture and consumption despite retaining links to exterior trade routes. Disconnected from a powerful political hierarchy, the Early Postclassic population at El Zotz created local traditions of wider material expressions that reflect an emphasis on heterarchical relationships between individuals.

Kingwell-Banham, Eleanor (Institute of Archaeology, UCL), Dorian Fuller (Institute of Archaeology, University College London), Alison Weisskopf (Institute of Archaeology, University College London), Emma Harvey (Institute of Archaeology, University College London) and Rabi Mohanty (Deccan College)

[35] *The domestication and development of rice (*Oryza sativa*) in India. New results from Golbai Sasan, Orissa,*

East India

Archaeological evidence for early rice exploitation and permanent villages is found in the distinct Neolithic culture in Orissa, eastern India. Golbai Sasan, a Neolithic mounded settlement site, was excavated in March 2011 and provides phytolith and macrobotanic evidence for the earliest rice dependent culture outside of Northern India. This poster will present archaeobotanic findings from Neolithic (c.3000 B.C.E.) to Early Historic (c.500 B.C.E) deposits, tracking the initial adoption of rice agriculture in the region and subsequent adaptations and developments in the rice cultivation system.

Kinkella, Andrew [126] *see Delaney-Rivera, Colleen*

Kintigh, Keith (Arizona State University) [3]

Discussant [81] First Chair [257] First Chair

Kinya, Inokuchi [270] *see Druc, Isabelle C.*

Kirakosian, Katie (UMass Amherst)

[209] *Trash to Treasure: Experimental Pedagogy Using the Everyday*

The results of an experimental archaeology laboratory project will be presented here, which was taught in two formats over the past year: in-person and online. Paying homage to Rathje and Murphy (2001), both groups of students investigated modern refuse by analyzing the contents of vacuum bags, which were donated by the Eastern Connecticut State University community. The learning outcomes, laboratory methodology, logistics, student feedback and instructor reflections will be presented as well.

[28] *Discussant*

Kissel, Marc (University of Wisconsin)

[202] *Evaluating genetic models of human evolution through archaeological data: An information theory approach*

Studies have suggested that the low population size of *Homo sapiens* is the result of a lack of gene flow between early humans. This behavioral model does not match with hunter-gatherer behavior, but the archaeological record may better fit such a process if specific stone tool technologies were passed down in such a way that only a handful of individuals had access to the chaîne opératoire for constructing a toolkit. I model this process and then compare the model to the archaeological record to show it may be treated as a simple hypothesis to explain information transfer over time.

Kistler, Logan [238] *see Fritz, Gayle J.*

Kjellmark, Eric [165] *see Blick, Jeffrey P.*

Klaus, Haagen D. [29] *see Turner, Bethany L.*

Klehm, Carla (University of Texas at Austin)

[142] *Trade Ties, Lose Links, and the Hidden Hinterland: Focusing on the Local Political Economy in Iron Age Botswana*

Recent geophysical survey and extensive excavation at the African Iron Age sites of Khubu la Dintsa (CE 1200-1300) and Mmadipodi Hill (CE 500-900) in Botswana apply a regional perspective to the development of

complex societies and inequality in southern Africa. These hinterland sites formed a crucial part of the local political economic landscape responsible for the creation of Bosutswe, a major chiefdom-like Iron Age polity that regulated Indian Ocean trade across the Kalahari into the African interior. Previous excavations campaigns focused solely on Bosutswe; a more holistic approach to local relationships is explored. Findings and initial interpretations are presented.

Klehm, Carla [7] *see Ernenwein, Eileen G.*

Klein, Rebecca (U.S. Army National Guard)

[99] *Landscape approaches to military installations: why more is more*

Broad-scale, or "landscape" perspectives are not new to the world of cultural resources management, but they are particularly relevant within the context of military facilities. Ironically, these holistic perspectives are also most often ignored on military facilities, as those tasked with the stewardship of cultural resources while furthering the military mission can lose sight of the big picture. This presentation will outline the key elements of a landscape approach to the management of historic properties on Army National Guard (ARNG) facilities and explore practical ways for ARNG Cultural Resources Managers to implement this approach.

[42] *First Chair*

Kleindienst, Maxine [37] *see Skinner, Anne*

Kleiner, Jillian L. [36] *see Rowe, Matthew J.*

Kling-Anderson, Amber (University at Buffalo)

[262] *Alternate Perspectives: Using Andean Research to Enhance Theoretical Paradigms*

Although it seems archaeological theory is now identified by global paradigms down playing local empiricism, many researchers have unique stories and evidence to share. Such is the case in the Andes where decades of intense research can contribute greatly to these discussions, providing distinct but widely applicable insights any archaeologist can use. The idea is not to create a universally accepted view but instead to showcase the similarities and differences that define our areas of study. New theoretical insights about materiality and non human agency will be combined with Andean/Ecuadorian research to highlight the direction this participation should take.

Klippel, Walter (University of Tennessee)

[133] *Enslaved African American Foodways from Subfloor Pit Fauna at Poplar Forest, VA*

Subfloor pits in enslaved African American quarters were relatively common in eastern North America. While their original functions have been widely debated, their final use often served as receptacles for household food refuse. One such feature at Thomas Jefferson's Poplar Forest contained over 35,000 animal bones. Rabbit remains were the most common. Allometric relationships between bones of domestic rabbits and native cottontails indicate the leporids were cottontails that were likely hunted/trapped by the slaves themselves. Similar relationships between modern mackerel vertebrae with those from Poplar Forest indicate that the slaves were also being provisioned with poor quality No. 3 mackerel.

Knab, Timothy (Universidad de las Américas Puebla)
[118] *The Jaguar's Line: Witchcraft and Sorcery in Mesoamerica*

Moteczuma was no fool when he sent his sorcerers and witches out to offer a first repast to Cortez and his men. Witchcraft and sorcery in Mesoamerica is deadly business. Traditional techniques have been passed down at least since the time of the conquest and probably long before. The evidence for this is quite clear and will be presented, in detail. Practitioners of these dark arts have little compunction about making sure that their spells and incantations work with a machete, or a pistol. The point of witchcraft and sorcery is power.

Knapp, Ashleigh (Texas State University)

[246] *Little Sotol: an Archaic Earth Oven Facility in the Lower Pecos*

Excavations in a 2-meter deep burned rock midden and associated cave deposits at the Little Sotol site sampled a series of earth oven features used for plant baking. Diagnostic artifacts suggest that the earth oven facility saw intermittent use over at least a 4,000-year span from the latter Early Archaic period into the Late Archaic. Documented cooking features range from slab-lined to disarticulated to peculiar burned rock patterns. The ongoing analysis of botanical, radiocarbon, FCR, and stone tool data is aimed at understanding the intensity, timing, and nature of the use of earth oven technology in the Lower Pecos Canyonlands.

Knapp, Timothy [40] *see Giles, Bretton T.*

Knappett, Carl (University of Toronto) [251]

Discussant [260] Discussant

Knight, Charles (University of Vermont)

[153] *Ecuadorian obsidian use and source variation from the Quijos Valley along the eastern slopes of the north Andes*

The Quijos Valley Regional Archaeological Project (QVRAP) systematically surveyed 137 square km of the north Ecuadorian Andes. The chipped stone economy was investigated through a systematic, typological analysis of artifacts, combined with chemical characterization of obsidian source samples. XRF analysis on a sample of 153 artifacts indicates that the most common obsidians exploited were Cosanga A, Cosanga B, and to a lesser extent Bermejo, three recently identified sources. Also, artifacts made from the better known Sierra de Guamaní sources in the Cordillera Real were also recovered, marking the first reported use of El Tablón obsidian in an archaeological context.

Knight, Terry G. [31] *see Potter, James*

Knisely, Denise (University of Cincinnati)

[203] *Using Isotopic Analysis in the Study of Dietary Patterns in Northwest Belize*

Isotopic analyses of human skeletal remains are used to address questions of dietary use of vegetal and animal resources within nine Classic Maya sites in the Three Rivers Region of Belize. The scope of this study includes two major sites, La Milpa and Dos Hombres, and several associated secondary and tertiary centers. An

examination of stable carbon and nitrogen isotopes reveals the proportion of C3, C4, terrestrial animal, and riverine resources in an individual's diet. Their analysis will illuminate patterns of food usage both within a single site and across the region of study.

Knoll, Martin M. [6] *see* Sherwood, Sarah C.

Knudson, Kelly [71] *see* Nado, Kristin L. [59] *see* Lozada, Maria Cecilia

Knudson, Kelly J. [138] *see* Waterman, Anna J.

Knudson, Ruthann (Knudson Assoc., Mt. S. U., CA Academy Sciences)

[55] *Oblique Paleoindian: Alder, Angostura, Black Rock, Browns Valley, Frederick, James Allen, Lusk*
Obliquely flaked bifacial points found in the central Plains in the 1930s and '40s were classified as Oblique Yumas Wormington 1948. This appears to be a north-to-south Plains design style that extended east into the Prairies about 8400±200 RCYBP, the earliest described excavated collection being from the James Allen site. Spacing of the flake scars varies from narrow (1-2mm) in the Barton Gulch Alder material to wider (~4mm) elsewhere. Oblique flaking is found on some northern Great Basin tools. An old label—Oblique Paleoindian—may be preferable to the proliferation of poorly-documented site-related names now being used.
[28] *Discussant*

Kobayashi, Masashi (Hokuriku-gakuin University)

[120] *Use-wear analysis of Pueblos cooking pots excavated from the Grasshopper site, Arizona*
This paper aims at reconstructing Pueblo cooking based on morphological and use-wear analyses of 50 restorable cooking pots excavated from the Grasshopper site, central Arizona, dated to 1300-1350. Hopi ethnographies suggest that their major traditional cooking methods using cooking pots consist of long-term boiling of corn grains and beans, powdered-corn dumpling, and powdered corn mush. The dominance of Middle (10-20 liters) and L/LL (20-50 liters) sizes and relatively thick vessel walls suggest a long-term boiling. High frequency of spalling on the lower interior walls is likely to result from alkali soaking of corn as well as thermal stress.

Koch, Jeremy [268] *see* Stewart, R Michael

Koenig, Charles (Texas State University - San Marcos, Texas)

[246] *On The Burned Rock Trail: Archaeological Survey Along Dead Man's Creek*
The 2011 Texas State University Lower Pecos Canyonlands Archaeological Field School initiated research along Dead Man's Creek, a tributary of the Devils River. Ongoing survey is documenting the locations and distribution of earth oven facilities, archaeologically known as burned rock middens, in both open air and rockshelter locations. A second objective is estimating the number of earth oven firings at each site through the use of 3D models, as a means of measuring land use intensity. This poster will highlight the survey results and explain the methodology for creating 3D models of burned rock middens.

Koenig, Emma (UCLA Maya Archaeology Project)

[61] *Rubbish and Ritual: Identifying the changing political landscape at the site of Aguacate, Spanish Lookout, Belize*

Excavations during the 2009-2011 seasons at Aguacate, Spanish Lookout, Belize suggest two "endings" and/or possible sociopolitical reorganizations to the site. A phase of elite trash deposits found in the northern residential compound of the site contrast with ritual termination deposits in the southern pyramid complex and adjacent "L-shaped" structure. These finds compounded with evidence for an architectural realignment of the site and the discovery of other similarly sized centers in the region suggest changing affiliations within the Aguacate political sphere.

Koeppel, Christopher (USACE)

[76] *Triumph and Tragedy in the Delta: the Rolling Fork Archaeological Project*

In 2009, the USACE, Vicksburg District purchased property in Rolling Fork, Mississippi, for the location of a museum highlighting the prehistory and history of the Delta. The property is listed on the National Register of Historic Places, contains a Late Mississippian village and mound site, and was the location for a decisive Civil War battle and a unique early twentieth century dairy operation. The success of the archaeological project was due to the close collaboration between the USACE, the community of Rolling Fork, the Mississippi Department of Archives and History, and several Native American Tribal Governments.

[76] *First Chair*

Koerner, Shannon (Colorado State University, CEMML) and Jessica Dalton-Carriger (University of Tennessee)

[197] *Depression-Era Archaeology in Watts Bar Reservoir, East Tennessee*

The inundation of the Tennessee River in Roane and Rhea Counties in the spring of 1942 impounded a region of incredible cultural wealth. A group of dedicated WPA archaeologists, field assistants, and interested public officials took proactive measures to rescue what would have otherwise been lost during the formation of Watts Bar Lake. A sample of eleven sites underwent excavation in the "below pool" areas. Extant collections from these original Watts Bar sites are still providing a unique perspective of pre-Contact and early Protohistoric lifeways in eastern Tennessee and, in the process, addressing fundamental culture models at a broader level.

Kohl, Philip (Wellesley College) [265] *Discussant*

Kohler, Tim (WSU/SFI/CCAC) and R.

Kyle Bocinsky (Washington State University)

[51] *Highly Variable Temperatures in the Northern Hemisphere over the Last Two Millennia: Reconstructions and Possible Effects on Native American Agricultural Systems*

Recent paleoclimatic research strongly suggests highly variable Northern Hemisphere temperatures over the last two millennia. Until recently this variability was typically underestimated. I review recent leading reconstructions of low-frequency temperature variability over this period (by Moberg et al., Cronin et al., Mann et al., etc.) and

speculate about their implications for the spread of tropical cultigens in North America and the success of the societies dependent on them—speculations to be examined more rigorously in the papers that follow.

[272] *Discussant*

Kohler, Tim [272] *see Bocinsky, R. Kyle*

Kohring, Sheila (University of Cambridge) and John Robb (University of Cambridge)

[23] *Action art: art and embodiment in European prehistory*

Archaeologists agree that prehistoric "art" is a technology for doing things, not an object of aesthetic viewership. But action is necessarily part of embodied experience. In this paper we outline the basic ways in which art and bodies relate to each other -- categorizing bodies, framing settings of action, presencing human and non-human bodies, and participatory acts of making, destruction, and commemoration. These are illustrated using a range of examples from European prehistory.

Kohut, Betsy (University at Albany, SUNY), George J. Bey III (Millsaps College) and Nancy M. Yates (Millsaps College)

[242] *Buildings of Clay: Late and Terminal Classic Cehpech Pottery as Architecture*

This paper explores the relationship between decorated Cehpech sphere pottery (A.D. 700-1000) from the northern Maya lowlands and the region's architectural traditions. Unlike the southern lowlands where the most valued pottery during the Late Classic was primarily painted polychrome vessels, the northern lowland Maya preferred pottery characterized by carving, incision, modeling or some composite of these techniques. This paper argues that this tradition was based, at least partially, on an aesthetic which valued the architectural elements found on vaulted Maya buildings. The Maya potter and the consumers of these Cehpech vessels recognized and appreciated the architectural quality of these pieces. We also suggest this relationship is connected to how the northern Maya saw buildings and what architecture meant to them.

Kohut, Lauren (Vanderbilt University)

[243] *Seeing in a landscape of war: GIS-based visibility analysis of fortified sites in the Colca Valley, Peru*

Visibility of the landscape is often cited as an important criterion for the placement of fortified sites. GIS-based viewshed analysis has become an increasingly common tool for measuring this visibility. Although viewshed analysis is a relatively straight-forward tool, its use in archaeology is often restricted to binary viewsheds from a single vantage-point, despite known limitations to this approach. Using preliminary data from Late Intermediate Period hilltop fortifications in the southern highlands of Peru, this poster looks at various ways to move beyond the production of simple binary viewsheds to develop a more robust understanding of visibility in a fortified landscape.

Kolb, Charles (National Endowment for the Humanities)

[201] *Knowing the "Dean of Ceramics": Dean E. Arnold*
Dean Arnold's field work in the US Southwest, Mexico, Peru, and Bolivia led to a focus on the longitudinal study

of the organization and technology of ceramic production. Author of "Ceramic Theory and Cultural Process" (1985), "Ecology of Ceramic Production in an Andean Community" (1993), and "Social Change and the Evolution of Ceramic Production and Distribution in a Maya Community" (2008), he has shown scholars in the New World and Europe the value of long-term studies and the integration of meticulous ethnographic research with archaeometric analysis. This introduction provides the context for the symposium papers.

[201] *First Chair*

Kolb, Michael (Strata Morph Geoexploration, Inc), Elissa Hulitt (University of Wisconsin-Milwaukee) and John Richards (University of Wisconsin-Milwaukee)

[187] *Transforming the Mississippian Landscape: A Buried Earthen Structure at the Aztalan Site*

Removal of backfill from a 1950s-era excavation exposed a 3.7 m long x 2.4 m deep profile in the bank of a ravine adjacent to the Crawfish River. Colluvium containing aboriginal debris dating to the Mississippian settlement of Aztalan overlays a deposit of aboriginal fill. The filling episode appears to be an attempt to construct a level platform-and-post structure in an attempt to enclose the water of the Crawfish River within the palisade. Additional geomorphic testing in adjacent riverbank areas suggests that the riverbank portion of the site harbors undisturbed deposits that record the history of land-use at the site.

Kolb, Michael (Northern Illinois University)

[23] *Ancient Hawaiian Monumentality as Art and Action*

In this paper I consider how monuments in ancient Hawaii (and their accouterments) promoted social collectivity and group representation, thereby conceptualizing how institutions of chiefdoms are materialized. Monuments themselves are an ideal medium for establishing social collectivity. Their permanence and physical presence give stability over time and unambiguously convey distinct social messages. I present data from Hawaii in order to illustrate how the imagery and art surrounding these monuments generates shared events that intrinsically form an essential role of material culture to mediate social relations.

Kolfschoten, Thijs

[93] *The Schöningen evidence for Middle Pleistocene hominin subsistence and hunting strategies*

The Palaeolithic locality Schöningen (Germany) yielded a large amount of large mammal remains (> 17.000) from four different find horizons, excavated at a number of sites. The fossils assemblage represents a variety of species (e.g. carnivores, straight-tusk elephant, rhinoceros (2 species), horse, cervids, bovids). The majority of the large mammal remains has been found at the site Schö 13 II-4 (the Horse Butchery Site) where well-preserved horse bones have been found near the famous wooden spears. Many bones have been modified artificially. The analyses of the faunal assemblages presented here apply evidence for Middle Pleistocene hominin subsistence and hunting strategies.

Kollmann, Dana

[14] *Take them to the Woods: Melding Forensic*

Education with Real Case Experience

Many students eager to begin a career in the forensic sciences have never been on a crime scene. It is even more unlikely that they have ever had the opportunity to process a real scene. This report details the unusual circumstances that enabled Towson University anthropology, criminal justice and forensic chemistry students to participate in the search for and recovery of human skeletal remains and associated evidence on a real forensic case. The students used archaeological search techniques and conducted their investigation within surveyed transects. Their efforts resulted in new light being shed on the case involving a young man that disappeared under mysterious circumstances and had been missing for over four years.

Kondyli, Fotini (University of Amsterdam)

[237] *Lords at the end of the Byzantine Empire*

During its final two centuries (14th-15th c AD), Byzantium's borders were continually shifting. With unstable borders and surrounded by enemies, the choice of officials who would rule at the borders was of crucial importance. These officials were not a homogeneous group; among them were Byzantines and Italians, military and administrative officials, merchants and members of the Imperial family. They all shared a common mode for expressing their authority and emphasizing their connection to the Imperial power. However, differences in their social, cultural and ethnic background partly shaped their motives and political agenda and influenced the expression of their identity.

Konwest, Elizabeth (Indiana University, Bloomington), Alex Elvis Badillo (Indiana University) and Stacie M. King (Indiana University)

[181] *Recent archaeological investigations in the Nejapa Region of Oaxaca, Mexico*

During the 2011 field season, members of the Proyecto Arqueológico Nejapa y Tavela, under the direction of Dr. Stacie M. King, continued field research in the Nejapa Valley region of Oaxaca, Mexico. Located on a trade corridor between the Oaxaca Valley and the Tehuantepec coast, residents of Nejapa likely interacted with many different groups of people including Zapotecs, Aztecs and the Spanish. In this paper we will discuss the methods and results of the systematic survey and test pit excavations, highlighting the kinds of sites that are present and tentative patterns of similarity and difference in our analysis.

Kooyman, Brian [141] *see Speller, Camilla F.*

Kornfeld, Marcel (PiRL - University of Wyoming) and Bruce Huckell

[20] *Stones, Bones, and Profiles: Archaeology and Geoarchaeology of C. V. Haynes, Jr. and George C. Frison*

The radiocarbon revolution began in the early 1950s; shortly afterwards Vance Haynes and George Frison embarked on their archaeological journeys. Both were profoundly affected by this event, but followed different career paths. Nevertheless, and of benefit to our profession, their paths often crossed. "Stones, Bones, and Profiles" do not adequately express the breadth of their interests and contributions to archaeology, but it is a start. We examine some of the overlaps and divergences

in their interests, selected aspects of their research programs, as well as the state of the field to which they both contributed.

[20] *First Chair*

Kornfeld, Marcel [84] *see Martin, Houston L.*

Kosakowsky, Laura (University of Arizona) and Duncan Pring (The Worth School, Surrey, England)

[236] *Cuello: An Early Maya Community [aka Dating Cuello: A Decades Long Romance]*

The site of Cuello was first discovered in 1973-1974 during regional surveys by the Corozal Project, directed by Norman Hammond. Subsequent excavations carried out over the course of three decades have made Cuello one of the best documented Preclassic communities in the Maya region. Since the discovery of Cuello, the eastern Maya Lowlands, and Belize archaeology in particular, have produced dramatic evidence for many other early ancient settlements. This discussion, describing the history of research at Cuello, will highlight our understanding of these early communities and the Preclassic origins of complex society in the Maya area.

[236] *First Chair*

Kosiba, Steve (University of Alabama)

[262] *Cultivating the Sacred State: Political Ecology, Environmental Management and the Production of Social Difference in the Early Inka Polity*

To understand social distinction within ancient states, archaeologists often employ Marxian theories that render 'class' as a universal category recognizable in relations of production and consumption. Conversely, this paper presents recent archaeological data on Inka state formation that illustrate how the Inkas claimed their absolute authority by fracturing the antecedent social landscape and cultivating a topography of social difference comprised of rigid barriers and exclusive spaces. In distinction to traditional archaeological accounts of 'class,' the illusion of 'natural' social inequality in the Inka state was materialized in the different spatial practices through which people experienced and engaged with their environment.

Koski, Steven [41] *see Gifford, John A.*

Koster, Jeremy (University of Cincinnati) and Kenneth Tankersley (University of Cincinnati)

[157] *Ethnoarchaeological Approaches to Variation in Hunting Ability and Nutritional Status Among Dogs in Lowland Nicaragua*

We evaluate the effects of age and sex on the amount of harvested game that dogs contribute in lowland Nicaragua. Controlling for variation in the time spent hunting, male dogs and older dogs are significantly associated with greater harvests. These results may account for documented preferences for males in archaeological contexts. The age-related delay in peak ability suggests a tradeoff that might explain the consumption of dogs shortly after they have reached adult size. There is little evidence that talented dogs receive a more nutritious diet, as measured by nitrogen-based and carbon-based isotopic analysis of hair samples.

[157] *Second Chair [157] Second Organizer*

Kotarba Morley, Anna (University of Oxford), Steven Sidebotham (University of Delaware), Iwona Zych (University of Warsaw, Polish Centre for Mediterranean Archaeology), P.J. Cherian (Kerala Council for Historical Research) and Paul Shajan (Kerala Council for Historical Research)
[173] *The changing landscapes of Indo-Roman ports and harbours: results from the geoarchaeological landscape and seascape survey in Berenike (Egypt) and Pattanam (India)*

Comparative geoarchaeological and topographic studies have been conducted at two major port sites on the Indo-Roman trade route: Pattanam on the Malabar coast of India, and Berenike on the Red Sea coast of Egypt. These sites played a crucial role in connecting disparate and diverse cultures extending from the Indian Ocean to the Red Sea, and further afield to the Mediterranean. Ongoing work at the sites is yielding a wealth of important archaeological and environmental data. This paper concerns the results of detailed urban landscape and portscape reconstruction, allied with quantitative laboratory data derived from the coring campaigns.

Kotthoff, Lars (Maya Research Program) and Thomas Guderjan (Maya Research Program)

[70] *An interactive Atlas of Maya Sites*
 Every year, a large amount of geographical data on Maya settlements is generated in the course of excavations, surveys and similar operations. Only some of those data are published in reports and most of it is not used more than once. We present a new effort that aims to make publicly available such data as the location of individual sites as well as detailed maps, excavation pictures and contextual information. All this is available through an easy-to-use web interface at www.mayamap.org that brings the power of traditional GIS systems to the layman user.

Kotthoff, Lars [70] see Hammond, Gail A.

Kovalchik, Jacob (California State University, Long Beach)

[7] *Archaeological Survey and Analysis of Lithic Mulch Gardens on Rapa Nui using Remote Sensing Techniques*

Archaeologists are taking advantage of rapidly improving satellite imagery resolution as a time-saving, cost-effective alternative to traditional ground survey. Remote sensing is particularly useful when studying archaeological features at the landscape level. Rapa Nui's extensive prehistoric lithic mulch gardens possess the characteristics to be analyzed by satellite effectively. This poster will demonstrate the use of satellite-based remote sensing strategies, in conjunction with ground truth data collected by portable spectrometer, GPS, and digital camera. Mulch garden density and distribution will be examined. These data will provide insight on this subsistence strategy that would not be feasible by pedestrian survey alone.

Kovarovic, Kris [96] see Pobiner, Briana L.

Kowalewski, Stephen [181] see Brannan, Stefan P.

Kowalski, Jeff (School of Art, Northern Illinois

University)

[275] *Site-Unit Intrusion or World Systems Interaction?: Comparing Shared Iconographic Complexes at Chichen Itza and Tula and among Mississippian Period Regional Capitals*

This paper will compare interpretations of the processes involved in the dissemination and adoption of two complex and highly integrated iconographic complexes over broad geographical areas—Mesoamerica and the Southeastern United States—to examine how changing theoretical paradigms and different types of evidence have affected our understanding of what shared symbolic complexes imply about culture contact, social process, and the use of visual culture to provide ideological legitimization for political leadership. Current world system approaches to Mississippian iconography provide instructive parallels and supports for emerging explanations of the noteworthy similarities between the art and architecture of Chichen Itza and Tula.

Kowler, Andrew (U of Arizona) and Patricio De Souza (Universidad Catolica del Norte, Chile)

[39] *Early and Middle Holocene Paleoenvironments and Human Occupation in the Atacama Highlands*

We compare new radiocarbon chronologies from paleowetland deposits in the Atacama highlands to other records across the region. This data is used to reevaluate current knowledge about paleohydrologic conditions during the early-middle Holocene, with implications for the evolution of Archaic settlement systems. Preliminary findings confirm results of previous studies, indicating that development of extreme aridity during the early Holocene was followed by the rapid onset of slightly wetter-than-modern conditions at the start of the middle Holocene. The association of archaeological sites with middle Holocene paleowetlands warrants further examination of Archaic settlement patterns.

Koyiyumptewa, Stewart [25] see Sheridan, Thomas E
[150] see Hedquist, Saul L.

Krapf, Tobias (phd student universities of Basel / Paris I)

[119] *Local Traditions in a Period of Increasing Contacts: The Late Bronze Age Pottery of Sovjan in the Korçë Basin (Albania).*

The ongoing detailed study of the well stratified LBA pottery of Sovjan, where this period can be divided in two main phases and further sub-phases, is the first of its kind in southern Albania and therefore offers important insights into the local culture and its relations to the neighbouring regions. For the chronology, there is a series of radiocarbon dates available and the typology will be strengthened through the inclusion of the pottery from Maliq and Podgoria. This will help to date and interpret the findings from the tumuli and resolve questions as the beginning of the mat painted pottery.

Krasinski, Kathryn (Fordham University) and Gary Haynes (University of Nevada, Reno)

[96] *Probabilistic Models for Identifying Cutmarks*

Reports of Pleistocene evidence for mammoth butchering have been integral to identifying the earliest human occupation of the Americas. Yet, neotaphonomic research on cutmarks, especially on proboscidean

remains, has been lacking in New World contexts. Cutmark morphology is complex and influenced by multiple variables such as raw material and bone density. This presentation establishes an integrative multivariate framework for differentiating raw materials and actors which produce modifications commonly identified as evidence for butchering in the fossil record. An empirical and probabilistic approach which incorporates context can enhance our understanding of how multiple variables influence resulting cutmark attributes.

[96] *Third Organizer* [96] *First Chair*

Krause, Samantha [70] *see Hammond, Gail A.*

Krauss, Teresa [149] *Discussant*

Kray, Christine (Rochester Institute of Technology), Minette Church (University of Colorado at Colorado Springs) and Jason Yaeger (University of Texas at San Antonio)

[150] *Revisiting Evenemential History: Maya Land Use in Colonial British Honduras*

San José Yalbac was founded in mid-19th century British Honduras (Belize) by Yucatec Maya Caste War refugees. Archaeological, oral historical, and archival data reveal the sometimes-evenemential nature of settlement and memory. While Anthropology distinguishes itself from History by attending to "culture" and *longue durée*, land use in British Honduras points to extra-ordinary, one-time events. When Maya agriculture threatened mahogany targeted for commercial extraction, residents were forced on to a reservation. Trauma has overtaken memory, as survivors recount tales of the eviction, but little of prior life. Their historicity is of dispossession and departure, not "culture" or *longue durée*.

Krigbaum, John (University of Florida) and Tianlong Jiao (Bishop Museum)

[60] *Stable Isotope Ratio Analysis at the Neolithic Tanshishan Site in Southeast China (Fujian Province)*

The Tanshishan site (4300-5000 cal. BP) has long been perceived as a site where Neolithic people depended principally upon terrestrial food resources, although it is situated near the coast. New isotope data from 23 human burials challenges these old perceptions. Stable isotope ratios of carbon (avg. -18.1‰) and nitrogen (avg. 11.1‰) support a marine protein component. Bone apatite carbon (avg. -10.2‰) and collagen-apatite spacing (avg. 7.9) suggests isotopically mixed dietary regimes, with diets including both marine and terrestrial proteins and C3 carbohydrates. These new data offer direct paleodietary evidence for a Neolithic maritime adaptation in Southeast China.

[177] *First Chair*

Krigbaum, John [177] *see Schaub, Amelia M* [60] *see Liu, Chin-hsin* [5] *see Laffey, Ann O.* [217] *see Valentine, Benjamin* [29] *see Lofaro, Ellen M.*

Kristan-Graham, Cynthia (Auburn University)

[275] *Building Inspections at Chichen Itza: the Mercado and Other Gallery-Patio Structures*

The Mercado at Chichen Itza is a misnomer. As an exemplary gallery-patio structure it more plausibly served domestic and administrative, not commercial purposes. Its large size, decorative program, and location in the

Court of the Thousand Columns indicate that it had an exceptional function related to governance and the display of prisoners. This paper analyzes the Mercado's specific purpose and symbolism through an analysis of Yucatec art and history and comparisons with other gallery-patios at Chichen Itza and related structures in Central and North Mexico.

[275] *First Chair* [275] *Second Organizer*

Kristan-Graham, Cynthia [21] *see Jordan, Keith M.*

Kritsch, Anson [271] *see Pope, Melody K.*

Krull, Amy (Graduate Student, Wayne State University) and Tamara Bray (Wayne State University)

[235] *The Broken and the Whole: Manos and Metates from the Site of Inca-Caranqui*

Manos and metates, integral to the production of chicha in Andean prehistory, are prevalent artifacts from the late imperial Inca site of Caranqui in the northern highlands of Ecuador. Curiously many of these stone implements are broken despite even minimal levels of wear. This paper explores the notion of intentional breakage among these seemingly mundane artifacts most commonly associated with food preparation and women's work. The deliberate destruction of these stone tools suggests their importance within the context of the site and connotations of power symbol that may transcend the everyday use of these objects.

Krus, Anthony (Indiana University), Timothy Schilling (Glenn A Black Laboratory of Archaeology, Indiana University), George Monaghan (Glenn A Black Laboratory of Archaeology/Mathers Museum, Indiana University), Timothy Baumann (Glenn A. Black Laboratory of Archaeology/Mathers Museum, Indiana University) and Jeremy Wilson (Glenn A Black Laboratory of Archaeology, Indiana University/Indiana University-Purdue University Indianapolis) [184] *Angel Mounds Chronology: A Bayesian Approach*

The period AD 1000-1400 witnessed an expansion in social complexity across the lower Ohio River Valley. Angel Mounds was established, grew in prominence, and was eventually abandoned during this interval. Until recently absolute ages from the site were sparse and the chronology of the town's settlement and growth has been poorly understood. Through a Bayesian approach, the archaeological record will be used to model likely construction sequences of earthworks, palisades, and structures at Angel Mounds and refine the chronology of site development. Well-supported chronological frameworks have important implications for understanding broad late prehistoric settlement patterns and cultural history.

[239] *First Chair*

Kruse-Peebles, Melissa (Arizona State University)

[85] *Prehistoric Productivity of Runoff Agricultural Systems in the American Southwest*

Agricultural land use in the arid and semi-arid American Southwest often used the management of surface runoff produced during intense rainfall events to supplement water supplies and renew soil nutrients. Data from recent

surface runoff collections within a prehistoric field system are used to model agricultural productivity. Results show that in this upland environment, where catchment areas are small, potential nutrient inputs from surface runoff are limited and restrict the ability to continually farm the landscape without additional management strategies. Archaeological evidence and benefits for prolonging productivity through the construction of terraces and fallow rotation are considered.

Kuckelman, Kristin (Crow Canyon Archaeological Center)

[17] *Identifying Causes of the Thirteenth-Century Depopulation of the Northern Southwest*
Archaeologists have long endeavored to discover the circumstances surrounding the thirteenth-century depopulation of the northern Southwest by Pueblo farmers, and researchers have proposed numerous theories for this population movement. In this paper, I review and synthesize recent research results that illuminate some causes of these pivotal emigrations. Data generated from excavations at Sand Canyon, Castle Rock, and Goodman Point pueblos—terminal Pueblo III villages in the Mesa Verde region—contain evidence of crop failure and widespread, lethal hostilities as the Great Drought descended about A.D. 1276. These data constitute compelling evidence that subsistence stress and warfare were crucial factors in regional depopulation.

Kuehn, Steven R. [110] *see* Buvit, Ian

Kuhn, Steven (University of Arizona) [159] *Discussant*
[93] *Discussant*

Kuijt, Ian (University of Notre Dame) [244] *Second Chair* **[244]** *Second Organizer*

Kuijt, Ian [244] *see* Conway, Meagan **[244]** *see* Brown, Claire J. **[244]** *see* Lettieri, Philip R. **[244]** *see* Lash, Ryan P. **[244]** *see* Shakour, Katherine E. **[244]** *see* Gunter, Madeleine

Kuitem, Margot, Hans van der Plicht (Centre for Isotope Research, Groningen University), Thijs van Kolfschoten (Faculty of Archaeology, Leiden University), Jordi Serangeli (Institute for Prehistory, Tübingen University) and Hervé Bocherens (Biogeology, Tübingen University)

[93] *Stable isotope analysis of well-preserved 300- 400 ka year old bone collagen from Schöningen*
The Schöningen mammal bone assemblage appears to be very well preserved. Despite that we are dealing with very old material, we were able to extract collagen for stable isotope analyses from numerous bones of a number of species (Elephantidae, Equidae, Rhinocerotidae, Cervidae and Bovidae). The stable isotope (^{13}C , ^{15}N) signal of fossil animal bones is a powerful tool for investigating past environments, ecosystems and feeding behaviours such as predator/prey behaviour. The Schöningen data are surprisingly good. They will be reported and compared with isotope values of e.g. Late Pleistocene extinct species.

Kulkova, Marianna [84] *see* Doronicheva, Ekaterina

Kurin, Danielle (Vanderbilt University) and D. Enmanuel Gomez Choque (National University of Huamanga, Peru)

[29] *The bioarchaeology of collapse: a case study from the south-central Peruvian Andes*

This research summarizes the results of four seasons of bioarchaeological fieldwork in highland Andahuaylas, Peru. Burial caves from the Chanka culture (ca. AD 1000-1400) were excavated and 315 human skeletal remains were examined in order to test hypotheses related to the manifestation of violence and formation of novel group identities in the wake of Wari imperial collapse, ca. AD 1000. Results suggest that the disappearance of Wari in Andahuaylas prompted the genesis of newly conspicuous ethnic groups, and also violence which singled out those members who prominently employed corporeal markers of ethnic affiliation.

Kurin, Danielle [5] *see* Schneider, Anna E **[29]** *see* Lofaro, Ellen M.

Kurin, Danielle S. [29] *see* Gabbard, Aubree A. **[5]** *see* Wright, Katherine

Kurnick, Sarah (University of Pennsylvania)

[19] *How Rulers Rule: Negotiating the Contradictions of Political Authority*

Anthropological discussions of power and authority frequently emphasize the need for rulers to distinguish or differentiate themselves from the other members of their community. The acquisition, maintenance, and exercise of political authority, however, are likely more complex, multifaceted processes. It is argued that these processes are fraught with contradictions, inconsistencies, and incongruities. Specifically, this paper suggests that, to exercise political authority effectively, rulers adopt political strategies that allow them simultaneously to demonstrate their uniqueness and their sameness – to their followers, to past rulers, and to contemporaneous rulers of other communities.

[19] *Second Chair*

Kus, Susan (Rhodes College) [229] *Discussant*

Kusaka, Soichiro [60] *see* Temple, Daniel H.

Kuzminsky, Susan (University of California, Santa Barbara)

[139] *Population affinities of prehistoric Californians: a cranial analysis using 3D geometric morphometric techniques*

A great deal of bioarchaeological research has been directed toward understanding health, violence, and work activities among prehistoric Californians. However, few researchers have examined population affinities utilizing the many human skeletal collections available that cover broad temporal sequences and geographic regions. This study employs craniofacial landmarks and 3D geometric morphometric techniques to examine biological affinities of California's prehistoric people over the last 9,000 years in order to gain insight into the population history of this region. The results show both biological variation and between-group similarities among inhabitants of California's coast and interior valleys, suggesting

population movement occurred among some groups.

Kuznetsov, Pavel [109] *see Peterson, David L.*

Kvamme, Kenneth (University of Arkansas)

[186] *New Findings from Digital Terrain Models and Geophysical Surveys in the Northern Great Plains*
Fortified villages, fur trading posts, and quarry sites have been topographically surveyed in high detail permitting generation of digital terrain models with half-meter spatial resolutions. Using relief shading, vertical exaggerations, and three-dimensional views new knowledge about each site has been obtained. This knowledge is augmented by geophysical surveys that point to subsurface features that explain changes in surface topography (e.g., buried houses), while the form of the surface frequently explains anomalous conditions seen in the geophysics. Examples are illustrated from Double Ditch, Huff, Larson, and Menoken villages, the Fort Clark Trading Post, and the Lynch Quarries, all in North Dakota.

Kwoka, Joshua (University at Buffalo)

[146] *Beyond Practice: Agency and Change in the Work of Pierre Bourdieu*

Much of Pierre Bourdieu's work was concerned with investigating how practices were patterned without following explicit rules, and the tendency of practices to reproduce existing social relations. As such, Bourdieu's work has been critiqued as a self-replicating framework that excludes avenues through which agents could effect change. This paper will address Bourdieu's concept of human agency which, according to Bourdieu, is neither based in determinism nor voluntarism. Furthermore, how change actually occurs within Bourdieu's framework and the potential for these concepts to enrich archaeological narratives will be explored.

Kyle, Jacquelyn (University of Mississippi)

[155] *Mortuary Ritual as Rite of Passage*

This paper examines the ways in which mortuary ritual functioned as a rite of passage in La Tène central and western Europe in the sixth century BC. By examining the ways in which cemeteries functioned as spaces of personal and group separation and transformation, I seek to clarify the role death played in these societies as a precursor to transformation both of the deceased individual and of those left bereaved by the individual's death. I analyzed site reports, paying especial attention to the presence and types of grave goods, the grave structure, and the treatment of the corpse.

La Favre, Karl (UCLA)

[250] *Publication of Large Archaeological Datasets On the Internet Using PHP and MySQL*

Many archaeologists perceive the new opportunities provided by the Internet for the publication of large datasets. Unlike paper publication, cost is minimal and not scale-dependent. However, the lack of technical knowledge has prevented many archaeologists from taking advantage of these new opportunities. The use of a scripting language such as PHP and a relational database management system such as MySQL (both free of cost) is necessary for truly useful publication of large datasets. This poster argues that these technologies have the potential to revolutionize the dissemination of archaeological data and therefore

deserve widespread adoption and learning investment by archaeologists.

Ladefoged, Thegn (University of Auckland), Chris Stevenson (Diffusion Laboratory), Oliver Chadwick (University California Santa Barbara) and Peter Vitousek (Stanford)

[177] *The micro-sweet spots of Rapa Nui rock gardens.*
Ancient Rapa Nui employed a number of unique and innovative gardening techniques, including rock gardens and lithic mulching. Previous analyses have shown that the soils of Rapa Nui are relatively poor. Soil sampling along three ca. 80 m transects across rock gardens adjacent to natural outcrops indicate that nutrient levels within gardens are elevated in relation to zones just outside the gardened area. The reasons for these elevated levels are explored, with the natural nutrient rich micro-sweet spots adjacent to outcrops forming optimal conditions for rock gardening practices.

Laffey, Ann (University of Florida), Régulo Franco Jordán (Complejo Arqueológico el Brujo, Peru) and John Krigbaum (University of Florida)

[5] *Stable isotope analysis at Complejo Arqueológico el Brujo, Peru*

Stable isotopes of carbon, nitrogen, and oxygen from human bone (n=13) from Complejo Arqueológico el Brujo, Peru were analyzed to infer Lambayeque (A.D. 900–1200) paleodiet, following the demise of the Moche (A.D. 50–850). No dramatic differences in diet were observed, however, interesting and significant trends ($R^2 = 0.8$) for decreasing $\delta^{15}\text{N}$ and increasing $\delta^{13}\text{C}$ values over time are evident. Variations in $\delta^{18}\text{O}$ values from bone apatite are suggestive of differences in geographical origin, but require further scrutiny. These preliminary results provide important data to help characterize Lambayeque culture, diet, and origins.

Laluk, Nicholas (White Mountain Apache Tribe - U of A), Mark Altaha (White Mountain Apache Tribe), Mae Burnette (White Mountain Apache Tribe) and Jose Alvarez (University of Arizona)

[67] *Searching for Turkey Creek: The 2011 Chiricahua Apache Turkey Creek Reservation Survey*

During the late 1800s various Apache Nations were placed on reservations throughout Arizona. One of these reservations known as "Turkey Creek" was established approximately 20 miles south of Fort Apache, Arizona. However, because its remote location on White Mountain Apache lands and ephemeral nature of Apache campsites the actual location of the reservation has eluded researchers. In 2011, an archaeological pedestrian survey was conducted in the general area of the reservation along Turkey Creek in an attempt to determine the actual location of the reservation as well as to form a better understanding of other Apache occupations along Turkey Creek.

Lam, WengCheong (Harvard University)

[163] *Multi-crafting activities in bronze workshops of the Shang and Zhou dynasties*

It is a commonly held idea that during the Chinese Bronze Age bronze foundries in urban centers were highly specialized, but the degree of specialization has not been comprehensively explored. This presentation is trying to systematically collect and analyze faunal

remains, including bone tools and oracle bones, from Shang and Zhou bronze foundries in order to throw fresh light on ritual activities and animal economy taken place in production centers.

Lambert, Jean (Quapaw Tribe of Oklahoma) and Ardina Moore (Quapaw Tribe of Oklahoma)

[252] *Exhibiting Indian History at the Quapaw Tribal Museum*

The Carden Bottoms project provides a unique opportunity for development of American Indian perspectives on archeology and interpretations of the past. This paper describes efforts at the Quapaw Tribal Museum in Quapaw, Oklahoma, where we are making use of Carden Bottoms project excavations and studies of existing museum collections to trace the history of our ancestors and the legacies they created in ancient art works and other archeological materials.

Lambert, John (UC Davis), Thomas Loebel (St. Xavier University), and Matthew G. Hill

[140] *Late Paleoindian Mobility and Settlement-Subsistence in the Western Great Lakes*

Few late Paleoindian sites have been excavated in northern Wisconsin, and data generated through the analysis of lithic assemblages from the Deadman Slough, Suicides, Robinson, Squirrel Dam, and Bowling Lane sites add to our understanding of early Holocene settlement-subsistence systems in the region. Several of these sites were located within 100 km of the late Wisconsinan ice front, and are thus ideal for testing hypotheses about hunter-gatherer adaptive responses to periglacial environments. Data from the western Great Lakes can serve as an important analogue for the behavior of other colonizing populations faced with the challenges posed by ice-margin habitats.

Lamilami, Ronald [194] see Tacon, Paul S.

LaMotta, Vincent (University of Illinois at Chicago)

[154] *Ritual Formation Processes of the Archaeological Record*

The study of archaeological formation processes lies at the core of behavioral archaeology. Researchers working in various regions have begun to appreciate the potentially wide-ranging impact of ritual practices on the archaeological record, and the study of what might be called "ritual formation processes" has grown in recent years. This presentation examines the notion of "ritual" within the theoretical context of behavioral archaeology, and synthesizes discussions of ritual practices as cultural formation processes. Drawing on cases from the Pueblo Southwest, it is argued that the study of ritual formation processes can yield important insights into the organization of ancient communities.

LaMotta, Vincent [171] see Adams, E. Charles

Lamoureux St-Hilaire, Maxime (Tulane University), Gyles Iannone (Trent University), Scott A. Macrae (University of Florida), Andrew Snetsinger (Trent University) and Steven J. M. Moodie (Trent University)

[203] *Preliminary Excavations at the Ancient Maya Center of Ixchel, North Vaca Plateau, Belize*

The ancient Maya center of Ixchel is situated roughly

equidistant between the extensively studied Vaca Plateau centers of Caracol and Minanha. Preliminary mapping of Ixchel was carried out in 2006, with more detailed mapping and test excavations being conducted in 2011. These preliminary explorations suggest that Ixchel was continuously occupied from the Late Preclassic until the early Terminal Classic, although there was at least one significant destruction event in its history. This paper presents the results of our preliminary research, and assesses Ixchel's development and denouement in light of our understanding of regional socio-political dynamics.

Janata, Jose (LCHES - University of Cambridge), Karina Chichkoyan (IIDyPCa - UNRN - CONICET) and Celeste De Micco (IIDyPCa - UNRN - CONICET)

[158] *Humans as an Invasive Species in the Peopling of the Americas*

Homo sapiens is considered an invasive species that developed a different paleoecological niche related with the fluctuating environment and the new native faunal species, particularly with the megafauna, during dispersal. During the initial entry in the Americas, human movements were randomly oriented in space, and probably did not need to completely colonize an environment before moving to another. For better understanding, it is necessary to combine biological, archaeological and paleontological aspects, leading to an innovative advance in this area. As a first step, taphonomical analyses are underway over Pampa-Patagonia different megafaunal collections, in Argentina and European museums, to assess the human-faunal relationship. The results will be interpreted in a new ecological point of view, the theory of biological invasions, and so we will deal with the dynamics of the peopling of America.

Lane, Kevin (Freie Universität Berlin)

[52] *Empires Edge: issues in the study of ancient trans-frontier communities*

Although understudied the existence of communities beyond imperial boundaries in close interaction with the empire is undisputed. Here we assess how the various strands of power and domination within the empire, such as colonization, migration, creolisation, myth, memory, architecture, warfare, etc. played on those beyond the frontiers, looking into patterns of political, economic and cultural convergence, resilience, resistance and conversion. It is important to note that indigenous responses to the proximity of empire were as variable and flexible as the frontier was permeable and fluid. This paper summarises the varied strategies employed by these communities vis-à-vis the empire.

[52] *First Chair*

Lang, Joerg (Leibniz Universität Hannover), Jutta Winsemann (Institut für Geologie, Leibniz Universität Hannover), Ulrich Polom (Leibniz Institut für Angewandte Geophysik (LIAG)), Jordi Serangeli (Institut für Ur- und Frühgeschichte, Eberhard Karls Universität Tübingen) and Utz Böhner (Niedersächsisches Landesamt für Denkmalpflege)

[93] *A new geological model for Schöningen: implications for palaeoenvironments and archaeology*

The Pleistocene deposits of Schöningen represent an

outstanding geological and archaeo-logical archive. We will present a new depositional model, integrating outcrop, borehole and high-resolution shear wave seismic data. The famous hunting spear-bearing strata were de-positd within an underfilled Elsterian tunnel valley, in which a lake formed during the Hol-steinian (MIS-9). The lacustrine deposition was affected by repeated, probably climatically controlled lake-level fluctuations leading to the formation of stacked delta systems. This long-lived lake provided an attractive site for animals and early humans hunting them. Artefacts became embedded on the delta plain and were preserved during lake-level rise.

Lange, Richard [171] *see Adams, E. Charles*

Langemann, Gwyn [141] *see Speller, Camilla F.*

Langenwaller, Paul (Biola University, La Mirada, CA) [278] *Early-Middle Holocene Central Village Cemeteries along the Southern California Coast in Orange County, California*

Archaeological evidence indicates that mortuary activity along the southern edge of the Los Angeles Basin occurred at central village sites, during the period ca. 8,000 to 4,000 B.P. Cemetery areas at CA-ORA-64 and ORA-83 both contained hundreds of individuals and related burial features. The burials from these sites indicate variability in mortuary customs which included primary inhumations, rarely secondary inhumations, and a lack of cremations. Burial distribution ranged from dispersed to clustered throughout the middens. Grave goods included utilitarian and ceremonial objects of stone and shell, and asphaltum covered basketry. The ORA-64 burials were regularly covered by cairns.

Langlie, BrieAnna S. [238] *see Fritz, Gayle J.*

Langlitz, Meredith (Archaeological Institute of America) and Ben Thomas (Archaeological Institute of America)

[99] *Sustainable Site Preservation: The Future of Saving the Past*

As archaeologists around the world are increasingly confronted by deteriorating archaeological sites, there is an urgent need to define best practices in site preservation. To address this situation, the AIA Site Preservation Program organized a workshop in January 2012 to discuss best practices and draft a working paper to guide an online discussion. The preservation ethos, however, is continuously evolving and while no finite list of best practices can be delineated we hope through this effort to establish guidelines for future archaeological preservation. This paper discusses the outcome of the workshop and invites people to join the online conversation.

Langlitz, Meredith [24] *see Thomas, Ben S.*

Lankford, George (Emeritus, Lyon College)

[189] *Weeding Out the Noded*

Of all the ceramic types in the Central Mississippi Valley, perhaps the most instantly recognizable is Fortune Noded, which is kin to a variety of types from various locations in the Southeast, Southwest, and Mesoamerica. This paper makes the case for considering

the noded pottery type an exotic intrusion into the CMV, a ceramic tradition connected to Datura usage and several mythic and artistic themes. The conclusion is that this ceramic type is probably a key identifier for a heretofore unrecognized religious tradition hidden in CMV pottery collections in plain sight.

Lanoë, François [141] *see Wismer, Meredith A. [202]*
see Enloe, James G.

Laracuenta, Nicolas [2] *see Loughlin, Michael L. [209]*
see Henderson, A. Gwynn

Larmon, Jean (Washington State University), John Jones (Washington State University) and Hector Neff (California State University, Long Beach) [87] *A Palynological Investigation into the Cultural Intensification of the Pacific Coast of Guatemala During the Formative Periods*

A detailed analysis of well-preserved fossil pollen from a core, 4.56m in length, from Iztapa/San Jose on the Pacific coast of Guatemala was performed. The analysis of this core, dating largely to the middle and late formative periods, reveals environmental changes and agricultural intensification related to an increase in archaeological sites in the region. Cultigens, including maize, are common in the core suggesting the people of the region selectively cleared the forest sparing favored tree species. Corresponding sediment chemistry and isotopic studies present a remarkably complete picture of this region during a crucial period of nucleation and cultural intensification.

Larsen, Zachary (Brigham Young University), Richard Terry (Brigham Young University) and Scott Hutson (University of Kentucky)

[58] *Geochemical analysis of household activity areas and ancient maize agriculture at Uci, Yucatan*

The Site of Uci in the Yucatan Peninsula of Mexico is noted by a major 18-Km elevated causeway along with pyramids and household structures. The vegetative history of the soils, determined by stable C isotope analysis, may provide evidence of ancient agriculture and subsistence. Soil P and trace element analysis are used to delineate household kitchen and workshop activity areas.

Larson, Dorothy (/Maxwell Museum)

[216] *Migration in the North-Central Rio Grande: Using Petrography to Distinguish Ceramic Technologies of the Albuquerque Region during the Late Developmental/Coalition Transition*

Petrographic analysis often focuses solely on aplastic composition. While an invaluable tool for determining manufacturing locations, these data represent a fraction of the information that petrography can provide. My research uses petrographic data on grain size and shape to help identify a distinct ceramic technology that may have been the result of migration of non-local groups into the Albuquerque area of the northern Rio Grande region of the American Southwest during the late Developmental-Coalition transition (AD 1050-1200s). These data are used in conjunction with other attributes such as vessel thickness, firing temperature, hardness, and micro-scale stylistic differences.

Larson, Greger (Durham University)**[157] *A combined genetic and archaeological perspective on dog domestication***

The vast morphological variability between dog breeds led Darwin to conclude that more than one canid ancestor must have been involved. Ironically, the single undisputed fact regarding dog domestication is that the grey wolf is the sole ancestor of domestic dogs. The additional big questions including where, when and how many times the process took place remain unanswered, in large part because the modern ubiquity of dogs has precluded an understanding of their origins. This paper will explore what is known and what can be known about dog domestication using the latest archaeological finds and genetic studies.

Lash, Erik (North Carolina State University) and Scott Fitzpatrick (North Carolina State University)**[36] *Caribbean Online Radiocarbon Database for Archaeologists***

It is critical that archaeologists be able to easily access the full range of radiocarbon dates from a region to place research in a temporal framework and assess whether various dates are acceptable so that chronological control can be maintained. Here we discuss the development and implementation of the Caribbean Online Radiocarbon Database for Archaeologists (CORDA), which uses a spatial database framework to provide referential integrity between dating information and its locational position. An ArcGIS® Server/GoogleMap type interface allows CORDA to deliver a rich assortment of information about Caribbean radiocarbon dates to the researcher in queryable map and tabular formats.

Lash, Ryan (University of Cambridge), Ian Kuijt (University of Notre Dame), Alissa Nauman (Hamilton University), John O'Neill (Cultural Landscapes of the Irish Coast Project), Terry O'Hagan (University College Dublin) and Terry O'Hagan**[244] *Pilgrims Progress: Settlement Variety in Connemara's Early Medieval Seascape***

A number of sites with features characteristic of early medieval ecclesiastical settlements have been identified on various small uninhabited islands off the Connemara coast. Occupations identified on Inis Goirt, Doonawaul Island, Davillaun, and Inis Dalla vary in terms of both the density and diversity of identified features, but generally represent a smaller scale of investment than is witnessed at better known ecclesiastical sites on larger islands in the region. The existence of these small habitations, most likely economically dependent on larger affiliated establishments, urges scholars to reevaluate the complexion of the early medieval church in Western Connemara.

Lassen, Robert (University of Tennessee)**[84] *The Link Between Folsom and Midland Lithic Technology as Seen from the Gault Site, Central Texas***

Although primarily known for its Clovis and pre-Clovis components, the Gault site (41BL323) includes a relatively small Folsom and Midland component. Current research on this component has revealed that Folsom and Midland diagnostic artifacts are closely related both stratigraphically and technologically. Rare Midland preforms are present at the Gault site, and several of

them are derived from the castoffs of Folsom projectile point production. Additionally, a comparison of quantitative measurements of Midland points to spatio-temporally similar forms (such as Plainview points) may enable Midland points to be more accurately differentiated from the more general "unfluted Folsom" designation.

Latinis, D Kyle [182] see Dega, Michael**Lattanzi, Gregory (New Jersey State Museum) and R. Michael Stewart (Temple University)****[174] *American Indian Archaeology of the Historic Period in the Delaware River Valley of the Middle Atlantic Region, Eastern United States***

Archaeological sites of the historic period are used to address the tension and disparities that exist with historical records and "received perceptions" of encounters between native peoples and Europeans. Aspects of traditional settlement patterns, lithic and ceramic technologies are evident in places into the 18th century. European trade goods are integrated into native technologies and social relations, curated and recycled, finding their most visible archaeological expression in native burials. Mortuary features, as a group, contain more grave goods, and goods of a more varied nature, than mortuary offerings associated with internments of the 1000 years pre-dating contact with Europeans.

Lau, George (Sainsbury Research Unit, Univ Of East Anglia)**[23] *Of durable disposition: dualism, objects and action in the ancient Andes***

This paper examines a changing history of dualism, taken here as complementary opposition. For over half a millennium, dual arrangements characterised the material record (e.g., ceramics, sculpture, monuments) of the Recuay culture, in Peru's north highlands, AD200-700. More than merely imaging cognitive structures, finely made things formed key parts of a durable framework of action by which people knew, organised and perpetuated their world. Later phases see dualism increasingly reworked as an idiom for inequality. This fluid, if predictable disposition in artworks therefore expressed social relations while also serving to prescribe collective, social futures.

Lau, Hannah (UCLA) and Sarah Witcher Kansa (AAI/Open Context)**[141] *Animal Management and Consumptive Strategies at Halaf Domuztepe: Implications for Political Economy and Social Complexity***

Excavations at the large Late Neolithic site of Domuztepe in Turkey have yielded faunal assemblages from three feasting contexts and numerous domestic contexts. We evaluate the animal management choices made by the inhabitants when creating each feasting context and how such choices would have affected their herd management strategies beyond the duration of the event itself. These data offer a window into the capability of a body of people to organize and produce each of the three feasting contexts at Domuztepe and allow us to establish a trajectory of the development of commensal politics at the site during the Neolithic.

Lauer, Adam (University of Hawaii at

Manoa), Guoping Sun (Zhejiang Provincial Institute of Antiquity and Archaeology) and Tianlong Jiao (Bishop Museum)

[60] *An Oral Health Assessment of Early and Middle Neolithic South China and Taiwan*

Studies of oral health from Southeast Asia find skeletal samples at the transition to agriculture did not follow the same pattern of decline as seen in other areas of the world. The south coast of China & Taiwan are considered to be climatically and archaeologically part of Southeast Asia. This paper examines the oral health of early & middle Neolithic groups (7000-4500 BP) from coastal south China and Taiwan. Oral health profiles suggest these samples follow the same general patterns as Southeast Asian samples. Low levels of caries, infectious disease, & antemortem tooth loss suggest these groups were relatively healthy.

Laughlin, Daniel C. [38] *see* McNamee, Calla

LaValley, Stephen (University of Nevada, Reno) and Geoffrey Smith (University of Nevada, Reno)

[84] *Biface Reduction and Raw Material Selection at Paiute Creek Shelter, Nevada*

Analyses of cores, bifaces, projectile points, and debitage from Paiute Creek Shelter (PCS), Humboldt County, Nevada provide insight into the lifeways of the site's occupants during the Middle and Late Archaic periods. Research focuses on biface reduction trajectories and raw material preference. Results of debitage analysis support results of the tool analysis. Assemblages from temporally discrete components are compared to identify any diachronic shifts in biface reduction strategies. The results of these analyses are combined to obtain an understanding of how prehistoric peoples utilized PCS.

LaValley, Stephen [161] *see* Wiggins, Kristina M.

Law de Lauriston, Maclaren [232] *see* Odell, George H.

Lawrence, Dan (Durham University) and Tony Wilkinson (Durham University, UK)

[103] *Models of demographic change associated with agro-pastoral communities in the zone of uncertainty of the Middle Euphrates*

Surveys from representative enclaves of the Middle Euphrates of southern Turkey and northern Syria demonstrate the existence of two agro-ecological zones:

- A northern zone of relatively stable long-term settlement
- A southern "zone of uncertainty" characterized by rapid phases of colonization whose constituent settlements show short-term boom and bust cycles.

By combining disparate data from archaeological surveys the Fragile Crescent Project has started to model long term demographic trends within the northern Fertile Crescent. We contrast the boom & bust settlement trajectories of citadel cities in the zone of uncertainty with more stable trends of smaller settlements in the northern zone.

Lawres, Nathan (STOF Tribal Historic Preservation Office)

[9] *Expanding Your Toolbox: The use of LiDAR in establishing probability zone designations and the detection of anthropogenic landscapes in southern*

Florida

Light Detection and Ranging (LiDAR) data is a relatively new technology that has only recently been incorporated into archaeological methodology. This methodology, however, has not attempted to employ LiDAR as a tool in the designation of probability zones for archaeological survey. This research seeks to demonstrate how LiDAR may effectively be employed in the process of designating these probability zones by documenting highly accurate elevations, fluctuations in these elevations, and ground disturbance within the areas in question. The use of LiDAR as a methodological tool in establishing probability zones and locating archaeological sites will be presented and discussed.

Lawson, Lori [264] *see* Chapman, Sarah

Lazrus, Paula Kay (St. John's University)

[36] *Is the Grass Always Greener? Searching for clues to social inequality through crop distribution in a Post-Medieval community*

The community of Bova, in southern Calabria, Italy was a community of clergy, artisans, farmers and day laborers in the early 1800s. Clues to social standing are reflected in the occupations people had, the types of crops grown and the quality and ease of access to the appropriate terrain. As part of an ongoing study of land use in the community of Bova, data Napolenic cadastral records have been plotted using GIS with an eye to gaining a greater understand of where particular crops are grown, and by whom.

Leadly, Lucas [271] *see* Vogel, Gregory

Leckman, Phillip (Statistical Research, Inc.)

[25] *Meeting in Places: Seventeenth-century Puebloan and Spanish Landscapes*

The Spanish colonization of New Mexico brought together populations with different perspectives on space and landscape, each drawing upon extensive cultural and historical roots. While in some cases Spanish and Pueblo attitudes exhibited considerable tangency, in other areas these perspectives clashed, contributing to painful processes of culture contact and change. Drawing on recent work at Paako, a seventeenth-century Pueblo village and visita, this paper explores the articulation of Spanish and Pueblo concepts of space and place at multiple scales, successively examining these processes within the village, the broader Paako community, and the New Mexico colony as a whole.

Leckman, Phillip [183] *see* Phillips, Shaun M.

LeCount, Lisa (University of Alabama) and Chester P. Walker (Archaeo-Geophysical Associates)

[70] *Finding the Invisible Maya: Geophysical Survey at Actuncan, Belize*

Extensive geophysical surveys at Actuncan successfully located buried features and platforms. Using a fluxgate gradiometer, 5 ha were surveyed in a residential neighborhood and a plaza near the edge of the civic center. Magnetic anomalies were mapped using ArcGIS software tied to the site grid established by a total station. Nine anomalies were ground truthed by digging 1-x-1 m units in locations of high magnetism; two control units were placed in areas where readings were normal. The

spatial distribution of anomalies in the neighborhood illustrates a "village effect," a pattern resulting from intense utilization of land by community members.

Ledergerber, Paulina

[235] *Canari and Shuar's ancestors. Cultural landscapes in the Morona-Santiago Province, Ecuador*

The prehistoric cultural diversity of the Zamora-Santiago river system is reviewed based on the analysis of recent topographic maps and re-evaluation of cultural remains in archaeological sites, particularly the ceramic assemblage. The cultural distributions are compared with geographic and ecological contrasts between eastern Andes and western Amazonia, which have been ignored in recent publications. These results are integrated with those of previous Morona-Santiago Archeological Program work, a regional study applying cutting edge interdisciplinary technological approaches to the evidence, under the auspices of the Latin American Archeology Program of the Smithsonian Institution.

Lee, Craig (Montana State University)

[204] *Obsidian as an Indicator of Social Networks prior to ca. 7,000 BP on the Northern Northwest Coast of North America*

Obsidian from sources on Suemez Island, Alaska and Mount Edziza, British Columbia is present in pre-7 ka BP sites in the Alexander Archipelago (AA) and absent in all contemporaneous sites in Haida Gwaii (HG). This differential patterning is useful for exploring early period cultural development along the Northwest Coast. The prevalence of obsidian throughout the AA suggests it was a unifying element of the sociocultural and geographic landscape. While other types of exchange may have occurred between AA and HG, the absence of obsidian in HG suggests minimal contact between the two areas.

Lee, David (Southern Methodist University) and David A. Freidel (Washington University in St. Louis)

[152] *A Jester God Diadem from El Perú-Waka', Guatemala*

Virginia Fields identified the early trefoil Jester God as a Middle Preclassic Olmec image representing sprouting maize. This enduring emblem of royal majesty had many variants among the lowland Maya, including a Late 8th Century version with distinctive crossed bands in the God's forehead. Discovered within the royal palace inside the tomb of a woman, the Waka' greenstone Jester God is an important example of this form. We discuss the jewel's iconography.

Lee, Gyoung-Ah (University of Oregon)

[163] *Household economy in the Yiluo valley: focusing on agricultural strategies from the Late Yangshao to the Erlitou periods at the Huizui and Erlitou sites*

This paper examines the household economy at the Huizui site, dating from the Late Yangshao to the Erlitou periods (ca. 5500–3500 BP). It aims to illuminate how changes in agricultural strategies may have supported increasing settlement sizes and social complexity there, focusing on the distributional patterns of plant remains from various features, including house floors, disposal pits, ditches, and lithic workshops. In order to understand any differences in agricultural activities between the regional, urban centers, and smaller settlements, plant

data from Huizui are compared to the urban center at the Erlitou site and small sites in the Yiluo valley.

Lee, J. Rachel (University of Michigan)

[95] *Vietnamese Ceramics, the Philippines, and the Southeast Asian Maritime Trade*

Vietnamese ceramics were actively traded in Southeast and East Asia beginning in the 14th century as part of the booming international maritime trade. This paper addresses Carl Guthe's collection (at the University of Michigan) of Vietnamese ceramics found in the Philippines during the early 1920s, mostly in mortuary contexts. Vietnam's role in the Southeast Asian maritime trade during the 14th – 18th centuries will be examined with data from ICP-MS research on glazed stonewares.

Lee, Jason B [15] see Valdez, Stephany L.

Lee, Lori (Thomas Jefferson's Poplar Forest)

[205] *Written in Stone?: Considering Race and Ethnicity through Historic Stone Pipes in central Virginia*

Plantation archaeology emerged in the 1960s within the sociopolitical climate of the Civil Rights movement. An early goal was to 'give voice' to African Americans through recovering the materiality of the African American past. Several studies focused on the search for African retentions, ethnic markers, and ethnic patterns. This paper considers a collection of stone smoking pipes recovered by archaeologists at seven late-eighteenth to early-nineteenth century sites in central Virginia. Ideas about who created the pipes, shaped by earlier ethnicity studies, influenced how the pipes were perceived and interpreted. The entanglement of materiality and context is revealed in these interpretations.

Lee, Lori [133] see Brinkman, Adam

Lee, Ray [38] see Kiahtipes, Christopher A.

Lefebvre, Karine (Univ. Paris I Panthéon-Sorbonne) and Brigitte Faugere (Univ. Paris I Panthéon-Sorbonne)

[98] *Las fronteras del reino tarasco: estrategias político-militares en las zonas de margen a la vigilia de la Conquista*

Después de una dinámica política de expansión hacia ciertas zonas, los límites del reino tarasco alcanzaban a grandes rasgos las del actual estado de Michoacán. A través de un acercamiento arqueológico y etnohistórico examinaremos las estrategias desarrolladas por el estado para controlar las márgenes norte, oriental y meridional del reino, por medio de diferentes métodos como la creación de zonas vacías, de líneas de sitios de control o el desplazamiento de poblaciones tributarias destinadas a la defensa militar. Estas estrategias son muy representativas de la organización interna del estado tarasco y de las relaciones establecidas con sus vecinos respectivos.

Leger, Jessica (Pennsylvania State University) and Jay Silverstein (JPAC/University of Hawaii)

[264] *War and Rebellion in Ptolemaic Egypt: Evidence of Violent Destruction at Tell Timai*

Recent excavations at Tell Timai, ancient Thmuis, have begun to uncover significant evidence of warfare, destruction, and reconstruction dating to the late third

and early second century BCE. The evidence points strongly towards the civil unrest that followed the Fourth Syrian War into the succession of Ptolemy V. Internal conflict threatened to remove the Hellenistic Dynasty with continuous uprisings in both Lower and Upper Egypt. These insurrections were decisively subdued by 185BCE. Corresponding evidence at Timai's sister city Mendes supports the interpretation that these native revolts potentially contributed to a shift of political and ideological power from Mendes to Thmuis.

Leighton, Mary (University of Chicago)

[146] *Why Don't We Talk About Methods? Connecting Untheorized Methodology to Epistemological Anxieties* Throughout archaeology's many transformations in the last 60 years, fundamental methodology, who digs and how, remains almost entirely untheorized. Following a two year ethnography of North/South American archaeologists, I argue that field methods vary enormously. Both this variability and the lack of attention paid to it are tied to conceptualizations of what is knowable, and who can know. Ignoring how archaeologists create their knowledge, and why there is such variation in archaeological practice, allows assumptions of shared epistemological values and ethical imperatives that in practice are entirely lacking, but has far-reaching consequences for collaborations with foreign colleagues and local communities.

Leisz, Steven [200] *see Fisher, Christopher T.*

Lekson, Stephen (University of Colorado)

[198] *The Southwest in Its World* Key developments in the ancient Southwest can be linked, at least tentatively, to events in other regions of North America. Conversely, much Southwestern history played out on regional (i.e. local) scales – framed by continental contexts. American archaeology has had mixed opinions about continental-regional dynamics, ranging from denial to diffusion; those are briefly reviewed, and new methods suggested. This paper then explores several southwestern high (and low) points, evaluates their connections to dynamics elsewhere on the continent, and explores the interplay of continental and regional scales.

Lemke, Ashley (University of Michigan)

[16] *Archaeology of Meat Sharing* Meat sharing is an important stage in human evolution and has been a topic of interest to anthropologists for decades. As an "invisible" resource, meat sharing is difficult to see archaeologically and requires a research design with specific expectations. The ethnographic literature of hunter-gatherers reveals a variety of sharing styles which are dependent on numerous variables and take place at multiple scales; in order to recognize meat sharing in the archaeological record we must take these and other factors into account. A model of forager meat sharing combining ethnological generalizations with archaeological implications is presented here.

Lenardi, Michael (New York State Museum)

[129] *Testing Lithic Artifact Typologies using Non-Contact Data Acquisition and Morphometrics* Archaeologists have long relied on artifact typologies to describe and order the past. Until recently, it was difficult

to completely eliminate pitfalls such as observer bias when classifying artifacts. Now using an array of digital tools including virtualization technology, we can address potential biases and test the validity of established typologies. This paper presents a case study of the lithic projectile point typology developed more than fifty years ago and traditionally used in New York and New England, using 2D photogrammetry and 3D scanning to quantify variation in artifact morphology and to question assumptions regarding prehistoric technology and culture change.

Lengyel, Stacey [157] *see Widga, Chris*

Lenik, Stephan (University of the West Indies, Mona)

[276] *From Missionaries to Mitcham: Conflict, Space, and Resolution in Grand Bay, Dominica, 1691-2012* Grand Bay in Dominica, West Indies, has experienced several iterations of plantation investment, from the arrival of squatters in 1691, to a French Jesuit plantation, to the development of Geneva Estate during the British colonial period. Throughout this period there have been recurring episodes of rebellion in which laborers clashed with landowners and governments. These rivalries appear resolved after a 1974 uprising which resulted in the redistribution of Geneva Estate's lands as garden plots. This paper queries why these clashes occurred by considering methods through which elites exercised social control via spatial organization on the Jesuit plantation and Geneva Estate.

[276] *First Chair*

Lennen, Joel

[218] *An Argument for Chimney Rock as a Pilgrimage Site in Chacoan Society* Chimney Rock is considered the most isolated outlier site of Chaco Canyon. It's role within the context of Chacoan society has yet to be determined. An argument for Chimney Rock having functioned as a pilgrimage site will be made by first examining ethnographic, historical, and archaeological research that has been done at known pilgrimage sites and identifying the traits that qualify pilgrimage sites. After collecting data about the architecture, ritual deposits, and settlement pattern in 12th century Chimney Rock, a comparative analysis will then be performed to see how Chimney Rock corresponds to the pilgrimage site traits previously identified.

Lennen, Joel [245] *see Selden, Robert Z.*

Lentz, David (University of Cincinnati) and Kim Thompson (University of Cincinnati)

[167] *Environmental Implications of Agroforestry Activities of the Ancient Maya at Tikal* Paleoethnobotanical analysis of wood and other plant remains from recent excavations at the Tikal site provide clear indications of the forest management practices of the ancient inhabitants. Several middens were excavated in plazuela groups that ring the site core, giving a sampling of household plant use that extends from the Preclassic to the Late Classic periods. These results are reflective of the changes in forest structure that occurred over a major portion of the occupation time of the site and help define the role of human agency that influenced environmental changes on a broader scale.

Lentz, David [87] *see Tankersley, Kenneth B.*

Leon, Jeffrey (Cornell University) and Adam T. Smith (Cornell University)

[130] *Devotion and Divination: The Temple Fortress at Gegharot and Rituality in the Ancient Caucasus and Near East*

Excavations at the hilltop settlement of Gegharot in the Tsaghkahovit Plain of central Armenia have uncovered a series of shrines dating to the Late Bronze Age (LB1-2: ca. 1500-1250 BC). The shrines are the most formally constructed rooms at the site, centering on circular clay basins filled with a range of ritual paraphernalia including censers and tools of divination. This paper compares Gegharot's ritual spaces with examples from the second millennium BC Caucasus and Near East in order to place them within a wider world of ancient devotional material culture, sacred landscapes and divinatory practices of risk management.

Leonard, Banks (Panamerican Consultants, Inc.)

[76] *Results of the Multiphase Excavations at the Rolling Fork Mounds: Late Mississippian in the Lower Delta*

In 2008-2010, under contract to the USACE, Vicksburg District, Panamerican Consultants conducted Phase I, II, and III investigations at the Rolling Fork Mounds, 22SH506, a Late Mississippian mound complex and village in the Lower Yazoo Basin. The excavations encountered more than 800 prehistoric cultural features, including an earthwork, plaza, middens, structures, burials, and other pits. Abundant faunal, ceramic, and botanical remains were recovered from primary contexts. The assemblage represents an intensive, single component Deer Creek Phase occupation and gives an unprecedented opportunity to examine human activity and interaction in the lower Mississippi Delta during a period of late prehistory.

[76] *Second Chair* **[76]** *Second Organizer*

Leonardt, Sabrina [101] *see Scheinsohn, Vivian G.*

Leone, Lisa [14] *see Perry, Megan A.*

Leppard, Thomas (Brown University)

[200] *Quantifying insularity: regional archaeology and island prehistory in the Lesser Antilles*

Tropical environments, with exaggerated relief, thick vegetation, and highly dynamic geomorphological environments, pose serious challenges to the methodologies employed by survey archaeologists. These challenges are exacerbated in the Lesser Antilles, where political, intellectual, and linguistic divisions result in a heterogeneous research tradition with varying goals and methods. This paper explores the extent to which an approach focused on socio-spatial organization of island populations, and using basic digital-spatial technologies, can produce a coherent and cohesive understanding of large-scale settlement dynamics in such a diverse and challenging research environment.

[200] *Second Organizer* **[200]** *First Chair*

Lepper, Brad [56] *see Feder, Kenneth L.*

Lepper, Bradley (Ohio Historical Society)

[97] *Mortuary ceremonialism at the Newark Earthworks*

The Newark Earthworks complex is unprecedented in the Hopewell world in terms of its scale and the precision of both its geometry and its embedded astronomical alignments. The diversity of discrete earthwork components and their integration into a unified design suggests it was a ceremonial machine with an overarching purpose. Missing from discussions of Newark has been the mortuary component. This is due largely to its early destruction without study. A review of archival sources provides some of the missing pieces of the puzzle and concludes that the burial mounds were the focus and ultimate purpose of the site.

Lerner, Shereen (Mesa College)

[209] *Connecting the Dots: Teaching Archaeology and Social Relevance*

Teaching the common threads of civilizations across the world helps us to understand the nature of society and humanity in a larger sense. It is the elements that we share across time and space that provide us with the story of humanity and its successes and failures. When teaching world archaeology, we have focused on a thematic approach, connecting regions to themes such as trade, use of water, urbanization, and political power. This integrated approach, using active learning techniques, brings relevance to students in understanding the importance and value of our past and connecting it to the present.

[253] *Discussant*

Lerner, Shereen [115] *see Hutira, Johna*

Lertcharnrit, Thanik [95] *see Clarke, Wesley*

Lesure, Richard (UCLA), Jennifer Carballo (University of Michigan), Isabel Rodríguez López (Universidad Autónoma de San Luis Potosí) and Aleksander Borejsza (Universidad Autónoma de San Luis Potosí)

[233] *The Choice to Conform in Formative Central Tlaxcala: Social Processes behind Household Expressions in Fired Clay*

Fired-clay objects from Formative Tlaxcala -- including serving vessels and figurines -- were beautifully crafted, dynamically expressive, and produced at the household level. While these products of individual household decisions exhibit considerable conformity, analysis reveals deviations from the norm, and norms themselves changed rapidly. We use this material to explore the social processes behind household expressions of autonomy/conformity. Available frameworks include social inequality and "tribal" social conformity. Neither is satisfactory. We argue that incipient class differentiation did not effectively constrain household expressions in the readily available medium of clay. Yet different households chose to make similar objects. Lesure has drawn on the sociology of fashion to understand variation in figurines from Tlaxcala. Here, we develop a similar argument for serving vessels. The issue is how households with considerable freedom of expression made mainly -- but not entirely -- the same choices and why collectively favored models shifted rapidly over time.

Lettieri, Philip (University of Notre Dame), Ian Kuijt (University of Notre Dame) and Benjamin Ridenhour (University of Notre Dame)

[244] *Empty School Seats: Tracing the 1907 epidemic, Inishark, Ireland*

Late 19th and early 20th century cycles of structural abandonment on Inishark were linked to emigration, resettlement, and death. In May of 1907 a typhus epidemic occurred on Inishark. School records indicate that this epidemic lasted for three weeks, with a high rate of incidence and over 12% of island children dying. Interestingly, it appears that this epidemic had limited impact on adults and other islanders. Drawing upon housing data and ethnoarchaeology, we explore the causes of the 1907 epidemic, epidemiological dynamics, and how these are reflected in the archaeological record.

Leveillee, Alan (PAL)

[268] *The Waters Around You Have Grown: What's New About What's Old in the Narragansett Bay Drainage*
Recent CRM survey and re-examination of museum collections demonstrate a strong riverine PaleoIndian presence prior to the formation of southern New England's Narragansett Bay.

Leveillee, Alan [185] see Gillis, Nichole A.

Leventhal, Richard (University of Pennsylvania), Kirby Farah (University of California, Riverside) and Randi Ragsdale (Rutgers University)

[150] *The Caste War of the Yucatan: Heritage and Economic Development*

Anthropologists and archaeologists working in the Maya area always talk about the ancient past as a primary point of heritage for the modern Maya people of Central America. However, in the Yucatan, there seems to be less focus by the Maya people upon the ancient past and more upon the 19th century rebellion called the Caste War. We have initiated a new project in the town of Tihosuco, Quintana Roo, focused upon this rebellion as both heritage and the basis for economic development. Results from our archaeological survey of 19th century sites and work within the town will be discussed.

[150] *Discussant*

Levi, Laura (The University of Texas at San Antonio)

[236] *Truth to Power: What Settlement Patterns Say about Ancient Maya Political Process*

It's hard to find topics in Maya archaeology about which Norman Hammond hasn't written exhaustively; harder still to find aspects of Belize archaeology where his influence isn't felt. This paper engages a lesser theme in Hammond's repertoire – the relationship between settlement and political process. Here he was an innovator, using both site-specific and regional data, and finding analogs in such disparate fields as locational geography and medieval French history. As Belize falls increasingly under the archaeological gaze, the struggle to understand Maya polities continues unabated. And, what settlement patterns say is rarely what we expect to hear.

[236] *Second Chair* **[236] *Second Organizer***

Levin, Maureece (University of Oregon) and William Ayres (University of Oregon)

[211] *Evidence for Prehistoric Food Production Systems on Pohnpei, Micronesia: Preliminary Results*
Pohnpei, Micronesia, has been inhabited for more than 2000 years. Food production on the island consists of

agroforests and gardens. Historically, the food production system has been tied closely to social hierarchies.

Temwen, separated from the main island by a strip of water, is directly adjacent to Nan Madol, a set of islets that were home to the island's elite in late prehistory. How food production strategies have changed on Temwen, and how the development of these strategies is related to changing social needs, is a key question. This poster presents evidence for changes in Temwen's

Levine, Marc (Denver Museum of Nature & Science)

[233] *Linking Household and Polity through Ritual Economy at Late Postclassic Tututepec, Oaxaca, Mexico*

Drawing on archaeological and ethnohistoric data from Late Postclassic Tututepec, a Mixtec capital located on the coast of Oaxaca, Mexico, I examine the sociopolitical and economic relationships among commoner households and their elite counterparts. I view these relationships as the outcome of largely non-discursive forms of negotiation that were fluid and emergent, rather than static and fixed. Furthermore, drawing on E. C. Wells' concept of "Ritual Economy," I examine how the household economy was embedded in ritual practices that played a role in mediating social relationships at Tututepec.

Levithol, Sarah (Vanderbilt University) and Markus Eberl (Vanderbilt University)

[151] *Late Classic ceramic change at Nacimientito and Dos Ceibas in Guatemala's Petenbatun region*

Changes in ceramics provide valuable insights into how economic, political and social systems change. The Late Classic period (A.D. 600-830) of the Maya represents a critical time for such changes throughout the southwestern lowlands, which saw both a resurgence in political and economic prosperity and their eventual decline. Eighth century A.D. ceramic innovations in the lowland-wide Tepeu 1-2 ceramic spheres are identified and traced in the ceramic assemblages of two southwestern lowland villages. Analysis reveals that commoners adopted the same ceramic innovations at roughly the same time as regional elites hinting at regional political and economic occurrences.

Levy, Richard [129] see Dawson, Peter C.

Levy, Thomas (University of California, San Diego)

[120] *Technological Innovation, Formation Processes, and Behavioral Archaeology: Applications for ancient metallurgy in Southern Jordan*

The first 'industrial revolution' took place in the southern Levant between the 10th and 9th centuries BCE. This change is documented by an archaeometallurgical dataset composed of industrial site excavations and landscape surveys. The technology underlying this profound socio-economic transition centered on industrial-scale copper mining and metallurgy during the Iron Age (ca. 1200 – 500 BCE). The locus of this innovation was in Jordan's Faynan district. Schiffer's site formation processes and Behavioral archaeology models combined with digital archaeology methods facilitate identification of cultural processes that fueled technological innovation in the first historical complex societies in this part of the eastern Mediterranean.

Lewandowski, David (Northern Arizona University)

[85] *The Archaeology of Eagle Creek, Arizona*

The archaeology of Eagle Creek, a perennial stream located in east-central Arizona, remains relatively unknown and unexplored. Evidence suggests that the local Mogollon populations interacted with groups from the Hohokam, Mimbres, and Ancestral Pueblo regions throughout prehistory. Sites recorded along Eagle Creek during the Summer/Fall of 2011 include small field houses, a 100 room Salado pueblo, and a hilltop pithouse village enclosed by stone walls. Lithic analysis at Eagle Creek sites contributes to our understanding of the area's prehistoric agricultural practices and site organization, while the ceramics enhance our understanding of inter-regional interactions within the greater American Southwest.

Lewis, Brandon (Santa Monica College) and Yoav Me-Bar

[131] *Rural Complexity in Northwestern Belize: Insights from the site of Dos Barbaras*

A significant focus of the Dos Barbaras Archaeological Project was to investigate the role of small, rural communities within the overarching political economy of northwestern Belize. Of particular interest was the extent to which Dos Barbaras participated in issues of wealth distribution, labor control, and the overarching political ideology. Although typical of most small communities, Dos Barbaras does exhibit political markers and specialized activities generally reserved for higher-order centers. An examination of these data provides critical insight into the complex nature of Maya political organization and, specifically, into the integrative role of "rural complexity."

Lewis, Jason [258] see Hlubik, Sarah

Lewis, Jennifer, Amanda Palmer (Kleanza Consulting) and Amanda Marshall (Kleanza Consulting)

[18] *The Collins Overland Telegraph Trail: understanding the impact of resource development upon historical sites in BC*

The Collins Overland Telegraph trail, which was once the sole means of communicating between central and northern BC, was built in the 1867. By the time of completion 100 years later, radio had been invented. Many men died during construction and maintenance of the line. Sadly, almost 150 years after it was begun, the Telegraph Trail has become overlooked by archaeologists and local planners, in the face of industrial development projects in northwestern BC. This paper will present a brief history of this historic landmark, and will examine the impact of resource developments upon historic sites across BC.

Lewis, Jennifer [207] see Marshall, Amanda L.

Lewis, Jonathan [37] see Smith, Jennifer R.

Lewis, Keely (University of South Carolina, SCIAA)

[162] *Glass Tool Use By Native Americans in the Eighteenth Century Savannah River Valley*

Glass shards from two post-contact Native American sites in the Savannah River Valley are identifiable as expedient glass tools through analysis of use wear patterns and comparison to experimental assemblages.

Through experiments on the inadvertent effects on glass from pre- and post-depositional processes and the replication of glass tool use, comparative criteria was established to aid in the identification of utilized glass tools. This comparative criteria was used alongside a macroscopic and microscopic profile of the two glass assemblages in order to determine whether or not utilized glass tools could be identified and their function assessed.

Lewis, Patrick J. [55] see Johnson, Eileen

Lewis, Renee [9] see Hargrave, Michael L.

Li, Kuang-ti, Yu-ten Ju (National Taiwan University) and Kuan-yi Li (National Taiwan University)

[256] *Testing prehistoric Hengchun inhabitants raised wild boar via morphometric and isotopic signature*

In studying faunal remains from archaeological sites, zooarchaeologists focus on the exploration of relationships between animal resources and humans. The material used for this study is mainly faunal remains uncovered from O-luan-pi II and Kueishan sites in Hengchun Peninsula, located at the southern tip of Taiwan. Based on morphometrics (differences in the character, size and shape of bones and teeth) and stable isotope analysis studies, this research aims to explore whether Formosan wild boars from the prehistoric Hengchun Peninsula might have been raised by ancient inhabitants.

Li, Kuan-yi [256] see Li, Kuang-ti

Li, Ying-Sing [127] see Swihart, George

Li, Yung-ti (Inst. of History and Philology, Academia Sinica) and Kwang-tzuu Chen (Inst. of History and Philology, Academia Sinica)

[163] *How Exotic are the Exotic Goods at Anyang: Sourcing Study of the Anyang Collection at the Institute of History and Philology*

Anyang, the last Shang capital, was not only the political center of its time. It was also a consumer of resources from near and far. Artifacts from the royal cemetery show how the Shang king was able to obtain exotic materials to express the elite culture. But where did the exotic materials come from? And from how far? This paper presents the preliminary results of sourcing of the Anyang collection housed at the Institute of History and Philology. Artifacts from the royal cemetery and the temple-palace complex are studied in order to begin to delineate the political economy of Anyang.

Licitra, Valentina (California State University Los Angeles) and James E. Brady (California State University Los Angeles)

[179] *A Critical Reexamination of Drawing 18, "The Copulating Couple," at Naj Tunich*

Andrea Stone's initial analysis of Drawing 18 at Naj Tunich identified the two figures with the well-known genre of old men sexually attracted to young women. A decade later, she asserted that the painting depicts a ritual and that both figures are male. Since then, others have accepted that Drawing 18 depicts two males in a homosexual relationship. This paper reviews the

iconography and concludes that, while ambiguity exists, the individuals were probably recognized as male and female. A critical examination of the ethnographic analogy on which Stone's interpretation is based further undercuts her position.

Lieb, Brad (Chickasaw Nation)

[65] *Preservation, Research, and Public Outreach in the Chickasaw Nation Division of History and Culture*

The Chickasaw Nation today is increasingly engaged in rediscovering its deep history and revitalizing heritage in the Southeastern Homelands. This presentation highlights recent preservation, archaeological research collaboration, and public outreach efforts, including significant artifact collection donations, the new Holisso Center curation facility, federal agency consultations, site acquisition and interpretation, monument erection, publications, www.chickasaw.tv, and a recent NPS-ABPP grant to study the French-Chickasaw war of the 1730s. The Chickasaw Nation today is able to dedicate resources to preserving and interpreting sacred and historic places in the original Homelands for Chickasaws and all people to experience.

[65] *First Chair*

Lieb, Pamela Edwards (Mississippi Department of Archives and History) and Michael Williams

[250] *Mississippi Archaeology Trails Website*

Through HUD Hurricane Katrina mitigation funds and in collaboration with the Mississippi Development Authority, the Mississippi Department of Archives and History and the Geospatial Group have developed an educational archaeological website for the public that focuses on Mississippi's unique cultural heritage. Using the website as a virtual trail, you can discover the different physiographic regions of Mississippi, time-travel through the various time periods and explore a variety of cultures within the state. For students of all ages, for the enthusiasts and the professionals, this website provides both information and entertainment that will bring Mississippi's rich archaeological heritage to life.

Liebmann, Matt (Harvard University)

[237] *On the Borders of Borderlands: Negotiating Authority in the Seventeenth-Century Pueblos of New Mexico*

Seventeenth-century New Mexico was a land of borders twice over: not only was it the northernmost outpost of Spain's colonial endeavor in the Americas, but the limits of that colony were defined by Pueblo villages located at the edges of the northern Rio Grande and its tributaries. Spanish colonial authorities, secular and ecclesiastical, utilized differing techniques in their attempts to establish authority at these border outposts. These techniques resulted in differing patterns of architecture and artifacts among the various border Pueblos, patterns that may serve as a helpful template for the identification of authority in pre-modern and non-literate borderlands contexts.

Liebmann, Matthew [25] *see Preucel, Robert W.*

Liebovitch, Larry [128] *see Brown, Clifford T.*

Lieske, Rosemary (Brigham Young University)

[71] *History of Izapa Group B: Monuments, Offerings,*

and Burials

Despite the archaeological and cultural significance of Group B to the overall meaning of Izapa, little has been published concerning the major excavations conducted there in the 1960s by the NWAf. The aim of this paper is to produce a synthesis of all available information from these excavations, both published and unpublished, in regards to each mound within Group B, focusing particularly on the context and placement of monuments, burials, and offerings. Additionally, this paper seeks to identify and separate possible burials among the offerings discovered during those five field seasons at Izapa, while addressing issues of chronology and sequence.

Lightfoot, Kent (University of California, Berkeley)

[25] *Discussant*

Lightfoot, Ricky (Crow Canyon Archaeological Center), Richard Wilshusen (History Colorado) and Mark Varien (Crow Canyon Archaeological Center)

[17] *Defining and Using Households in Archaeological Analysis*

Since the 1980s many Southwestern archaeologists have used the household as the fundamental unit of social analysis. Architectural and artifactual evidence has been used to identify households, infer changes in economic and social organization, estimate population, and ascribe and debate agency. Archaeologists have used different architectural correlates in defining households, and many have assumed that variation in household size and organization is insignificant to larger scale problems being addressed. We reevaluate these definitions and assumptions, with special focus on the Pueblo I period (AD 725–900) in the Mesa Verde region.

Ligouis, Bertrand [93] *see Stahlschmidt, Mareike*

Lillios, Katina (University of Iowa) and Estella Weiss-Krejci (University of Vienna, Austria)

[32] *Strangers on a Train: Individuals, Collective Burials, and Temporality*

This paper examines collective burial practices from an ethnographic and historical perspective. Specific case studies that will be discussed include Chinese ancestral halls, European dynastic tombs, and Southeast-Asian caves and rockshelters. In addition to providing cautionary tales to the assumption that collective burials necessarily signify a collective identity, these exemplars suggest that the temporal dimensions – the life history – of the burial site must be taken into account when assessing its social significance. Individuals buried in sites with long biographies – such as those in collective burials of Neolithic Europe – may only have acquired a collective identity long after their initial burial.

[32] *First Chair*

Lillis-Warwick, Jaclyn (Michigan State University)

[28] *One Discipline, Two Degrees, and Two Careers: Lessons Learned Over 15 Years by a Female Indiana Jones*

As an archaeologist, I have transitioned from student to principal investigator at a cultural resource management firm, and most recently to a collections manager for a university museum. This paper explores how each career

track presents its own challenges and opportunities. Specifically, I will present my perspective on how gender roles are constructed by the profession and by those on the outside (i.e. clients and the general public). Additionally, I will discuss advice I have received from female and male mentors on how to advance and navigate the profession while overcoming stereotypes.

Lima, Sarah (University of Cincinnati)

[119] *Ceramics of the Pavllas River Valley in the Late Bronze Age and Early Iron Age*

This paper offers a classification of form and fabric characteristics of ceramics from the recently excavated site of Mursi (Pavllas River Valley, southern Albania), and evaluates these typological observations in relation to site stratigraphy and C-14 dating information. These results are compared with previous ceramic classifications from two nearby late prehistoric sites, Kalivo and Cape Stylo. Finally, these categorizations of fabrics of the Pavllas River Valley are examined within the broader context of prehistoric Epirus (southern Albania and northern Greece) in order to examine traditions of ceramic manufacture and exchange during the Late Bronze Age and Early Iron Age.

Limp, W Fred [129] see Richards, Julian D. **[194]** see Weeks, Rex

Lin, Liugen [60] see Dong, Yu

Lin, Minghao [60] see Pike-Tay, Anne

Lin, Sam (University of Pennsylvania)

[117] *Cortex quantification on stone tool assemblages as proxy for lithic transport and mobility strategy at Contrebandiers*

Recent studies demonstrate the usefulness of cortex proportion in lithic assemblages as a proxy measurement for the impact of artifact transport on assemblage formation (e.g. Dibble et al. 2005; Douglass et al. 2008). An excess or shortage of cortex relative to total artifact volume reflects movement of lithic materials among assemblages. Here we report the results of cortex quantification between Moroccan Mousterian and Aterian lithic assemblages at the site of Contrebandiers. Comparison of cortex composition between the two assemblages provides an alternative avenue for assessing lithic material transport and mobility strategies of the Moroccan Mousterian and Aterian occupations at Contrebandiers.

Linares, Adriana [30] see Arroyo, Barbara

Linares Grados, Moises [26] see Vaughn, Kevin J.

Linares-Palma, Adriana (The University of Texas at Austin)

[30] *Women at Naranjo, Guatemala: What they show about Middle Preclassic Interactions*

The Middle Preclassic Figurines from Naranjo in Guatemala's Central Valley, showed the presence of females in sacred contexts. Many examples of broken female heads and torsos were found in the South Platform, an important location at the site center, which is related to rituals celebrated within public spaces. In fact, the study and analysis of human figurines fragments

based in their headdresses or headbands demonstrated a strong relationship between several ethnic groups during the Middle Preclassic. Furthermore, the majority are examples from different styles and potential contacts between various Mesoamerican cultural zones and sites, such as, Tres Zapotes, Cerro de las Mesas, La Blanca, San Jose Mogote, and Chalcatzingo.

Lindsay, Ian (Purdue University)

[130] *Mobile pastoralism and political allegiance: Recent findings at the Late Bronze Age fortress settlement of Tsaghkahovit, Armenia*

Archaeological models of the origins of complex societies have traditionally rested on the comparative analysis of sedentary agrarian societies. Accounts of complexity in the Old World especially have consigned mobile pastoralists to marginal roles as sources of pastoral good, at best, or mauling antagonists, at worst. However recent discoveries in the South Caucasus and elsewhere in Eurasia suggest that pastoralists, not farmers, were instrumental in founding the region's earliest complex polities. This paper discusses recent archaeological findings at a fortified settlement of agro-pastoralists in Armenia's Tsaghkahovit Plain where seasonal mobility appears to be a guiding principle in sociopolitical organization.

[130] *First Chair*

Lindsay, James (Free Agent)

[7] *Relocation of "Destroyed" Effigy Mounds by Ground-Penetrating Radar*

In 1892, T. H. Lewis mapped a group of two bear effigy and three conical mounds at the confluence of the Yellow and Mississippi Rivers in Iowa. By 1926, the mounds had been plowed flat and were no longer visible. The mound group was thought to have been destroyed by agricultural activities or construction of the Effigy Mounds National Monument visitor center. A 2008 geophysical survey revealed evidence of intact mound features below the plow zone. The survey also revealed previously unknown mound-like features, hinting at an extensive, continuous history of mortuary practice at the site.

Lindsey, Emily [158] see Politis, Gustavo G

**Lipe, William (Washington State University),
RG Matson (University of British Columbia) and
Natalie Fast (Washington State University)**

[132] *From Survey Quadrats to Cultural Landscapes: Forty-one Years of the Cedar Mesa Project*

The Cedar Mesa Project in SE Utah was inspired by Binford's classic 1964 research design paper. From 1971 to 1975, a stratified probabilistic sampling design guided regional survey, site recording, and site testing in an 800 km² study area. Population and settlement systems were characterized through time, and their variation related to broad regional climatic and adaptive patterns. Subsequent fieldwork (1984, 1991-92, 2009-2011) and analyses have built on this Binfordian research base to focus on aspects of Cedar Mesa cultural systems, including agricultural dependence, community organization, cultural landscape construction, external relationships (e.g., with Chaco Canyon) and regional depopulation processes.

Lipe, William D. [218] see Fast, Natalie R. **[88]** see

Newbold, Bradley

Lipo, Carl (California State University Long Beach), Mark Madsen (University of Washington) and Timothy Hunt (Society for the Advancement of Scientific Archaeology)

[241] *Cultural inheritance and scientific explanations of the archaeological record*

Evolutionary archaeology was founded on two significant observations made in the 1970s by R.C. Dunnell. First, Dunnell recognized that scientific evolution is distinct from cultural evolution. Second, he noted that cultural inheritance plays an analogous role to genetics in the construction of evolutionary explanations of human cultural variability. For the past 30 years, models and methods based in cultural inheritance have become fundamental in archaeological explanations within archaeological science. Here, we describe the state of our knowledge and conclude with a discussion of challenges that remain to be addressed in the development of evolutionary archaeology.

[160] *Discussant*

Lipo, Carl P. [160] *see Eerkens, Jelmer W.*

Lippert, Dorothy (National Museum of Natural History)

[28] *The Work of Beloved Women: How female archaeologists restore the world through repatriation*
Repatriation emerged as a field within archaeology and museum work over the course of the last 20 years and involves traditional archaeological practices such as research and writing. Repatriation work can also be structured by traditional Native American gendered responsibilities, which often differ from greatly from contemporary non-Native practices. Native women have long been responsible for funerary rituals and have helped to restore balance to communities after deaths. This paper will consider the intersections of gender and culture in repatriation and consider the ways in which female archaeologists are uniquely situated to participate.

Lipphardt, Jacqueline (The Ohio State University) and Julie Field (The Ohio State University)

[141] *Examining Impacts of Marine Foraging Strategies in Prehistoric Hawaii*

Archaeological research in Leeward Kohala, Hawaii has documented human population growth and intensification of food production during AD 1400-1850. Excavations of residential structures from five traditional land units, or ahupua'a, produced large fish assemblages. The assemblages were analyzed for evidence of resource depression. The results show no evidence for resource depression occurring in Kohalan ichthyofaunal assemblages. There is significant change in general faunal exploitation. Through time, more marine resources were being used and the importance of certain food types in the diet was changing. The assemblages provide evidence for change in foraging strategies through time and space within Leeward Kohala.

Lippi, Ronald (University of Wisconsin)

[235] *A critique of contemporary Ecuadorian archaeology with some suggestions for foreign Ecuadorianists*
Archaeology in Ecuador appears to many Ecuadorian

and foreign archaeologists who work there to be chronically hampered by serious problems that seem to keep the discipline and practice of archaeology in a state of turmoil and disarray. This presentation attempts to assess objectively this widely held, cynical perception. An overview of recent research and relevant institutions is coupled with a discussion of critical problems and with survey information from Ecuadorians and foreign Ecuadorianists alike to present a more instructive evaluation. Recommendations are made on the role foreign archaeologists can play to support more fully the ongoing evolution of Ecuadorian archaeology.

Lippi, Ronald D. [235] *see Gudino, Alejandra M.*

Lippiello, Lauren [191] *see Fisher, Kevin D.*

Littlefield, Nancy (University/Exeter (Gault Project))

[84] *Clovis Workshop Industries at the Gault Site, Texas*
Initially defined by its hallmark projectiles, Clovis technology has since been redefined with data from caches, kill-sites, and workshops. The Gault Site in Texas is a significant source of contextual Clovis workshop industries and provides copious amounts of raw data which greatly benefit the archaeological record. Previous analysis has focused on the large diagnostic flakes leaving the smaller debris less thoroughly studied revealing critical data gaps within Clovis bifacial technology. Highlights of in-depth studies being conducted on the lesser-known Clovis flakes from Gault will be presented for viewing and discussion.

Littman, Robert (University of Hawaii)

[264] *Tell Timai Egypt 2011 Season*

The 2011 season at Thmuis, a Greco-Roman-Egyptian city in the Nile Delta illuminates Hellenistic occupation. A kiln district revealed manufacture of high quality vessels from imported Aegean clays (3rd to 2nd century BCE), as well as the skeleton of a man killed in a destruction level and a cache of coins and ceramic vessels. Excavations in center of the tell revealed a late Roman red granite statue pedestal and column base. The data 1320 finds and 1900kg of pottery, include statuettes of Isis and Bes.

Littman, Robert [264] *see Silverstein, Jay E.*

Littman, Robert J. [264] *see Haney, Jennifer M.*

Litvak, Matthew [141] *see Webb, William J.*

Liu, Chin-hsin (University of Florida) and John Krigbaum (University of Florida)

[60] *Human lifeways of Metal Age central Thailand: a bioarchaeological assessment*

Metal Age (~1,500B.C.-A.D. 500) central Thai sites are best characterized as diverse and interacting communities that situated on complex terrains and waterways. The region's unique biocultural environment and advanced metallurgy later benefited the development of state. Based on data derived from paleopathological observation and light stable isotope ratio analysis on skeletal remains, human physical health and dietary behavior provide insights on how people interacted with the landscape. The potential impacts of increasing social complexity on human lifeways during Metal Age are evaluated as the consequences of social

differentiation can alter the distribution of and accessibility to key resources.

Liu, Guoxiang [163] *see* **Liu, Li**

Liu, Li (Stanford University), Xingcan Chen (Institute of Archaeology, Chinese Academy of Social Sciences) and Guoxiang Liu (Institute of Archaeology, Chinese Academy of Social Sciences)

[163] *Microscopic investigations of Early Neolithic subsistence in the Xinglongwa culture, Northeast China*
Xinglongwa is among the earliest Neolithic cultures in China in which sedentism emerged and domesticated cereals were a part of the subsistence economy. In order to gain a more holistic view of the economic activities of the Xinglongwa communities, we carried out usewear and residue analyses on stone tools from the Xinglonggou and Xinglongwa sites. The preliminary results indicate that in addition to Paniceae plants, starchy tubers and nuts were also processed for food. The finding suggests that collecting non-cereal foods played a significant role in the early stage of Neolithization in NE China.

[228] *Discussant*

Liu, Yi-Chang [229] *see* **Chiang, Chihhua**

Liu, Yimeng [270] *see* **Reedy, Chandra L.**

Livingood, Sarah V. [29] *see* **Turner, Bethany L.**

Livesay, Alison (University of Oklahoma) and Patricia Gilman (University of Oklahoma)

[116] *Changing Mortuary Practices, Mesoamerican Macaws and Iconography, and the Advent of the Classic Mimbres Period*

Changing mortuary practices may relate to modifications in ritual and iconography. We examine mortuary transformations from the Late Pitohouse (A.D. 750-1000) to the Classic (A.D. 1000-1130) period in the Mimbres region of southwestern New Mexico to see if the timing coincides with the introduction of macaws and iconography, both from Mesoamerica, and to the demise of the Great Kivas. Although burials from both periods are generally below the floors of houses, the number, type, and placement of burial goods changes between the periods. Our investigation, using a mortuary database from several large sites, will be the first to ascertain the extent of the changes.

Livingood, Patrick (University of Oklahoma) and Ann Cordell (Florida Museum of Natural History)

[270] *Digital Image Analysis of Shell Temper from the Moon Site, Arkansas*

This paper will present the methods and results of the analysis of shell-temper in thousands of sherds from the Moon site, Arkansas. The method involves the computer-assisted mapping and measurement of shell-temper from digital images of polished sherd edges. This paper will also present a comparison of results between the digital analysis of temper from sherd edges and the traditional microscopic measurement of temper from thin-sections.

[239] *Discussant*

Llamas, Bastien [156] *see* **Watson, Lucía C.**

Llano, Carina [273] *see* **Gil, Adolfo**

Lobando, Luis [58] *see* **Jimenez, Socorro**

Locascio, William (Flagler College)

[122] *Transformations in the Expression of Status at El Hatillo, Panama*

Evidence gathered during household excavations at El Hatillo, Panama provides a basis for identifying differences in status among families within the village during several points in its occupational history. This permits an examination of changes in the ways that status was recognized and expressed among villagers through time. While remains dating to the last two centuries before the arrival of Spaniards seem consistent with ethnohistoric reports regarding the bases of inequality in the region, earlier evidence suggests that social inequality was initially expressed differently.

Lockard, Gregory (HDR)

[24] *Public Archaeology in Peru: Lessons Learned from the PERU LNG Archaeological Project*

Public archaeology has yet to be recognized as a formal subdiscipline in Peru. Public interest and participation in archaeology, however, is in many ways stronger in Peru than in the U.S. Much of the Peruvian public regularly visit archaeological sites and museums, and local community members participate in most academic and contract archaeological projects. This paper will compare the state of public archaeology in Peru and the U.S. A large-scale contract archaeological project in which the author participated will then be utilized to highlight these differences, as well as to provide lessons learned for improving the practice in both countries.

Lockhart, Jami

[252] *Remote Sensing and GIS in the Central Arkansas River Valley Project*

This paper examines the role of geophysical remote sensing and GIS technology in long-term research and land planning at the Carden Bottoms site (3YE25). Coincident with the start of our investigation of residential areas of the site, the National Resource Conservation Service requested that the Survey provide an archeological impact assessment associated with planting hundreds of trees to create a long-term conservation area. This paper outlines our use of remote sensing and GIS to locate archeological features for protection, to investigate intrasite and regional patterning, and to pinpoint the excavation of multiple prehistoric structures and other cultural features.

Lodeho, Laure [98] *see* **DARRAS, Véronique**

Loebel, Thomas (St. Xavier University) and Mark Seeman (Kent State)

[261] *High Power Microwear and Paleoindian Endscraper Function: A Comparison of Two Spatial Contexts at the Nobles Pond site (33St357), Stark Co., Ohio.*

Hafted unifaces were important components in the toolkits of Late Pleistocene foragers. Although morphometric approaches provide useful insights into the functionality of this tool class, they are no substitute for high-power microwear analyses performed on large samples. We examined 72 endscapers from two spatially

discreet clusters at Nobles Pond. Results show edge wear and polish consistent with highly patterned early stage hide-working and frequent resharpening, suggesting an immediate need to process large numbers of fresh hides. Our study thus helps better frame key dimensions of the time/mobility dynamic for societies tied to key (animal) resources for meat and hides.

Loebel, Thomas [140] *see Lambert, John M.*

Lofaro, Ellen (University of Florida), Danielle Kurin (Vanderbilt University) and John Krigbaum (University of Florida)

[29] *Isotopic Analysis of Chanka Mobility in the Central Highlands of Peru*

The Chanka were historically bracketed by the fall of the Wari and the rise of the Inca (~AD 1000-1450). Thought to be a time of small-scale regional warfare, the dynamic between the Chanka and neighboring groups, however, is poorly understood. To address this issue, strontium, carbon and oxygen isotopes from human tooth enamel (N=44), excavated from four burials areas surrounding present day Andahuaylas, were examined to elucidate geographical origin, diet and climate. When combined with bioarchaeological data including violence, cranial deformation and trepanation, these multi-isotope proxies help to inform Chanka identity and migration patterns.

Logan, Amanda (University of Michigan) and Ann Stahl (University of Victoria)

[92] *Periphery-making on an African edge*

Processes of 'periphery'-making have received less attention in archaeology than processes of political centralization, but have also had strong impacts on the practices of everyday life. In this paper we will explore how Banda, a region in west-central Ghana, moves from an active intermediary in long distance trade to a supplier and consumer of global goods, and becomes peripheralized under colonial rule and with the development of global economies. We examine these shifts through the lens of agricultural, culinary, and domestic practices to address how daily activities and local tastes are restructured and redefined.

[92] *Second Chair*

Logan, Amanda [92] *see Franklin, Kathryn J.*

Logan, Melissa (PaleoResearch Institute, Inc.), Ákos Peto (National Center for Cultural Heritage, The Hungarian National Museum, Budapest, Hungary) and Linda Scott Cummings (PaleoResearch Institute, Inc., Golden, Colorado)

[113] *Got Milk? Evidence for Dairy Processing in Ceramic Vessels from Hungary*

Processing and/or cooking foods in ceramic vessels introduces residues into the fabric of the pot. Analysis of these residues through the use of Fourier Transform Infrared Spectroscopy can yield an abundance of information regarding diet and the role of ceramic vessels in food processing. In regions where ceramics are a major constituent of the archaeological record, organic residue analysis can address temporal and spatial change in food use. Examination of ceramics from several Hungarian sites reflecting Late Copper Age Baden Culture occupations to Arpád age settlements

indicates rather consistent utilization of dairy products and meat in association with ceramic vessels.

Logan, Melissa K. [195] *see Logan, William J.*

Logan, William (Zeiler-Pennock, Inc.) and Melissa K. Logan (PaleoResearch Institute, Inc.)

[195] *The Tilmatlí is Not Just for the Aztecs: The Cape, Gender, and Power in Late Formative West Mexico*
Examination of clothing repertoires depicted in ceramic effigies from Late Formative West Mexico reveals the role of the cape in navigating a dynamic system of complimentary and hierarchical gender-power relations between and within individuals. The cape not only reinforced gender status, but also provided a means by which to declare other identities and elevate social position. Statistically significant associations between the cape and markers of status displayed on the figures indicates kinship and/or lineage ties, as well as social roles affected inherent status differentials between males and females.

Lohse, Jon (Center for Archaeological Studies), Douglas J. Kennett (The Pennsylvania State University), Brendan J. Culleton (The Pennsylvania State University) and Cinda L. Timperley (Center for Archaeological Studies, Texas State University-San Marcos)

[43] *Middle-to-Late Holocene Bison Chronology and Ecology in the South-Central United States*

Since 2009, archaeologists have accumulated chronometric and isotopic data from bison remains recovered from archaeological contexts at Spring Lake in Central Texas and that date from the Middle through Late Holocene. This ongoing effort represents one of the largest regional databases of directly-dated Bison bison available anywhere in North America. We present our approach to using high-precision AMS ¹⁴C dates on XAD-purified bone collagen to construct a precise cultural chronology. We also interpret stable carbon and nitrogen isotope data in light of prehistoric bison herd patterns as well as environmental conditions in this region of North America.

Lombard, Marlize [89] *see Pargeter, Justin H.*

Lomitola, Lisa (University of Central Florida), Arlen Chase (University of Central Florida) and Diane Chase (University of Central Florida)

[70] *Ritual Use of the Human Form: A Contextual Analysis of "Charlie Chaplin" figurines*

Small anthropomorphic figures most often referred to as "Charlie Chaplins" appear in structure caches throughout the Ancient Maya City of Caracol, Belize during the late Preclassic and early Classic period. Often these figures appear within similar cache assemblages and are carved from materials such as shell or jade. Similar figures have been found in other Lowland sites and always in a ritual context. This study examines the contexts in which these figures appear and considers the wider implications for a commonly held ritual belief throughout the Lowlands during the late Preclassic and early Classic period.

Long, Emily (Northern Arizona University)

[65] *Kids and Digs: Promoting Archaeology Education on the Coconino National Forest*

Federal laws cannot teach the public how to appreciate and respect cultural resources on public lands without a mediator. Federal agencies have the opportunity to generate and implement archaeology based education programs highlighting the ethical responsibility of protecting cultural resources. Creating a simulated excavation scenario and other interactive media on the Coconino National Forest for Elden Pueblo provides a space to not only teach excavation techniques and artifact analysis, but also the importance of stewardship.

Longstaffe, Fred [124] *see Morris, Zoe H. [235]* *see Pennycook, Carlie [139]* *see Wells, Emily E.*

Longstaffe, Fred J. [141] *see Booth, Laura*

Looper, Matthew (California State Univ-Chico)

[152] *Costume Correlations in Late Preclassic Mesoamerica*

An important contribution of Dr. Virginia Fields was the recognition of correspondences between the ritual regalia of elites in various cultures of Mesoamerica in the Preclassic period. These correlations provide evidence for historical intercultural exchange as well as the continuities of ritual practice across time and space. This presentation explores the implications of correspondences in Late Preclassic ritual attire depicted in the Maya murals at San Bartolo, Guatemala and the Epi-Olmec stela from La Mojarra, Veracruz, Mexico. It is suggested that these patterns may point to derivation from earlier Olmec prototypes.

Lopez, Jose (Universidad de la República, Uruguay)

[158] *Cultural changes in Pleistocene/Holocene transition in Uruguay and South of Brazil*

Early South America peopling is recorded, between others elements, by Fishtail Projectile Point (FPP) and mega mammals remains. In Uruguay and South of Brazil, a lot of FPP were found in surface archaeological site, often associated with a new type of projectile point, littler, triangular, with stem and wings. An overview of old and new data (cultural, paleoenvironmental and radiocarbon 14C) about early South American sites, permit discuss about environment changes and early regional human adaptations. We discuss also about hunter gatherer mode of production and the role played for Atlantic coast in South America human dispersal models.

López Luján, Leonardo [71] *see Thibodeau, Alyson M.*

Lopez Varela, Sandra (U. Aut. Estado de Morelos)

[201] *Ethnoarchaeological solutions for societies in the future*

Understanding that technology is produced by people who creatively adjust to environmental, social and infrastructural circumstances to solve problems, make choices, and interact with one another to pass on their knowledge, summarizes the legacy of Dean Arnold's ethnoarchaeological research. This premise is shaping a new way of thinking for planning sustainable heritage models, minimizing the effects of development policies in threshold countries as discussed in this paper that would never be able to demonstrate my appreciation and gratitude for Arnold's sharing of his over more than thirty years of sound research.

Lopez-Hurtado, Luis (IEP Instituto de Estudios Peruanos)

[156] *Pachacamac and Panquilma: Power Relationships in the Lurín Valley during the Late Intermediate and Late Horizon Periods*

In this presentation I will discuss the nature of the power relations developed between the central site of Pachacamac and the rural leaders of the communities located in the lower Lurín valley during the late pre-Hispanic periods. Using data recovered from the site of Panquilma located at less than a day's walk up valley from Pachacamac, I will address the nature of the power strategies developed by the rural elites of this small community and whether or not they were influenced by the presence of the coastal ceremonial center.

López-Torrijos, Ricardo [62] *see Rosenswig, Robert M.*

Lopinot, Neal (Missouri State University)

[68] *The La Reconnaissance Site, a Prehistoric Village in the Trinidad Interior*

Archaeological research at La Reconnaissance, a historic cacao plantation in the Northern Mountain Range of Trinidad, has also resulted in the documentation of a prehistoric village dating to ca. cal A.D. 600–900. The prehistoric component is described with respect to its stratigraphy, spatial structure, and material culture. Implications for settlement and adaptive strategies are presented that suggest an upland valley pattern that differs considerably from those of the better-studied coastal sites. Settlement and adaptation strategies intimated for La Reconnaissance can guide future archaeological research programs in other Northern Range valleys as well as other interior portions of the Caribbean.

Lopinot, Neal [76] *see Powell, Gina S.*

Lopiparo, Jeanne (Rhodes College)

[229] *Blood, Seed, Flesh, and Bone: Substances, Structured Deposition, and the Sacralization of Social Houses in the Ulúa Valley, Honduras*

The discovery at Currusté, Honduras, of a complex deposit of smashed, figural incense burners revealed the fundamental associations of a set of substances that were essential to the reproduction of social houses in the Classic period Ulúa Valley. The interment or planting of permanent, transgenerational substances (bones/seed/figural artifacts) represented house property and identity, requiring the complementary burning, destruction, or consumption of ephemeral substances (food/incense/flesh/blood) to perpetuate social groups at multiple scales. The careful deposition of these substances represents the practices through which house members sacralized monumental and household spaces in which the dead actively inhabited living landscapes.

Lore, Robert [76] *see Ryan, Jennifer I.*

Loren, Diana (Peabody Museum, Harvard University)

[23] *The illusion of imperium: visual and material perspectives of colonial Louisiana*

Alexandre de Batz's 1724 watercolors of Native Americans living in the Lower Mississippi Valley were part of an emerging archive of material, corporeal, and

social differences in French Louisiana. While these images created and promoted a certain plan of colonization, the details of colonial materialities are illusory. Most notably, the French and their interactions with Native Americans are invisible in de Batz's artistic vision. In this paper, I explore how these watercolors influenced social and material engagements between French and Native Americans, while probing the anxieties of colonial entanglements found along the margins of this art.

Lorenzo, Cristina (University of Valencia Spain), Gaspar Muñoz Cosme (Universidad Politécnica de Valencia) and María Luisa Vázquez de Ágredos Pascual (Universidad de Valencia)

[58] *The Malaquite Pigment Employed By La Blanca Painters To Decorate The Monumental Architecture Of The Site*

The study of the small traces of polychromy that still remain at the presidential palaces of the Acropolis at the ancient Maya settlement of La Blanca (Department of Peten, Guatemala), used for this purpose diverse microscopic (LM, SEM-EDX, TEM), electroscopic (FTIR), chromatographic (CG-MS) and electrochemical techniques (VMP), has been one of the lines of research of La Blanca Project since its initiation in 2004. The last results obtained in this study indicates that La Blanca painters employed several foreign pigments to decorate these buildings, between them one malaquite green of high quality, probably imported from cooper deposits sited at Michoacan.

Lorvik, Katharina [138] see Dolphin, Alexis E.

Losey, Ashley

[207] *Archaeology, Dendrochronology, and Climate Change at High Rise Village, Wyoming.*

High Rise Village, in Wyoming's Wind River Range, is one of several anomalous high altitude habitation sites in North America and the reasons for its occupation remain unknown. However, the site's climatically sensitive alpine/subalpine setting presents an opportunity to explore climate change as a driving factor for its occupation. Over the last 2000 years, climate fluctuations appear to have fundamentally altered the distribution of Whitebark pine (*Pinus albicaulis*), likely a critical resource for people living in the area. This study explores the magnitude of these changes and how they relate to site use through time.

Losey, Robert (University of Alberta) and Vladimir Bazaliiskii (Irkutsk State University)

[251] *The Bear-able Likeness of Being: Ursine Remains at the Shamanka II Cemetery, Lake Baikal, Siberia*

The Shamanka cemetery contains numerous human graves within which bear head elements and bacula also were interred. We employ an interpretive perspective that posits that animals could be persons, and that bears and humans sometimes were considered ontologically equivalent. As beings with souls, bears required mortuary treatments similar to those given humans. Failure to carry out these treatments could inhibit bears' cosmological regeneration and result in mortal retaliation by other bears. Bears' deaths were drawn-out processes, and bodies and souls remained aware and potentially dangerous. Wearing and consuming bears' body parts

could transform human bodies, sometimes in negative ways.

Losey, Robert [157] see Bazaliiskii, Vladimir I.

Lothrop, Jonathan (New York State Museum) and Graydon Ballard

[268] *The Green-Pauler Site: Two Probable Paleoindian Caches in the Upper Susquehanna Valley*

Paleoindian stone artifact caches are rare in eastern North America. This paper reports on two probable Paleoindian lithic caches, discovered on a late Pleistocene terrace above the Susquehanna River in eastern New York. The Green-Pauler caches include tool blanks and bifaces, with toolstone dominated by probable Pennsylvania jasper. We conclude that these two caches are utilitarian, and that Paleoindians likely imported these artifacts during travels north from Pennsylvania into eastern New York, perhaps via the Delaware Valley. Comparison to late Pleistocene lithic caches elsewhere in North America yields insights on Paleoindian technology and land use in the Northeast.

Loubser, J. [101] see Ashcraft, Scott

Loubser, Johannes (Stratum Unlimited, LLC)

[101] *Graffiti Removal at the Upper Lost Creek Pictograph and Petroglyph Rock Shelter*

The presentation describes graffiti removal from 16 different rock surfaces within the upper rock shelter of the Lost Creek Site complex, Red Rock Canyon National Conservation Area, Clark County, Nevada. The presence of pictographs and a petroglyph called for a careful removal of spray paint graffiti. Requested by the Las Vegas Field Office of the Bureau of Land Management and funded by the Red Rock Canyon Interpretive Association and the Friends of Red Rock Canyon, much time and effort was saved by the involvement of trained volunteers.

Loubser, Johannes [97] see Wettstaed, James

Loughlin, Michael (University of Kentucky), Nicolas Laracuenta (University of Kentucky) and David Pollack (Kentucky Archaeological Survey)

[2] *Terminal Archaic Rituals at the Pierce Site, Kentucky*

The Pierce site (15CU96) is a Terminal Archaic camp site located along a tributary of the Cumberland River in southern Kentucky. Excavations of a large number of features recovered a relatively unique artifact assemblage that includes tubular pipes, copper, and 27 chipped sandstone hoes. Many of the artifacts appear to have been 'cached' or deposited as offerings. We explore the spatial relationships between features, evidence for ritual activities, and the role different artifacts may have played in those activities. We suggest that the Pierce site rituals are in part associated with incipient horticulture and group solidarity.

Loughmiller-Newman, Jennifer (University at Albany, New York) and Jennifer Loughmiller-Newman (University at Albany, New York)

[121] *Maya ritual beverage production: Considering the vessels*

At the height of the Mayan civilization (circa 250-900AD) ritual activities were regularly depicted in artwork, at

times portraying the use of particular ceramic vessels. Archaeologists have recovered vessels that share formal similarities with those depicted in these images. Although there is a growing body of research concerning identification of the contents of those vessels in hieroglyphic texts, their role as the tools and the containers used in ritual preparations is less well understood. The evaluation of ritual beverages, vessels, and people that produced them needs to be reconsidered. This presentation will discuss those vessels related to production of fermented beverages.

Loughmiller-Newman, Jennifer [121] *see* Loughmiller-Newman, Jennifer A.

Lovis, William (Michigan State University)

[16] *Network Maintenance in Big Rough Spaces with Few People: The Labrador Naskapi or Inuu*
Discussions of hunter gatherer network size and composition, incorporating both kin and non-kin relationships, revolve around network organization – its dynamics, varying scales, activation contexts, information content and flow, short and long term maintenance. Many aspects of hunter gatherer networks are strained by low population densities coupled with large spaces and difficult mobility. Here, the practical aspects of network dynamics in such contexts are explored through the cumulative regional ethnography of Labrador. Knowledge of network member movements and locations, and practices designed to minimize individual loss, appear to figure prominently in network preservation. This is facilitated by landscape marking behavior.

Lowe, Lyneth (Centro de Estudios Mayas, UNAM)

[30] *Early exchange and interaction: a view from Chiapa de Corzo, Chiapas, Mexico.*

Recent excavations at Chiapa de Corzo have provided new information on Middle Formative cultural expressions, including public architecture with an E-Group Complex, offerings, and impressive funerary contexts. Being one of the most important regional centers in Southern Mesoamerica, Chiapa de Corzo developed interactions with the Olmec region but maintained the basic elements of local Zoque culture. Certainly, its strategic location at the Grijalva Valley gave it a controlling position on precious exchange goods. Imported ornaments made of jade, amber, pearl, pyrite, and obsidian were part of elite funerary attire since 700 BC indicating a formal participation in early exchange networks.

Lowery, Darrin and Dennis Stanford (Smithsonian Institution)

[225] *Coastal Plain Geology, Marine Transgression, and Geochemistry: An Understanding of Archaeological Patterns along the Delmarva Peninsula, USA*

Long-term investigations have revealed the complex nature of archaeological landscapes within the coastal zone. In this complicated physiographic setting, it is extremely important to address the local geology before attempting any significant archaeological interpretations pertaining to prehistoric demographics, site function, site patterning, and even lithic tool material identification. Lack of a geologic background can result in misconceptions about the timing of human settlement, as

well as regional settlement patterns, subsistence strategies, and even exchange models. Specific site examples from the Delmarva Peninsula will be presented highlighting these claims.

Lozada, Maria (University of Chicago), Kelly Knudson (Arizona State University), Amelia Baxter-Stolzfus (New York University), George Groh (California Academy of Sciences) and Ran Boytner (Institute for Field Research)

[59] *Multiple Lives, Multiple Interpretations: The Ossuary Of Carora*

In 2007, the Tarapacá Project excavated an unusual ossuary in northern Chile. It would have represented the only prehistoric mass burial recorded in this part of the Andes; however, a piece of paper was recovered from the lowest levels suggesting that while the individuals were pre-Hispanic, the ossuary was the result of modern human activities. This ossuary represents an example of a mortuary context that departed from the local norms. This excavation serves as a cautionary tale, underscoring the need to scrutinize the circumstances, both ancient and modern, underlying the departures from normative behavioral patterns in archaeological excavations.

[59] *Second Organizer*

Luan, Fengshi [163] *see* Fang, Hui **[60]** *see* Dong, Yu

Lubinski, Patrick (Central Washington University)

[234] *What is Adequate Evidence for Mass Procurement of Ungulates in Zooarchaeology?*

For more than 40 years, zooarchaeologists have explored possible criteria for distinguishing ungulate mass procurement (killing of many animals in one event) from bonebed sites. However, beyond age distributions, there has been little debate about what evidence is sufficient to accept the hypothesis of mass procurement. Here I discuss possible lines of evidence under the broad categories of threshold bone count, human-caused mortality, single depositional episode, and single mortality event. I argue that none of these is adequate by itself, but acceptable proof might emerge from multiple, converging lines of evidence.

Luke, Christina [99] *see* Curtis, Caitlin L.

Lukowski, Susan (Washington State University) and Colin Grier (Washington State University)

[141] *There is Something Fishy with My Faunal Data: A Comparison of Faunal Quantification Measures for a Northwest Coast Plankhouse*

Pacific Northwest Coast archaeological sites often produce complex faunal assemblages replete with large numbers of fish remains. Archaeologists struggle to appropriately quantify and analyze these assemblages due to their broad taxonomic diversity, the disparate size classes of fauna represented, and behavioral variables stemming from a variety of harvest techniques. Using the faunal assemblage from the Dionisio Point Site (DgRv-003) in coastal southwestern British Columbia, we consider differences and similarities in taxonomic representation across multiple quantification measures and approaches. We argue that interpretations that draw on multiple measures provide for more robust interpretations of the complexity of Northwest Coast

household economies.

Lull, Vicente (Universitat Autònoma de Barcelona)

[265] *Marx and Archaeological Categories*

Archaeological research based upon the texts of Marx does not constitute a unified trend. Some approaches deal with Marxism as if it would be a consciously ideologically embedded interpretative perspective about the social world. The nature of the connections between archaeological remains and the concepts and categories used is rarely considered or, if ever questioned, assumed as a consequence of the necessary 'point of view' inherent to each social perspective. A different approach attempts to construct archaeological arguments on transitive relationships between objects and categories in such a way, that not everything will work when talking about the past.

Luna Erreguerena, Pilar [41] see Rissolo, Dominique

Lunn, Anna (Weaver & Associates, LLC)

[197] *The Changing Face of Archaeology: An*

Introduction to the New Deal in the Tennessee Valley

During the New Deal era, hundreds of archaeological sites throughout the Tennessee Valley were excavated as part of various federal relief programs. These investigations had, and continue to have, a lasting impact on regional history, archaeological theory, and modern excavation methods. This paper provides a brief overview of the New Deal in the Tennessee Valley, outlines significant contributions of the era to the field of archaeology, and serves as an introduction to the symposium.

[197] *First Chair*

Lunn, Anna [45] see Blazier, Jeremy W. [173] see Cyr, Howard J.

Lupo, Karen (Washington State University) and Dave Schmitt (Desert Research Institute)

[89] *Toxic Technology: The Implications of the Ethnographic Record of Poisoned Points on Zooarchaeological Assemblages and Projectile Technology*

The use of poisons as an adjunctive to projectile technologies is widespread in the ethnographic record. But current ideas about how and why projectile technologies spread and influenced prehistoric foraging efficiency rarely consider the additional effects associated with the use of toxic substances. In this paper, we use the ethnographic record to explore how the use of poisoned projectiles influenced the handling costs of different kinds of taxa and its impact on zooarchaeological assemblages. We suggest that some changes in projectile characteristics might be explained by the emergence of and changes in the efficacy of hunting poisons over time.

Lupo, Karen [38] see Kiahtipes, Christopher A. [157] see Schmitt, Dave

Luzzadder-Beach, Sheryl (George Mason University), Timothy Beach (Georgetown University), Jonathan Flood (George Mason University) and Scott Hutson (University of Kentucky)

[167] *Living on the Edge of the World:*

Hydrogeoarchaeology of the Chunchucmil and Uci-Cansahcab Maya Sites

Resource Sustainability was an important theme in Bruce Dahlin's archaeological research. His Chunchucmil and Pak Beh projects explored a sprawling ancient Maya settlement in the resource poor karstic plain of NW Yucatan, on the edge of the Chicxulub Impact Crater. This paper revisits the water resources of Chunchucmil, and compares its supply to that of similarly situated sites on the northeast side of the crater's Ring of Cenotes, Uci and Cansahcab. We compare accessibility, quantity, and quality for these ancient settlements' water supplies, and upon which many thousand people in the modern towns of Chunchucmil and Motul depend today.

[167] *Second Organizer*

Luzzadder-Beach, Sheryl [167] see Beach, Timothy [66] see Flood, Jonathan M. [167] see Dunning, Nicholas P.

Lyall, Victoria

[275] *Contextualizing the Mural Programs of Chichen Itza*

The transformation of the visual language of Northern Yucatecan mural painting during the Terminal Classic period reflects northern communities' distancing from southern modes of expression during this turbulent time. The increased use of Yucatecan in local texts parallels the murals' emphasis on place, the experimentation with space, and a more picture-based narrative culminating in the paintings of Chichen Itza. I propose that Chichen Itza's mural programs must be viewed in the context of Northern Lowland regional painting as their artistic innovations grow out of the northern tradition and represent the apogee of the visual vernacular.

Lyall, Victoria [152] see Guernsey, Julia

Lydecker, Andrew (Panamerican Consultants, Inc.) and Chester P. Walker (Archaeo-Geophysical Associates, LLC)

[76] *Multiple Sensor Geophysical Survey at the Rolling Fork Mounds, Sharkey County, Mississippi*

In 2010, Archaeo-Geophysical Associates conducted multiple sensor survey at the Rolling Fork Mounds, 22SH506, a late Mississippian mound complex and village in the lower Mississippi Delta. Under contract to the USACE, Vicksburg District and Panamerican Consultants, geophysical survey using a combination of GPR, magnetometry, conductivity, and resistivity was successfully used to help select an area for Phase III excavation. The geophysical survey was especially successful in locating general areas with magnetic enhancement indicating the presence of subsurface feature clusters, both historic and prehistoric.

Lydon, Scott (California State University, East Bay)

[188] *An Archaeology of Graffiti: A General History of Street Murals and Graffiti in Salinas, California*

This study sought to document, assess, and interpret the material culture of urban art by way of a GIS survey of Chicano youth graffiti and street murals in Salinas, California. Some 500 sites were geo-coded, photographed, and systematically subjected to critical content analysis. The analysis sought to measure the

frequency of Precolumbian motifs represented in Salinas graffiti and street murals. Ultimately, findings reveal that 95.5% of those graffiti elements, logos, or emblems identified were produced by graffiti tagging crews or taggers. Overtly gang-related graffiti composed only 4.5% of the total sample, whereas, 60% of street murals exhibited Aztec or Mayan motifs.

Lyman, R. (University of Missouri Co)

[241] *Robert C. Dunnell and Archaeological Systematics* Robert C. Dunnell's 1971 "Systematics in Prehistory" is the first book-length treatment of this fundamental step of archaeological analysis. Only four subsequent books are devoted to the topic. Introductory textbooks on archaeology spend on average fewer than five percent of their pages to classification, and advanced texts on archaeological method and theory devote on average less than three percent of their pages to the topic. Clearly, archaeological systematics is perceived as uninteresting, descriptive, and not very sexy. As Dunnell argued years ago, this perception must change if archaeology is to be scientific and to advance our knowledge of humankind's past.

[96] *Discussant*

Lynch, Daniel [67] *see Hart, Siobhan*

Lynch, Elizabeth (University of Wyoming), Laura Holthus (University of Wyoming) and Susan Simons [171] *Does size really matter? An investigation of inter-observer error rate in the field recording of bedrock grinding surfaces in southeastern Colorado.*

The canyon landscape of southeastern Colorado houses a complex distribution of grinding surfaces created between 2500 to 600 years ago on exposed sandstone boulders in rockshelters and along canyon rims. These work spaces represent an important, yet under-studied, aspect of the archaeological record in this region. Archaeologists who document these features record the length, width and basin depth. Level of training and experience recording groundstone differs among archaeologists. This paper tests the hypothesis that there is error between measurements of individual recorders and provides suggestions about how to best incorporate existing data into a regional study of bedrock ground surfaces.

Lynch, Joshua (Center for the Study of the First Americans)

[169] *The 2011 Archaeology Survey of the Upper Tanana River Basin, Alaska*

The middle Tanana valley of central Alaska has long been regarded as a hotbed of late Pleistocene-early Holocene archaeology; however, the upper Tanana basin has not been thoroughly investigated. In 2011 archaeologists from the Center for the Study of the First Americans initiated an archaeological survey of the Tanana's two major tributaries—the Nabesna and Chisana rivers. We recorded 10 prehistoric sites. Tests yielded lithic artifacts and faunal remains in stratified and datable contexts reaching up to 5 m thick. This poster presents details on the sites, including their stratigraphic contexts, radiocarbon ages, and archaeological contents.

Lynott, Mark (National Park Service), Rolfe Mandel (Kansas Geological Survey), James

Brown (Northwestern University) and Bret Ruby (National Park Service)

[124] *Earthen Monument Construction at Mound City, Ross County, Ohio: 2009-2011 Investigations* Investigations in 2009 through 2011 have yielded important new data about the construction of the embankment wall, borrow pits and mounds at Mound City in Ohio. Geophysical survey, geoarchaeology and archaeological testing have produced evidence of widespread truncation of the upper soil profile prior to the construction of earthen landmark features. The evidence indicates that earthen features were carefully constructed using geo-engineering principles, and the borrow pits and embankment wall represent the final episode of monument building at this site. More reliable radiocarbon dates are needed, but current results reflect at least four centuries of Middle Woodland activities.

Lyons, Kevin [207] *see Hicks, Brent*

Lyons, Patrick (Arizona State Museum)

[154] *A Behavioral Archaeology of Ancient Migrations* Over the last two decades, migration has again become an important focus of research by anthropological archaeologists. This is especially true in the US Southwest, where population movements and their causes and consequences are subjects of intensive study. In this paper, I examine recent developments in theory and method relating to the archaeology of ancient migration. I highlight contributions made possible by the "conceptual scheme" of Behavioral Archaeology, established by Michael Schiffer. Key points of discussion include correlates, life history analysis, cultural transmission, and María Nieves Zedeño's "tridimensional approach" to ceramic circulation, which entails simultaneously investigating style, technology, and provenance.

[48] *Discussant*

M. Ulrich, Kristi [33] *see Tomka, Steve A.*

Ma, Xiaolin [60] *see Pechenkina, Ekaterina [60]* *see Pike-Tay, Anne*

MacEachern, Scott (Bowdoin College)

[108] *Monumentality in a monumental landscape: the DGB sites of northern Cameroon*

The sixteen DGB sites are complexes of dry-stone architecture located on the slopes of the northwestern Mandara Mountains, in northern Cameroon. The two largest, DGB-1 and DGB-2, are contemporary and form a single monumental site complex over an area of about 2.5 ha; the others are significantly smaller. The functions of the DGB sites are not well understood, but they exist in an intensely-occupied human environment also dominated by dry-stone terrace architecture, albeit an architecture with different characteristics. This paper will consider the trajectories of development of these important archaeological sites in a developing Mandara human landscape.

Machicado, Eduardo (University of Cambridge)

[238] *Continuity or Transformation? 3500 years of Burial Practices in the Southern Lake Titicaca Basin, Bolivia* Between the XIV and XVI centuries, mummified bodies were the focus of social reproduction among Andean

communities. This cult was materialized in specific forms of architecture and social practice. The relationship between ancestor worship and political life was considered a long-lived Andean trait, however new data question this assertion. In this study, I review available information on burial practices in the southern Lake Titicaca Basin, particularly the Taraco Peninsula, Bolivia. I hypothesize that the relationship between the dead and politics constantly changed throughout the centuries.

Machicek, Michelle (Smithsonian Institution)

[60] *Highlighting Variation in Nomadic Pastoralist Subsistence Regimes from the Inner Asian Steppes*

This study presents the reconstruction of dietary patterns and subsistence regimes through the chemical analysis of human and faunal skeletal remains. Presented here are the results of stable isotope analyses from archaeological sites located throughout Mongolia. The focus of this research examines patterns in dietary regimes from populations that are commonly considered to be nomadic pastoralists. These results provide a more comprehensive view of direct dietary intake and indicate that the early communities of this region undertook subsistence strategies that varied locally between time and place. This work examines the implications for these findings and discusses areas for further consideration.

MacIntosh, Sarah

[84] *Assessment Of The Cortex Ratio Model With An Epipaleolithic Assemblage From Jordan*

Archaeological assemblages have been long discussed regarding their intensity in cortex reduction and artifact transport. The cortex model proposed by Dibble et al., "The Measurement and Interpretation of Cortex in Lithic Assemblages" in *American Antiquity* (2005) provided a successful geometric method to quantify the expected and observed amount of cortex in a particular assemblage. To further test the model, the Early Epipaleolithic occupation (Area C) at the site of Yutit al-Hasa was selected to quantify the cortex ratio and prove, along with other evidence, that the occupation site at Yutit al-Hasa was indeed a temporary one during the Epipaleolithic.

Mack, Joanne (University of Notre Dame)

[171] *Rock Features of the Upper Klamath River, California and Oregon*

Rock Features are common in the High Cascades of northern California and the Pacific Northwest. Though some are undoubtedly the result of vision quests and other religious activity during pre-contact and historic times, some can be associated with food storage. Some are also the result of Euro-American activity. Therefore, not all rock features had a sacred purpose. Within Shasta Territory storage features and burial features can be associated with rock features.

Mackay, Alex [83] see Schwortz, Steve

MacKinnon, Michael (University of Winnipeg)

[157] *The Breeding and Treatment of Pet Dogs in Roman Antiquity: Synthetic Assessments Linking*

Zooarchaeological, Ancient Textual and Artistic Data Integration of zooarchaeological, ancient textual, and artistic evidence provides a more holistic assessment of the distribution, perception, and treatment of small pet

dogs during Roman antiquity. Smaller breeds register first in Roman cities, reflecting trade networks and urban elite demand. Osteologically, they often record multiple pathological conditions, but also display signs of greater human care. Nitrogen isotopic data indicate higher trophic levels for smaller breeds, presumably with a larger measure of dietary meat, and perhaps fish. Special treatment also surfaces in terms of burial and ritual, with greater attention placed on venerating such breeds in funerary monuments and special graves.

Macpherson, Gwen [37] see Johnson, William C.

Macrae, Scott A. [203] see Lamoureux St-Hilaire, Maxime

MacWilliams, A.C. [183] see Hard, Robert J. [183] see Roney, John

Madden, Gwyn (Grand Valley State University), Elizabeth R. Arnold (Grand Valley State University), Jordan K. Karsten (SUNY Albany) and Stanley H. Ambrose (University of Illinois, Urbana-Champaign)

[5] *Isotopic Analysis in the Re-Proveniencing of Undocumented Human Mummified Remains*

Four un-provenienced human mummified remains, housed in the collection at the Anatomical Institute at the University of Oslo, were observed to re-establish cultural affiliation in time and space. A preliminary attempt was made to provenience the remains using artifact analysis and body positioning suggesting a Paracas and Nazca cultural provenience. It is expected that current strontium isotope analysis will further refine this determination. Carbon, nitrogen, and oxygen isotopes were also examined for comparative purposes.

Madden, Gwyn [176] see Karsten, Jordan K.

Madsen, Mark (University of Washington)

[160] *Improving the Fit Between Model and Data: Extreme Value Analysis of Unbiased Transmission*

Increasingly, neutral models form the basis for explanatory models in archaeology. Many of these models assume that class frequencies represent a synchronic sample. The assumption, however, is rarely justifiable since archaeological deposits are time-transgressive, and the result of time-averaging changes the distribution of observables. Class richness, for example, is an additive "maximum" value for accretional assemblages. Class frequencies, therefore, should be modeled using extreme value distributions of transmission processes, not central limit behavior. This change points to improvements that can be made to numerical methods that evaluate frequency expectations due to random copying.

Madsen, Mark [241] see Lipo, Carl P.

Maestri, Nicoletta (University of California, Riverside)

[191] *Across the River and into the Trees: Preliminary Results of the Investigations at Boca Chinikihá, a Maya Site on the Usumacinta River*

This paper presents the preliminary results of the recent archaeological investigations at Boca Chinikihá, a secondary Maya center on the banks of the Usumacinta

and Chinikihá rivers, in Tabasco, Mexico. I address the role of Boca Chinikihá as a possible riverine port, as well as discuss its social and economic connections within the multifaceted political landscape of the middle Usumacinta river by drawing on excavations and the artifact data, along with settlement layout analysis and comparisons with other centers in the area.

Magdaleno Olmos, Roberto [22] *see Manahan, T. Kam*

Maggard, Greg (Kentucky Archaeological Survey)
[231] *Re-evaluating Early Lithic Traditions on the North Coast of Perú*

On Peru's North Coast, the earliest documented lithic traditions are collectively known as the El Palto Phase (~13,800-9,800 calBP). These traditions include early unifacial assemblages, and Fishtail and Paiján complexes. Recent study of El Palto phase sites in the lower Jequetepeque Valley focused on evaluating the interrelationship between these assemblages and the populations who manufactured them. The results of this study indicate a greater degree of intra-type diversity than previously recognized, call into question the descendant relationships between Fishtail and Paiján, and provide new insights regarding early settlement in this region of the Central Andes.

Maggard, Greg [124] *see Sharp, William E.*

Magnoni, Aline (Tulane University) and Anthony Ranere (Temple University)

[128] *Bruce Dahlin in Context: A Peripatetic Scholar on the Ancient Maya and Beyond.*

After being a US Navy Deep Sea Diving Officer, Bruce Dahlin decided to become an archaeologist and participated in excavations in Cyprus, Panama, Belize, Guatemala, El Salvador, and Pakistan. His research projects El Mirador, Guatemala and Chunchucmil, Yucatan, together with his research on ancient Maya marketplaces and the paleoclimatic research in Yucatecan lakes and on cave speleothems have yielded a wealth of valuable information on ancient Maya political economy, subsistence, cultural and environmental interactions, and paleoclimate. This paper presents Bruce's intellectual contributions to archaeology and paleoenvironmental research, and discusses the impact and future directions of the interdisciplinary projects he guided.

[128] *First Chair*

Mahaney, Robert [139] *see Spencer, Susan D. [114]*
see Herrmann, Edward

Maher, Lisa A. [228] *see Richter, Tobias*

Maher, Ruth (William Paterson University)

[263] *One if by land, two if by sea: the symbology of horse and boat inclusions in the pre-Christian burials of Iceland.*

The pre-Christian (late 9th century to c. AD1000) burials of Iceland have a large number of horses included in the burial record as well as at least eight boat burials. Both inclusions represent functional, political and symbolic levels of burial customs and rites; but do they both hold the same meanings and significance for the Icelandic burial context and should they carry different weights

during analysis? The horses and boats are examined on all three levels based on their own merits within the Icelandic context and new possibilities presented for the spaces between life and death.

Mahoney, Maureen (Seminole Tribe of Florida THPO)

[9] *Elevated living in South Florida: New Investigations into Settlement Activities in South Florida's Tree Islands*
Prior to the draining of the Everglades, South Florida's tree islands were the highest elevated and one of the few dry areas. These islands were rarely inundated and therefore, served as habitation zones for people throughout the prehistoric and historic periods. Although people regularly settled on these islands due to their higher elevation, they did not establish their camp or village following the same guidelines. This study will not only illustrate that higher elevation was insignificant in determining the layout of settlements, but will also discuss how people relied more heavily on environmental variables when constructing their camp or village.

Maillo, Jean-Michel (ArchaeoVision Consulting) and Richard Callaghan (University of Calgary)

[276] *Using Ground Penetrating Radar on the island of St. Vincent, West Indies*

In the winter of 2011 ground penetrating radar was used for the first time on St. Vincent in the southern Lesser Antilles in the Caribbean on two locations. While GPR has been used before in the region the results have been variable. The goals of the survey were to investigate community structure and to test the efficacy of GPR on the island. The two sites tested were the Arnos Vale Swamp site, dating to around AD 400, and the Arnos Vale Field Site, dating from ca. AD 400–1200. Numerous non-geological features were detected and then tested through excavation.

Mainland, Ingrid, Jane Downes (University of the Highlands and Islands/Orkney College) and Julie Gibson (University of the Highlands and Islands/Orkney Isles Council)

[86] *A 'bleak and unpropitious climate': sustainable societies and practises in the prehistoric and early historic Highlands and Islands of Scotland*

The Highlands & Islands region of Scotland, by virtue of its location on the 'edge' of Europe and its predominately upland and maritime environment has often been considered socially or economically 'marginal'; yet at various times in the past it has assumed a central role in European and North Atlantic society. Illustrated by examples from the Neolithic/Bronze age and early historic periods, this paper applies an interdisciplinary approach combining archaeological and palaeoenvironmental evidence at diverse spatial/temporal scales to provide insights into sustainability, marginality and innovation not only in the past but for the sustainability of modern communities in this region.

Makarewicz, Cheryl (Christian Albrechts University, Kiel)

[228] *Breaking the chains of kinship: Re-forging the links between Neolithic social structure and economic change*
The so-called process of Neolithization is frequently associated with the development of a complex social structure centered on households and lineage-based

Houses. This model of Neolithic social organization, which is heavily rooted in the structure of later agro-pastoral societies, places primacy on kinship as a way of mobilizing labor. This emphasis on household and kin, which ignores more fluid forms of social organization and task group formation common to hunter-gatherers, and hinders our understanding of how novel developments in ideologies and plant and animal technologies emerged and evolved at varying tempos and forms across the region.

[228] *First Chair*

Makowski, Krzysztof

[156] *The temples of Pachacamac and the inca imperial ideology*

Excavations under the direction of the author carried out during the 2009, 2010, and 2011 field seasons have revealed that the first wall surrounding the temples attributed to Pachacamac and the Sun-Punchao (Old Temple and Painted Temple respectively), was built during the late Late Horizon, was accompanied by adjacent structures to the south, and was never completed. These newly revealed features, the stratigraphic relationship between the two temples attributed to Pachacamac, and the iconographic program of the Painted Temple call for a revision of the hypothesis that argues for the local origin of the Pachacamac cult.

[156] *Discussant*

Makowski, Krzysztof [156] *see Watson, Lucía C.* [156] *see Gerdau-Radonic, Karina* [156] *see Oré Menéndez, Gabriela* [156] *see Jiménez Moscoll, Milagritos R.* [156] *see Alexandrino Ocaña, Grace E.*

Malainey, Mary (Brandon University) and Timothy Figol (Brandon University)

[64] *Functional Analysis of Partially Reconstructed Vessels from Western Canada*

Shape, size and contents are strongly correlated to vessel function but whole vessels are rarely recovered and few ethnographic accounts of pottery use exist for Western Canada. In this study, computer-assisted design (CAD) is used to create three-dimensional models allowing for morphological analysis of whole pots. The former vessel contents are established through lipid residue analysis on the basis of relative fatty acid composition and the occurrence of biomarkers and triacylglycerols using high temperature gas chromatography (HT-GC) alone and with mass spectrometry (HT-GC/MS). Intra- and inter-site comparisons of pottery assemblages from Saskatchewan and Manitoba are presented.

[64] *First Chair*

Malakie, Julia (University of Washington)

[95] *Multi-scalar Cultural Connections at Khao Sam Kaeo*
Khao Sam Kaeo, an Iron Age industrial site and settlement on the east coast of the Thai-Malay Peninsula, shows definite evidence of participation in the regional trade networks connecting the Indian Ocean and South China Sea. This work focuses on the extent to which diverse cultural groups were living together and interacting at the local/site scale. I use advanced GIS, statistics, and spatial analysis to evaluate the presence of distinct ethnic communities within the site itself, as well as assess the permeability of those community

boundaries.

Maldonado, Blanca (Colegio De Michoacan, Mexico)
[98] *Metallurgy and the Prestige System of the Tarascan State*

Mesoamerican societies were characterized by a highly complex organization with relatively simple technologies. Although the region experienced major cultural transformations, technology proved surprisingly persistent. A reason for this may be the role of the prestige system as a regulator. The development and control of metallurgy was a critical factor in the consolidation of the ruling dynasty in the Tarascan Empire. The present paper uses multiple lines of evidence to address prehispanic copper production in ancient Michoacán. The aim is to gain a better understanding of the dynamics of technology and political economy in the Tarascan state.

Maldonado, Ronald (Navajo Nation Historic Preservation Dept)

[31] *Preservation on the Navajo Reservation, Who decides?*

On the Navajo Reservation there exists a conflict between tribal code, which mandates that all research benefit the Navajo people, and those who perform the research. Who decides preservation on the Navajo Reservation, is it the Tribal Historic Preservation Officer, the archaeologist, or tribal code? Does conflict create a biased view of preservation or does it reflect the view of a Tribal Nation, thus creating a revisionist history of Native America.

Malischke, LisaMarie (Southeast Archeological Center/Univ of Alabama)

[34] *La Louisiane and the Illinois Country: Initial Observations on Variations in French Colonial Cultural Interactions*

French cultural interactions within the Illinois Country and Louisiana varied by people, politics, and economics. Northern forts maintained alliances and were a barrier to encroaching English. These mandates never dominated southern fort practices. The northern economy was harvested beaver skins. Southern settlements established tobacco plantations requiring much time and labor. Northern forts were peopled with hardy French-Canadians and surrounded by autonomous, seasonally mobile Native groups. Southern settlements were peopled with unprepared French citizens. The Natchez were culturally and organizationally different from northern tribes. Suggestions will be offered as to how these differences may be reflected in the material record.

Malkinson, Dan [234] *see nachmias, amnon* [234] *see Nadel, Dani*

Malyk-Selivanova, Natalia, Gail Ashley, Michael Glascok and Hector Neff

[127] *Geochemical database and its application for chert provenance: Northwestern Alaska.*

Chert sourcing is based on concept that artifact and geological source have identical geological history and geochemical signatures. A regional database of geochemical signatures is a cornerstone of this. A database should include: major, minor, trace and rare earth element concentrations; elemental ratios;

statistically obtained diagrams of geochemical fields and confidence intervals. Correlation of artifacts with their sources involves plotting of artifact data on outcrop geochemical fields and progressive selection/delineation of the source. Geochemical sourcing of chert artifacts from prehistoric sites in northwestern Alaska resulted in correlation of fifty one artifacts with four outcrops in the Western Brooks Range.

Manahan, T. (Kent State University), Azucena Cervantes Reyes and Roberto Magdaleno Olmos (UNAM)

[22] *The Dynamics of Transformation at a Late-Terminal Classic household at Xuenkal, Yucatan*

The ancient Maya center of Xuenkal, Yucatan, located halfway between Chichen Itza and its north coast port of Isla Cerritos, contains significant occupations associated with Cehpech and Sotuta spheres in discrete contexts spanning the Late Classic – Terminal Classic transition. Recent excavations in an elite residential group detail extensive transformations in architecture, function, and use between occupations. These findings suggest that the relationship between Chichen Itza and its neighbors was more nuanced than current models contend. The data from Xuenkal demonstrate that the primate center's effects were experienced asymmetrically across sociopolitical and economic boundaries.

Manahan, T. Kam [58] *see Stockton, Trent*

Mandel, Rolfe (Kansas Geological Survey)

[20] *The Search for Paleoindian and Pre-Paleoindian Sites in the Central Great Plains of North America: A Soils-Geomorphic Approach*

Results of a systematic study of late-Quaternary landscape evolution in the Central Plains suggests that the low number of recorded Paleoindian and pre-Paleoindian sites in the region is a product of the filtering effects of geomorphic processes. Specifically, the geomorphic settings that would have been most attractive to the region's early residents—stream valleys and playas—were zones of slow sedimentation accompanied by pedogenesis during the terminal Pleistocene and early Holocene, and rapid sedimentation after ca. 8000 B.P., resulting in deep burial. Exploration of those buried landscapes has yielded stratified Early Paleoindian cultural deposits and evidence of possible pre-Paleoindian occupations.

Mandel, Rolfe [37] *see Murphy, Laura R. [124]* *see Lynott, Mark J.*

Manne, Tiina [135] *see Bicho, Nuno*

Mannino, Marcello (Max Planck Institute for Evolutionary Anthropology), Antonio Tagliacozzo (Museo Nazionale Preistorico ed Etnografico "Luigi Pigorini", Rome, Italy), Vincenzo Formicola (Università di Pisa, Pisa, Italy), Elisabetta Starnini (Soprintendenza per i Beni Archeologici della Liguria, Genova, Italy) and Michael P. Richards (Max Planck Institute for Evolutionary Anthropology, Leipzig, Germany & University of British Columbia, Vancouver, Canada)

[176] *Mediterranean human diets in the Late Pleistocene: an isotopic study of the Upper Paleolithic*

hunter-gatherers buried at the Arene Candide cave in Liguria (Italy)

Hunter-gatherers of the Mediterranean Basin intensified, diversified and specialized their subsistence strategies to increase food acquisition during the Late Pleistocene. The role played by marine and plant foods in this process is, however, poorly understood. Carbon and nitrogen isotope analyses have been undertaken on the bone collagen of Upper Paleolithic humans buried at the Arene Candide cave (Italy) to evaluate the contribution of terrestrial, freshwater and marine protein to their diets. Preliminary results indicate that these hunter-gatherers relied heavily on terrestrial herbivores till the end of the Pleistocene and that aquatic, including marine, foods might have occasionally been consumed.

Manzanilla, Linda [58] *see Vazquez De Agredos Pascual, Maria Luisa*

Marcelo Castillo, Henry [150] *see Creamer, Winifred*

Marchand, Grégor [75] *see Tresset, Anne*

Marciniak, Arkadiusz (Institute of Prehistory, University of Poznan)

[209] *Teaching of Archaeological Heritage in the Distance Learning Environment*

The paper aims to present an overview of experience in teaching archaeological heritage in the distance learning environment based upon e-learning course 'Archaeology in contemporary Europe'. In particular, it will discuss content of the training in the light of changing perspectives on archaeological heritage, strategies of content delivery, use of interactive multimedia e-learning modules in the learning process, overview of didactic process among different target groups such as graduate and extramural students as well as employees of the archaeological heritage sector. The paper will then discussed strengths and weaknesses of this method of content delivery in archaeology and archaeological heritage.

Marccone, Giancarlo (University of Pittsburgh)

[156] *Lote B, Pachacamac y el valle de Lurín al comienzo del horizonte Medio*

El sitio de Lote B, es el primer sitio asociado a la cultura Lima excavado en el valle de Lurín fuera del Santuario de Pachacamac. Aunque por su cercanía es muy probable que estuvieran íntimamente relacionados. Nuestras excavaciones nos permitió reconstruir la economía domestica y estrategias políticas de una elite rural asentada en el sitio. En base a estas reconstrucciones, el presente papel evaluara al nivel del sitio las hipótesis actuales sobre el desarrollo socio-político del valle de Lurín, el papel del santuario y rol de la interacción costa-sierra en los cambios reconocidos entre el final del intermedio Temprano y el inicio del Horizonte medio. Concluimos que en general, la falta de trabajos a nivel de sitio para este periodo ha contribuido a perpetuar ideas basadas en reconstrucciones netamente teóricas con poca base empírica. Construidas en base a datos etnohistóricos y proyectadas irreflexivamente al pasado.

Marccone, Giancarlo [39] *see Stich, Kyle*

Marcoux, Jon (coux5821)

[197] *Utilizing New Deal Data to Explore the Timing and Tempo of Mississippian Political Centralization in the Middle Tennessee River Valley*

We know very little about late prehistoric Mississippian culture in the Middle Tennessee River valley of northern Alabama despite the role these societies played in forging the social, political, and economic landscape of the region. In this paper, I utilize datasets from New Deal excavations at the Walling II site and the Hobb's Island site to determine the timing and tempo of political centralization in the region. I also discuss how the excavations at these sites represent different ends of the spectrum in regard to the variable quality of depression-era excavations, reporting, and records curation.

Marek-Martinez, Ora (NAVAJO NATION HPD-RPP)

[31] *Archaeology For, By and With the People: The Navajo Nation case.*

The Navajo Nation THPO has been established for over 15 years and is one of the largest Native American historic preservation departments in the country. The Navajo Nation THPO has taken a three-prong approach when managing tribal resources by utilizing archaeological, anthropological, and ethnographical methods to locate, manage, and protect tribal cultural resources. For the past three years, I have conducted research at the Navajo Nation THPO, and have found that although the three-prong approach has been effective in the past, the Navajo public has become increasingly dissatisfied with the approach and are demanding changes. This paper examines those issues.

Margaris, Amy [159] organizer**Marin-Arroyo, Ana (University of Cambridge)**

[75] *Remarkable paleoeconomic changes during the Mesolithic in the Cantabrian coast, Northern Spain*

The Mesolithic of the Cantabrian Coast (northern Spain) was characterized by an apparent cultural and economic impoverishment that implied a reduction in human mobility and the abandonment of interior valleys in favour of coastal areas. In terms of subsistence, the diet broadened including a wide range of previously low-ranked prey, such as fast moving or dangerous animals and marine resources. This radical change has been explained both by a demographic crisis and by an environmental shift. The archaeozoological and taphonomical analysis of macromammalian fauna from two shell middens -Mazaculos Rockshelter and La Fragua Cave- are presented here.

Marken, Damien [151] see Eppich, Keith**Markofsky, Steve (University College London)**

[200] *When Survey Goes East: Investigating the Applicability of Survey Methodology and Research Frameworks in a Central Asian Context*

This paper discusses intensive survey in the Murghab Delta, Turkmenistan, in light of other research frameworks that characterise recent surveys. While intensive surveys have offered much new information, these are often situated within familiar archaeological contexts. But what happens we apply the established frameworks to completely different regions? Do the familiar approaches even apply? The Murghab delta is a

unique survey environment, located in a visually obstructed zone often not amenable to methods of survey-based enquiry that may be effective elsewhere. The implications both for interpretation and transferable methodologies are explored in this paper.

Marks, Theodore (The University of Iowa)

[6] *Geoarchaeological Investigations at Erb Tanks Rockshelter, Central Namib Desert, Namibia*

This poster presents results of geoarchaeological investigations at the Middle and Later Stone Age site of Erb Tanks, a rockshelter in the Namib Desert, Namibia. This site is an unusual combination of rockshelter, pond, aeolian and anthropogenic depositional contexts in a hyper-arid climate with a sedimentary record preserving evidence of early modern human/environment interaction. As such, Erb Tanks demonstrates long-term occupation across extremely arid pulses during the Upper Pleistocene. This suggests that early modern humans possessed both technologies and behavioral strategies that allowed them to occupy arid regions of sub-Saharan Africa throughout the Upper Pleistocene.

Markussen, Christine and John Pouncett (Institute of Archaeology, University of Oxford)

[173] *A Reflexive Approach to Topographic Survey and Near Surface Geophysics*

Ongoing archaeological research at Moel-y-Gaer, Bodfari, an Iron Age hillfort in North Wales, yields multiple datasets that contribute different information to the understanding of the site. Analysis of LIDAR data and derivatives of elevation reveals a disparity between existing plans of the hillfort and the earthworks visible on the ground. Topographic and geophysical survey identify possible house platforms within the interior of the hillfort and previously unrecorded sections of rampart. Interpretation of the respective datasets is a reflexive process which provides a invaluable insight into both the nature of the site and the character of Welsh hillforts.

Markussen, Christine [9] see Pouncett, John**Marler, Clayton [169] see Keene, Joshua L.****Marquardt, William (Florida Museum of Natural History) and Karen J. Walker (Florida Museum of Natural History)**

[232] *Rethinking The Calusa Of Southwest Florida*

Historical documents and archaeological data suggest that the protohistoric Calusa were unusually complex for a society based primarily on fishing as a means of production. Called variously a kingdom, a complex chiefdom, or a weak tribute-based state, the Calusa controlled much of South Florida. For more than 20 years, our interdisciplinary team has conducted research in southwest Florida. We now know that resources were heterogeneous and highly variable due to long-term and short-term perturbations. Based on our accumulated information, we think that changes in settlement, subsistence, technology, and cultural practices were associated in part with environmental fluctuations.

Marquez Morfin, Lourdes [62] see Bullock Kreger, Meggan**Marreiros, Joao (University of Algarve)**

(Portugal)), Nuno Bicho (University of Algarve (Portugal)) and Juan Gibaja (Consejo Superior de Investigaciones Científicas, Inst. Milá y Fontanales (Barcelona))

[135] *No land for old people. Rethinking lithic technology from the Early Upper Paleolithic of Southwestern Iberian Peninsula.*

Iberian Peninsula still one of the most interesting scenarios for the Middle-Upper Paleolithic transition. Since Aurignacian are not unequivocally known in Southwest Iberia others argue that the Gravettian is the earliest UP in this region, implying that Neanderthals persisted until later, perhaps as much as 28-32 Ka. The Early Gravettian technology from specific regions shows singular aspects and reinforce the idea of considerable regional variety where territories were marked by socio-cultural boundaries as reflect of subsistence and demographic pressure. We present new data from the site of Vale Boi and evaluation of technological patterns between EUP assemblages in this region.

Marreiros, João [135] see Bicho, Nuno

Marrinan, Rochelle (Florida State University)

[136] *The Apalachee Missions of Northwest Florida* Franciscans began the process of missionizing the Apalachees in 1633. At the height of the Mission period in the province, there may have been as many as fourteen extant mission stations. The Apalachees remained allied with the Spaniards until the destruction of their missions beginning in 1702 and ending in 1704. Thus, the Mission Period in Apalachee Province is quite brief, by contrast to other areas. Since the 1980s, several long term projects have produced information that permits a fuller understanding of settlement organization, architecture, material culture, and insights about acculturation in the province.

Marshall, Amanda (Kleanza Consulting), Amanda Palmer (Kleanza Consulting) and Jennifer Lewis (Kleanza Consulting)

[207] *Cache pits on the northwest coast of British Columbia: distinguishing between cultural and natural depressions*

Cache pits are a common archaeological feature in BC, particularly found along fishbearing rivers and lakes in the region. These circular or oval depressions were dug for the purpose of food storage, such as dried fish, meat, and berries, and ensured survival of First Nations during the long northern winters. Due to their often ambiguous nature, archaeologists face difficulties in distinguishing cache pits as cultural, rather than landscape, features. This paper will explore some of the common attributes of cultural features, and compare those to several non-cultural features, using sites in the northwest coast of BC.

[207] *First Chair*

Marshall, Amanda [18] see Lewis, Jennifer

Marshall, Charla (Indiana University) and Frederika Kaestle (Indiana University)

[184] *Ancient DNA from Angel Mounds* Angel Mounds is a Mississippian archaeological site (ca. A.D. 1050-1400) in southwestern Indiana. Beginning in the WPA era and continuing through the mid-1970s, the

remains of over 200 individuals were excavated from Angel Mounds. The current report summarizes the results of the Angel Mounds ancient DNA project, in which 100 individuals were tested for the presence of mitochondrial DNA. Although poor DNA preservation affected the Angel Mounds series, the results of this project are noteworthy. Mitochondrial haplotype and haplogroup data are presented, and the implications of this research project are discussed.

Marshall, Fiona (Washington University)

[228] *The Neolithic in Africa: Alive and Kicking?*

The term Neolithic was imported into African Archaeology, despite the fact that the Palaeolithic was not. As a result there is a long history of debate over the merits of Later Stone Age versus Neolithic as culture historic categories. Furthermore, pastoralism and increased mobility characterize the beginning of food-production. This has influenced the way the Neolithic is conceived by Africanist archaeologists. Ideological elaboration in northeastern Africa emphasizes cattle, landscapes, and human bodies, rather than "the domus". Moreover, the diversity of hunter-gatherers and fluid relations among groups has not encouraged broad contrasts between hunter-gatherers and food-producer ideologies.

Marshall, Fiona [37] see Wreschnig, Andrew

Marshall, Joel (IUPUI, Glenn A. Black Laboratory of Archaeology)

[184] *A Geophysical Survey of Two Mounds at the Angel Site*

Angel Mounds is a Mississippian (ca. A.D. 1050-1450) agricultural village on the Ohio River near Evansville, Indiana. In the summer of 2011, minimally invasive methods were utilized to investigate the construction, use and chronology of two mounds at this site, E and G. Neither of these mounds have been extensively studied, although it is believed that Mound G dates to the Woodland period. In this project, subsurface data were collected through solid-earth cores and electrical resistivity readings to identify potential inclusions and/or features inside the mounds. The results of this field project are presented and discussed.

Marshall, Maureen (University of Chicago)

[130] *Regional Practices and Local Experiences: An Osteobiographic Approach to Late Bronze Age Human Remains from the Tsaghkahovit Plain, Armenia* Since the late 19th-century, thousands of Late Bronze Age (1500-1150 B.C.) and Iron I period (1150-800 B.C.) tombs have been excavated in the South Caucasus. These excavations have provided detailed descriptions of the great variability present in mortuary rites at the time. However, they have rarely linked mortuary practices to the practices of everyday living. This paper uses an osteobiographic approach drawing on osteological and mortuary data from excavations at a Late Bronze Age cemetery in the Tsaghkahovit Plain, Armenia in order to examine the lives – the practices and experiences – of subjects in early complex polities.

Marshall, Maureen [59] see Ghazal, Royal O.

Martin, Andrew (University of Bournemouth)

[237] *The Centrality of Borderlands: Contexts of clarity in Early Bronze Age Wessex.*

Studies of Late Neolithic and Early Bronze Age Wiltshire have tended to focus on large ceremonial monuments to the exclusion of over 900 excavated burial mounds, due to problems with classifying mounds. Instead of using formal typology, stylistic techniques from forensic linguistics were used to classify these mounds according to similarities in context rather than objects alone. Once groups were identified more clearly, borderlands between groups were identified and instances of interaction located. It is argued that borderland interactions, involving the appropriation and re-appropriation of mounds, are extremely useful, as cardinal beliefs and political maneuvers are often plainly delineated.

Martin, Andrew (Cultural Resource Analysts, Inc.), Randall Cooper (Cultural Resource Analysts, Inc.), Russell Quick (Cultural Resource Analysts, Inc.) and Andrew Bradbury (Cultural Resource Analysts, Inc.)

[127] *Mapping Kentucky Chert Sources*

Knowing the abundance and distribution of chert sources in relation to archaeological sites provides important local and regional context for archaeological assemblages and allows for a better understanding of prehistoric lithic technologies at those sites. This paper describes the ongoing process of incorporating data from the geological quadrangle maps of Kentucky into a geographic information system database. Lithic studies from various regions of Kentucky show how the statewide chert data help address research topics such as lithic procurement and use strategies, as well as settlement patterning through time.

Martin, Debra (University of Nevada/Las Vegas), Kathryn Baustian (University of Nevada, Las Vegas), Ryan Harrod (University of Nevada, Las Vegas) and Anna Osterholtz (University of Nevada, Las Vegas)

[116] *Looking for Patterns in a Sea of Variability: Mortuary Contexts from Disparate Southwest Groups as Correlated with Age-at-Death, Sex and Trauma*

There is little doubt that variability in mortuary context exists within synchronic slices as well as across diachronic swaths for archaeological sites in the Southwest. Mortuary data from Black Mesa (PI-II, Kayenta), La Plata (PII, La Plata River Valley) and Grasshopper (PIII-IV Salt River Drainage) represent different regions and time periods. We examined the notion of "unusual"/deviant versus "normal"/considerate burials (terms used often in the literature). Specifically, burials whose social identities included violent trauma and injury recidivism were compared with burials without trauma to tease out the role of violence on mortuary ritual and context.

[94] *Second Chair* [94] *Second Organizer*

Martin, Debra [105] see Crandall, John J. [105] see Harrod, Ryan P. [94] see Osterholtz, Anna J.

Martin, Houston (University of California, Davis) and Marcel Kornfeld (University of Wyoming)

[84] *Hell Gap Modified Chipped Stone: An attribute-based analysis*

Interpretations of Paleoindian use of chipped stone rely upon the realization of a tool's trajectory from initial

manufacture until it is discarded. The analysis of the employable unit (EU), a tool component appropriate for a specific task, can assist in identifying patterns in Paleoindian technology. This is especially true when factors such as occupation duration and function can be interpreted from other available data. In this analysis, multidimensional contingency tables are analyzed and interpreted in regards to Paleoindian technological organization, adaption and evolution. EU analysis provides an alternative to other techniques, revealing aspects of a site previously unknown.

Martin, Lana (University of California Los Angeles)

[35] *Cultivation and Consumption in Western Caribbean Panamá: Testing Hypotheses of Plant Food Use at Sitio Drago*

Proyecto Arqueológico Sitio Drago (PASD), based in Boca del Drago, a small beach community located in the Bocas del Toro province of Panamá, evaluates the subsistence economy, external trade and exchange relations, and social organization of site occupants beginning in AD 900. Paleobotanical analysis from Sitio Drago promises to provide additional information concerning diet, labor organization, and regional interaction. This poster uses preliminary data to assess four assumptions concerning pre-Columbian plant use in Boca del Drago: a) absence of maize agriculture, b) reliance on tuber crops, c) cultivation of cacao fruit, and d) intensification of domesticated palm species.

Martin, Lauri (The University of Texas -Austin)

[131] *Medicinal Trail Group B: Perspectives on an Elite Hinterland Community and Postclassic Visitation*

Group B, a formal courtyard located within the Medicinal Trail site, is a proposed Hinterland Elite community. The group is situated in Northwestern Belize and is approximately 6-8 km east of the major site of La Milpa. Although Group B contains architecture that is interpreted as ceremonial in function, the proximity to such a grand center such as La Milpa, it is remarkable that Group B exhibits evidence for Postclassic visitation. Excavations from the 2007, 2008, and 2009 seasons provide the unique opportunity to examine a significant Hinterland Elite community existing in the shadow of a known power center.

Martin, Lucius (Fowler Museum at U.C.L.A.)

[18] *The Rise of the Corporate Resort on Santa Catalina Island and its impact on prehistory, 1892-1919.*

The Santa Catalina Island Company, which incorporated in 1894, offered many opportunities for thrill seekers that attracted thousands of Southern California tourists to the many beaches, guided hunting excursions, "Indian Village Tours" and stage coach rides into the interior of the island. In this paper I will draw upon extensive archival research and material culture to understand this important time and how it impacted the perception of Catalina's prehistory and encouraged its commodification.

Martin, Paul (Western Carolina University), John Sullivan (Bureau of Land Management) and Blair Tormey (Western Carolina University)

[139] *Cadaver Dogs as a Tool for Archaeologist: Fact or Fiction?*

This presentation focuses on the research to determine

the feasibility of utilizing cadaver dogs as a remote sensing tool to assist in the location of historic and prehistoric human burials to prevent unintentional excavation or to better assist salvage operations. Training, testing, and practical applications and the results will be highlighted along with presenting best practices for the utilization of cadaver dogs in the archaeological survey process. Archaeologist will become more informed on the capabilities of cadaver dogs and how to evaluate the claims of the handlers.

Martin, Shannon (Saginaw Chippewa Indian Tribe of Michigan) and Sonya Atalay (Indiana University)

[143] *Learning Together: Core Tribal Values and Shared Benefits at the Flint Stone Street Ancestral Recovery Project*

How does a tribal community-driven museum and cultural center effectively partner with archaeologists on mutually beneficial projects? The Flint Stone Street Ancestral Recovery Project, a mitigation effort near downtown Flint, Michigan, is a prime example. The project was conducted using a community based participatory research (CBPR) methodology. It was community driven; conducted with core Anishinabe cultural values in mind; and aimed to mutually benefit all partners. We will share lessons learned from this successful CBPR partnership, and will detail how graduate students in a service-learning course on CBPR methods at Indiana University helped develop plans for the site's future.

Martin, Shannon [194] see Atalay, Sonya L.

Martin, Worthy (IATH, University of Virginia), Stephen Plog (University of Virginia), Abigail Holeman (University of Virginia), Carolyn Heitman (University of Virginia) and Adam Watson (University of Virginia)

[164] *Legacy Data, Digital Archives, and New Directions for Chaco Canyon Archaeology*

Early expeditions to Chaco Canyon yielded substantial archival holdings in numerous repositories. The physical dispersion of these archival materials has led many modern researchers to rely upon published monographs from those expeditions rather than the more detailed archival records. Through collaborations with repositories, the Chaco Research Archive is making digital surrogates of the archival materials available via a searchable on-line relational database. We will discuss the spectrum of CRA data, highlighting the utility of digital archives in the re-evaluation of topics such as room usage at great houses and the variety of burial practices across the canyon.

Martín Medina, Geiser (Facultad de Ciencias Antropológicas-UADY / INAH-Yu), Lourdes Toscano Hernandez (Instituto Nacional de Antropología e Historia, Centro Regional Yucatán), Víctor Manuel Ramirez Valencia (Instituto Nacional de Antropología e Historia, Centro Regional Yucatán), Arturo Ismael Victoria Pérez (Instituto Nacional de Antropología e Historia, Centro Regional Yucatán) and Oscar Enrique Herrera Gorocica (Instituto Nacional de Antropología e Historia, Centro Regional Yucatán)

[58] *Dispositivos Gns Y Su Aplicación En Arqueología:*

Resultados Obtenidos En El Salvamento Arqueológico Tixcacal

La expansión urbana generó la necesidad de intervenciones arqueológicas de emergencia para estudiar los vestigios arqueológicos antes de su destrucción. Por tanto los salvamentos son limitados en tiempo de investigación, donde las excavaciones son el 95% del objetivo; el mapeo y registro de los asentamientos son formas básicas y contornos geométricos, los cuales modifican las estructuras, inclusive, la inclusión de elementos de afectaciones históricas son desechados por los objetivos del salvamento. Por lo cual el uso de dispositivos GNS, permite un rápido registro y su manipulación en AutoCAD, a través de cual se insertan datos complementarios que surgen durante las excavaciones y recorridos.

Martinez, Desiree (Cogstone & Harvard University)

[74] *Discussant [74] Second Organizer*

Martinez, Gustavo (CONICET-INCUPA-UNICEN), María A. Gutiérrez (CONICET, INCUPA, Facultad de Ciencias Sociales (UNCPBA). Avda. del Valle 5737, B7400JWI Olavarría, Buenos Aires, Argentina) and Eduardo P. Tonni (División Paleontología de Vertebrado, Facultad de Ciencias Naturales y Museo (UNLP). Paseo del Bosque s/n, 1900 La Plata, Argentina)

[158] *Sudden Changes In Zooarchaeological Assemblages During The Late Pleistocene-Early Holocene In The Argentinean Pampas: The Role Of Humans In Extinction*

Paso Otero archaeological locality (Argentina) provides detailed faunal and paleoenvironmental records. Paso Otero 5 (12 593-11 353 cal BP) and Paso Otero 4 (10 667-7982 cal BP) sites show a dramatic change in extinct and modern species representation that occurred in only 2500 cal years. The objective is to present this case study in order to discuss processes of extinction and survival of mammals. It is proposed that not only hunting pressure, but the mere presence of humans as a factor that introduces ecosystem disturbances, would be the most parsimonious explanation regarding the process of extinctions and faunal replacements.

Martinez, Jorge G. [112] see Pintar, Elizabeth L.

Martinez, Maria (Univ. of Texas at Austin), Michael Brandl (Austrian Academy of Sciences, Vienna) and Estella Weiss-Krejci (The University of Vienna)

[131] *Hunters or warriors? A Late to Terminal Classic Maya specialized wood workshop in Northwestern Belize*

Located five km east of the city of La Milpa, Belize, lies the Aguada Lagunita Elusiva, a multi-phase water management feature and chert quarry. Situated in an area of low residential density, by the Terminal Classic period, the aguada seems to have served as specialized wood workshop for what appears to be the production of arrow shafts and other specialized tools. This paper will attempt to address if an extensive production of arrow shafts was due to an increase in hunting during the final occupation of the region before its total abandonment, or an increase in the production of weaponry.

Martinez, Valentina, Nikki Jastremski (Binghamton University, SUNY) and Yann Graber (University de Neuchatel)

[235] *The Interplay between Mortuary and Habitational Sites in Coastal Ecuador: Evidence from Site 035.*

Archaeological site 035, located on the border of Salango, Ecuador, represents a dual-function mortuary and habitation site. Excavation of the Integration period (AD 500-AD 1532) site revealed a shaft tomb with three funerary urns containing secondary interments of human remains and associated offerings, as well as an additional tomb with rich deposits of hearths, middens, and evidence for structures. The complex nature of this site allows us to better understand how mortuary practices varied within a site as well as how the Manteño culture not only buried their dead, but also lived with their dead prior to impending European contact.

Martínez, Gustavo [273] *see Stoessel, Luciana*

Martinez-Cruzado, Juan C [193] *see Nieves Colón, Maria A*

Marzahn-Ramos, Betsy (Brandeis University)

[87] *Pots in the Periphery: Results from the Analysis of Middle Usumacinta Ceramics*

This paper presents results from the analysis of Maya pottery recovered by the Sierra del Lacandón Regional Archaeology Project (SLRAP). The ceramic evidence was collected from a number of settlements in the hinterlands between the Classic period (AD 250 – 900) primate centers of Piedras Negras and Yaxchilan in the Middle Usumacinta River Basin region. Using the results of type:variety and modal analysis, this presentation will discuss the implications of ceramic style for understanding political affiliation in the region during the Classic period.

Maschner, Herbert (Idaho State University) and Owen Mason (INSTAAR, University of Colorado)

[123] *The bow and arrow in the far north: subsistence, war, diffusion, and political dynamics*

The first solid evidence of the bow in Beringia occurs when Arctic Small Tool tradition expands across the Arctic after 4500 BP, when it abruptly disappears. 2000 years ago the bow again arises in the western arctic with warfare on the coast, and the transformation of Proto-Athapaskan technology in the interior. The most critical changes occur after 1000 years ago with the diffusion of the Asian War Complex across Bering Strait resulting in the introduction of the recurved bow, wrist guards, and armor, beginning the transformation of every arctic society, and many to the south, into more complex political forms.

Maschner, Herbert [129] *see clement, nicholas G. [129]*
see Betts, Matthew W. [129] *see Schou, Corey D.*

Mashriqi, F. [37] *see Skinner, Anne*

Mason, Owen (INSTAAR University of Colorado), John Hoffecker (INSTAAR University of Colorado), Nancy Bigelow (University of Alaska Fairbanks), Claire Alix (University of Alaska Fairbanks) and Chris Darwent (University of California Davis)

[204] *On Islands in Marshes: The Entry of Birnirk culture*

into Alaska

Environmental advantages, abundant driftwood and sea mammals, during the Medieval Climate Anomaly ca. AD 1000 fostered the entry to Alaska of the walrusing and whaling Birnirk culture. Data from the 2011 season at Cape Espenberg record links with Siberia in architecture, harpoon and maritime technology. Its complex architecture was restricted to a low dune surrounded by marsh. A diverse fauna supported the occupation, including caribou, seal, whale, walrus, dog, and a considerable amount of baleen, some worked. The climate correlates of the MCA should be present in the tree rings of the architectural wood that may extend Giddings's chronology.

Mason, Owen [123] *see Maschner, Herbert*

Massigoge, Agustina [96] *see Gutierrez, Maria A.*

Massom, Marcus (Louisiana Division of Archaeology)

[148] *Submerged Cultural Heritage: Effects of Popular Media on Recreational Diver Perceptions.*

This paper examines perceptions about submerged cultural resources held by recreational divers in the U.S. and how popular media has influenced these perceptions. Data were collected using an online survey that was available to divers across the country. The data analysis takes a statistical look at the diver responses based on demographic variables such as age, race, gender, education, and income. It also examines how much, and which aspects of, popular media each respondent engages with. The data analysis also explores diver perceptions spatially by collecting the respondents' postal zip code and utilizing the U.S. Census Bureau's TIGER/Line files.

Masson, Marilyn (University at Albany SUNY)

[128] *The Plagues of Mayapan and its Prolonged Decline: Transgressing the Limits of Political and Market Resiliency*

Mayapan's collapse is traditionally associated with a brief revolt and abandonment in the mid-15th century. New evidence reveals that the confederacy faced prolonged disasters (droughts, cold, famines, plagues) of a scale that would have brought any agrarian state to its knees and exceeded the capacities of this era's resilient political economy. Episodic acts of abandonment and destruction are tracked over the final 150 years. The tale of long decline is also one of tenacious survival in the face of improbable odds. Revitalization, military might, and market exchange buffered impacts and nearly fostered recovery. Sophisticated market systems survived the city's fall.

Masucci, Maria (Drew

University) and Michelle Bettex (Drew University)

[270] *Ceramic Technology Through Time: Ceramic Petrography applied to a comparison of Early Neolithic to Bronze Age ceramics, Rio Maior, Portuguese Estremadura*

Early Neolithic through Bronze Age ceramics were recovered at seven sites excavated in the late 1990s in the Rio Maior Valley, Portuguese Estremadura. Petrographic analysis of samples from all time periods founded on a regional resource survey provide a long term perspective on technology, resource use and issues

such as intra and intersite relationships. Sourcing was of central concern in the study but also technological choices and evidence for region wide traditions were examined. Relationships across time and regionally in technology and production are discussed.

Masucci, Maria [235] *see Middleton, Abigail S.*

Matadamas Díaz, Raúl (Raul Matadamas) and Sandra Liliana Ramírez Barrera (Centro INAH Oaxaca)
[210] *Huatulco, Oaxaca: La cerámica de los mareños*
 En el caso del asentamiento precolonial de Copalita, Huatulco, se observa una tradición cerámica que sigue los patrones estilísticos dados en otras regiones, desde el preclásico tardío hasta el postclásico, el uso de cerámica similar a la de los Valles Centrales, de la Mixteca, el Istmo de Tehuantepec, etc., permiten pensar que en esta parte de la costa oaxaqueña se constituyó en una esfera de interacción cultural con otros asentamientos contemporáneos, sin embargo los nexos iban más allá, con sitios ubicados en Chiapas, Tabasco y Veracruz, sin un predominio evidente de cualquiera de los antes mencionados pero evidenciando la multiplicidad de su desarrollo.

Matheny, Ray [70] *see Thornton, Erin Kennedy*

Matney, Timothy (University of Akron)
[63] *Rethinking Cheshmeh Ali and Late Neolithic/Chalcolithic Village Life in Northern Iran*
 The Late Neolithic/Chalcolithic village of Cheshmeh Ali in northern Iran was excavated by Erich Schmidt from 1934-1936. Although Schmidt only published brief preliminary reports on his work, Cheshmeh Ali is widely cited due to its inclusion as a ceramic horizon in early formulations of the prehistoric chronology of Iran. This paper presents the results of a collaborative publication project preparing a final report on Schmidt's excavations using his field notes, photographs, and plans. This paper discusses domestic architecture and finds from the site and briefly assesses the value of Cheshmeh Ali in understanding early village life in the region.

Matos, Carlos [58] *see Zimmermann, Mario*

Matson, RG [132] *see Lipe, William D.*

Matsumoto, Go (Southern Illinois University at Carbondale)
[166] *Quotidian meals or ceremonial feasts?: Large-scale food practices at the Great Plaza of the Middle Sicán capital, northern North Coast of Peru*
 Our recent excavations at the Great Plaza of the Middle Sicán capital documented traces of large-scale food preparation and consumption. There are a few possibilities to account for these activities. They may have supported artisans and maintenance personnel who were engaged in craft production and construction work in and around the plaza, or they represent feasts or commensal activities among people different in social class (and possibly ethnicity) for consolidating the stratified, multiethnic state. I will test these working hypotheses in terms of the morphological and compositional characteristics of food vessels used and the compositions of food remains consumed.

Matsumura, Hirofumi [60] *see Oxenham, Marc F.*

Matternes, Hugh (New South Associates) [72]
Discussant

Matternes, Hugh [168] *see Vanderpool, Emily M.R.*

Matthews Cascon, Leandro [28] *see Bezerra, Marcia*

Mauldin, Raymond (UT San Antonio), Leonard Kemp (Geo-Marine Inc.) and Cynthia Munoz (UT San Antonio/ Center for Archaeological Research)
[127] *Assessing variation in chert through digital photography*
 We present a digital photography based method of recording chert colors using the RGB color scale. While the procedure necessarily reduces variability present within an assemblage, it is inexpensive, replicable, quantitative, and provides a record of color variation that is cumulative, and easily stored and shared. We demonstrate the utility of the approach by considering color variation in over 7,400 pieces of debitage, bifacial tools, and formal items (e.g., projectile points) from prehistoric sites in Central and South Texas. Debitage RGB patterns seem to reflect local sources, while during some time periods formal tools are dominated by non-local cherts.

Mauldin, Raymond [183] *see Hard, Robert J.*

Maxwell, David (Simon Fraser University)
[70] *Temporal Patterning in Stingray Spine Use in Caches and Problematical Deposits from Tikal*
 Stingray spines are a frequent component of caches and problematical deposits at Tikal, particularly during the Early and Late Classic periods. Stingray spines are found in both complete and fragmentary condition, and these two states show a remarkably consistent pattern: whole and fragmentary stingray spines are NEVER found together in the same deposit. This is argued to represent a fundamental difference in treatment, and thought to relate to differences in depositional history not previously noted.

Maxwell, David [234] *see Driver, Jonathan*

May, J. (Schiele Museum of Natural History)
[162] *Charcoal Blast Furnaces: the Early Iron Industry in Piedmont North Carolina*
 During the mid 18th century as Euro-colonials were moving into the North Carolina backcountry the need for cheap iron goods was self evident. Poor transportation, high cost, and the absence of capacity became the impetus for the North Carolina colonial government to encourage the formation of "iron plantations." Local entrepreneurs made efforts to take advantage of easily dug ores, abundant water sources for power, and large woodland tracts for the production of charcoal to manufacture iron for both local consumption and wider markets. Archaeological investigations and historical sources document the interaction of distant and local communities.

Mayle, Francis [39] *see Iriarte, Jose*

Mazow, Laura [109] *see McCandless, Kyle*

McAllister, Martin (ADIA), Larry E. Murphy, James E. Moriarty, IV and David E. Griffel

[14] *Digging, Defacement, Damage and Dealing: Case Studies of the Use of the Archaeological Damage Assessment Methodology as an Application of Forensic Archaeology in Criminal and Civil Prosecutions*
Archaeological Damage Investigation & Assessment (ADIA) recently conducted four archaeological damage assessment projects, three for criminal violations of the federal Archaeological Resources Protection Act and one for a civil damage case under state law. Two involved monetary determinations for the severity of unauthorized damages to archaeological sites and two involved determinations of the market values of seized artifacts. Brief synopses of these projects will illustrate the use of the archaeological damage assessment methodology as an important application of forensic archaeology in criminal and civil prosecutions.

McAllister, Martin [115] see Moriarty, James E.

McAllister, Martin E. [115] see Murphy, Larry E. **[14]** see Jones, Tate

McAnany, Patricia (University of North Carolina, Chapel Hill) [128] *Discussant*

McBride, W. Stephen [7] see Henry, Edward R.

McCafferty, Geoffrey (University of Calgary), Sharisse McCafferty (University of Calgary) and David H. Kelley (University of Calgary)
[4] *Xochicalco and the Epiclassic Writing Systems: Dave Kelley has the Final Word*

Xochicalco was one of the major highland centers during the turbulent period following the disintegration of the Classic period Teotihuacan empire, and based on complex iconography it was engaged in long-distance contact with Maya groups. During weekly glyph workshops at the University of Calgary, David Kelley developed an intricate interpretation of glyphic texts from Xochicalco and related Epiclassic sites from central Mexico, with linkages to the Maya region. Based on recordings, annotated transcripts, and Dave's distinctive charts, we will present Kelley's perspective on political relations during the Epiclassic, with reference to Tula, Tollan, Cholula, Cacaxtla, and beyond.

[195] *Discussant* **[259]** *Discussant*

McCafferty, Geoffrey [195] see McCafferty, Sharisse D. **[259]** see Dennett, Carrie L.

McCafferty, Sharisse (University of Calgary) and Geoffrey McCafferty (University of Calgary, AB, Canada)

[195] *Costume & Identity in the Mixtec Codices*
Pictorial manuscripts from the Mixtec region of southern Mexico provide several thousand images of historical actors in detailed costume. This paper considers dress patterns and design motifs in relation to various aspects of social identity, including gender and occupation. Specifically investigating the hypothesis that regional patterns identify specific cultural groups. Our conclusions suggest that the upper body garment for men and skirt decoration for women were of particular significance for

the communication of social identification.

McCafferty, Sharisse [4] see McCafferty, Geoffrey

McCaffery, Harlan

[88] *Dietary Reconstruction of the Ancestral Puebloan Domestic Turkey*

The Middle San Juan Region of the southwestern United States was populated by Ancestral Puebloan communities A.D. 900-1300. Evidence of domestic turkeys exists at many of these sites, and the use of turkeys was intensified in the Pueblo III Phase. The degree to which turkeys depended on maize has implications about this human-domestic relationship and its evolution. Here stable carbon and nitrogen isotopes were analyzed in about 50 turkey bones from 3 sites, revealing a high dependence on maize. No significant difference across time was detected. This suggests that an existing husbandry practice was intensified in Pueblo III.

McCall, Ashley (University of Cincinnati)

[232] *Stable Isotopes, Pathologies, and Agriculture of the Turpin Site Population*

Carbon, nitrogen, and strontium isotopes from the collagen of 50 individuals will indicate the diet and movement of the Turpin population, located in the Ohio River Valley. The development of agriculture is displayed through the introduction of maize or corn in the diet, which shows a differing isotopic value in the collagen of bone. If the diet is agriculturally based then the strontium isotopes will support a more sedentary lifestyle typically associated with agriculture. Additionally, the relationship between pathologies and a distinct carbon isotopic marker that shows a vegetal-based diet indicates a homogenous diet with a limited nutritional value.

McCall, Grant (Tulane University)

[89] *Poison Arrow Hunting Revisited: Kalahari Ethnoarchaeology and its Implications for Southern African Prehistory*

In this paper, I present a comparative analysis of ethnoarchaeological data on Kalahari forager poison arrow hunting. Based on this examination, I show that poison arrow hunting is linked with very labor-intensive hunting tactics and represents a low-return subsistence activity. In thinking about this phenomenon historically, I argue that recent periods in which poison arrow hunting has surged in its frequency have corresponded with the failure of other major food resources. Therefore, poison arrow hunting has functioned as an important risk reducing technology in the contexts of food stress that seem to typify the Holocene Later Stone Age.

McCandless, Kyle (East Carolina University), Laura Mazow (East Carolina University), Anthony Kennedy (East Carolina University), Susanne Grieve (East Carolina University) and Kim Tillapaugh (East Carolina University)

[109] *Control Methodology In Organic Residue Analysis Using FT-IR Spectroscopy*

In this poster, I raise concerns about the impact of contamination on organic residue analysis projects, particularly those using FT-IR spectroscopy. A current residue analysis project at East Carolina University provides a case study for contamination research.

Control experiments have been developed with the goal of ascertaining sources of contamination in the project's sampling and laboratory methodologies. Preliminary results suggest that many of the methods used during the project introduce analytically significant contaminants. The results of these experiments will be used to modify existing sample and laboratory methodologies, while also addressing the larger issues of contamination in residue analysis projects.

McCarthy, Donna [197] *see Sullivan, Lynne P.*

McCarthy, Elizabeth (University of Missouri)
[213] *Obsidian and Chert Cut Mark Morphology Analysis*
 Means to differentiate cut marks made with metal tools from those made with stone have long been known. Recently, research has sought to determine if differentiation of stone material is possible. Previous research indicates that distinguishing marks made by different stone material is difficult, even with a scanning electron microscope (SEM). I suggest it is possible to distinguish different stone materials via the marks they make on bone. Ten characteristics, viewed under a light microscope, separate marks made by obsidian flakes from those made by chert flakes.

McCarty, Rita (Mississippi National Guard)
[42] *Condition Survey and Assessment As An Initial Step In World War I Training Trench Preservation At The Camp Shelby Joint Forces Training Center, Camp Shelby, MS*
 Cultural resource surveys in training areas at Camp Shelby, MS have revealed extensive networks of World War I training trenches excavated by soldiers from the 38th Division. The trenches were excavated in preparation for action on the Western Front in Europe. Although World War I trenches have been recorded and preserved on both the European continent and England, training trenches within the United States are very rare. Because of this, it is important to conduct a detailed survey in order to document construction strategies and formulate a preservation plan so that this important resource is not lost forever.

McCarty, Sue Ann (University of Virginia)
[212] *Pot, Kettle, Black: Ceramics and their Inter-Household Distribution at Kazane Hoyuk, Southeastern Turkey*
 The distribution of ceramic forms, wares and design elements suggest that inter-household variability in status existed in the Late Neolithic/Halaf occupation at Kazane Höyük in southeastern Turkey. Comparison of the assemblages from five excavated structures and their exterior pebble surfaces will be used to ask questions about the nature of status variability during the Late Neolithic period. Naturalistic depictions of animals on fine ware sherds include goats or gazelles, bulls and onagers. What did these animals mean to the people of Kazane? These naturalistic representations on ceramics will be compared to the faunal assemblage, including a cattle astragalus cache.

McClaran, Mitchel P. [38] *see McNamee, Calla*

McClellan, Whitney [94] *see Boutin, Alexis*

McClung De Tapia, Emily (IIA-UNAM MEXICO), Carmen Cristina Adriano-Morán (IIA-UNAM Mexico) and Emilio Ibarra Morales (IIA-UNAM Mexico)
[62] *Prehispanic Vegetation and Environment in the Teotihuacan Valley, Mexico*
 The demise of Teotihuacan in the NE Basin of Mexico has been attributed to resource degradation from deforestation, intensive agriculture, and climate change. Paleoenvironmental studies in the region include plant macro- and microfossils, stable carbon isotopes and radiocarbon dating of organic sediment and charcoal together with soils to understand vegetation change and human impact. We report the analyses of pollen and phytoliths from a soil profile, comparing results with stable carbon isotopes. $\delta^{13}C$ ratios indicate the predominance of C4 taxa; pollen and phytoliths suggest an abundance of C3 taxa. The significance of these proxies is considered.

McClure, Sarah (Penn State)
[160] *Cultural Transmission Theory and Abrupt Change: A View from Dalmatia*
 Neolithic pottery assemblages from sites on the Dalmatian coast of Croatia exemplify clear stylistic and technological shifts in decoration, form, and manufacturing techniques between the Impresso (ca. 6000-5300 BC) and Danilo (ca. 5300-4800 BC) pottery traditions. This paper uses new data to explore the potential underlying mechanisms of rapid change from the point of view of cultural transmission theory and discusses the relative roles of long-distance exchange, population expansion, and transhumance as a communication mechanisms in models of shifting learning environments.

McClure, Sarah B. [32] *see Garcia, Oreto*

McConaughy, Mark (PA Historical and Museum Commission), Gretchen Anderson (Section of Anthropology, Carnegie Museum of Natural History) and Deborah Harding (Section of Anthropology, Carnegie Museum of Natural History)
[185] *A Close-up Look at Two Early Woodland Copper Objects from West Virginia and Pennsylvania*
 Two Cresap phase Early Woodland Period sites, McKees Rocks Mound, Pennsylvania, and Cresap Mound, West Virginia, provided the copper objects used in this study. A copper imitation bear canine from McKees Rocks Mound and a copper quadriconcave gorget from Cresap Mound were examined using a Dino-Lite digital microscope. Object materials and residues were digitally photographed. Fabric was preserved on the McKees Rocks copper bear canine. Residues of hide and hair were found adhering to the Cresap Mound gorget. The preserved materials provide insights into the perishable goods placed with Cresap phase burials.

McCorvie, Mary [101] *see Wagner, Mark J.*

McCown, Anna [250] *see Jones, Sharyn R.*

McCoy, Curtis (University of Memphis)
[9] *Revisiting the Great Island Site in Clinton County, PA Through Non-invasive Means*
 Private collections are an essential tool for archaeologists in locating and identifying archaeological

sites. One such collection consists of a prehistoric mound and palisaded settlement on the west end of Great Island, Pennsylvania. LIDAR data were used to create topographic, slope, and local relief model (LRM) maps in an attempt to locate these now unobtrusive earthworks. Additionally, a private collection of coarsely provenienced materials from Great Island, Pennsylvania consisting of nearly 467 projectile points, hundreds of ceramic sherds, and dozens of faunal remains was analyzed. Projectile points and ceramics were analyzed by style, function, and typological age.

McCrary, Melinda (San Francisco State University)
[24] *First Chair*

McCray, Brian (Vanderbilt University)
[36] *Settlement Strategies and Trade in Northeastern Peru*

Previous analyses have assumed that control of trade routes between the lowland Amazon and the highland Andes played an important role in the emergence of "classic" Chachapoya society, a Late Intermediate Period (800-1400 CE) group in the montane forests of northeastern Peru. This poster evaluates how Chachapoya sites may have been laid out on the landscape in order to control trade routes. It is hypothesized that site locations would incorporate views of important East-West trade routes, thus this model uses predictive modeling to model East-West trade, and viewshed analysis to identify locations that oversee large portions of routes.

McCurdy, Leah (University of Texas at San Antonio)
[203] *Maya Site Plans of the Belize Valley*
Previous work on site plans of Maya monumental centers suggests that organizational principles were drawn upon to locate structures within a larger site. This paper will present analyses of 17 site plans from the Belize Valley region with the goal to elucidate any patterns in site planning across these densely located sites. Preliminary analysis suggests that conclusive patterns relating to shared worldview are not as strongly evidenced as many Belize Valley scholars expect. Further analysis will incorporate site plans from further afield to investigate whether political affiliation plays a larger role in the planning of cities in the Belize Valley.

McDonald, Jo [194] *see Paterson, Alistair G.*

McDonald, Josephine (Australian National University)
[194] *How contemporary meanings can improve the archaeology of rock art*
Archaeologists view rock art sites as an assemblage of motifs. Archaeological understandings are gleaned by analysing stylistic information, the spatial arrangement of motifs with temporal trends defined by superimpositioning and dating. The assemblage as a whole has archaeological meaning because this is a palimpsest of graphic gestures which have survived through time. Traditional custodians in the Western Desert view a rock art assemblage very differently, with often only one or a few motifs having valency in any particular narrative. This disjuncture provides anthropological insight into how rock art is produced and the recursive nature of particular graphics through time.

McDonald, Josephine [255] *see Steelman, Karen*

McEwan, Colin (The British Museum), Catherine Higgitt (British Museum), Thibaut Deviese (British Museum), Christophe Moulherat (Musée du Quai Branly) and Paz Núñez-Regueiro (Musée du Quai Branly)

[213] *A Multi-Disciplinary Approach for the Study of Andean Textiles*

The British Museum and the Quai Branly Museum house two of the largest collections of Andean textiles outside Peru comprising pieces ranging from the Early Horizon through the Colonial Period. A detailed study of the organic colourants and dyeing technologies is currently underway to complement the "traditional" study of iconography and weaving techniques. While addressing key questions about Andean textile production, the research will demonstrate the wider potential of colourant analysis to explore art historical, archaeological, anthropological and cultural questions. It will additionally provide new analytical methodologies, better understanding of deterioration processes and improve conservation and display strategies.

McFarland, Doug (Mission Support Alliance)

[173] *Magnetic Susceptibility in the Semi arid Northwest: Compliance and Paleoenvironments with Geophysical Science.*

In this study, magnetic susceptibility profile data maximized the limited archaeological information from six subsurface excavations. Data were used for National Register of Historic Places evaluations of two archaeological sites. In addition to providing information on paleoenvironment and site formation processes, and stratigraphic integrity, they helped correlate data between the six 1x1 excavation units and two sites with little effort. Magnetic susceptibility results were verified by sediment analyses, including; calcium carbonate percentage by weight, oxygen isotope ratios from calcium carbonate, and sediment particle size distribution analysis. Additional data included a radiocarbon date, and reference to regional paleoenvironmental literature.

[173] *First Chair*

McGill, Alicia (Indiana University)

[209] *Assessing Student Learning: What Does It Mean for Students to "Understand" Archaeological Concepts?*
Assessment is integral to addressing student learning. Assessment involves identifying measurable verbs linked to student achievement and skill development, resulting from course activities. Collecting manageable and meaningful "data" about student learning is especially complex when teaching about sensitive issues that involve myriad opinions, epistemologies, and values such as those related to heritage and archaeological ethics. In this paper I discuss Classroom Assessment Techniques on archaeological ethics that I implement in introductory undergraduate anthropology courses. Through these techniques I evaluate student learning about archaeological practices and assess student development of broader skills such as: teamwork, critical thinking, and decision-making.

McGill, Dru (Indiana University) and Staffan Peterson (Indiana Department of Transportation)

[239] Social Contexts of Mississippian Plainware Production at Angel Mounds Indiana

Angel Mounds (12Vg1) has been the subject of archaeological investigation for over 70 years. This paper presents insights from analyses of legacy collections and recent subsurface imaging surveys and excavations into social organization and craft production. Specifically, a new developmental narrative of Angel Mounds will be discussed that includes spatially distinct neighborhood groups within the town's palisaded borders. The existence of these apparent neighborhood groups is currently being tested via analysis of culturally meaningful patterns of variation within Mississippi Plain vessel morphology attributes (e.g. rim angle, lip shape) from samples representing various spatial and chronological contexts at the site.

McGimsey, R. Game [112] *see Speakman, Robert J.*

McGovern, Thomas (Anthropology Dept), Ramona Harrison (CUNY), Konrad Smiarowski (CUNY) and Orri Vesteinsson (U Iceland, Arch. Inst. Iceland)

[263] *Sorting Sheep & Goats in Medieval Iceland and Greenland: Local Subsistence or World System?*

Large archaeofauna recovered from Viking Age-Medieval sites in Iceland and Greenland have demonstrated a diverging pattern in caprine management after ca. 1200 CE. Initially both settlements kept flocks that had substantial numbers of goats. By the later 13th century Icelandic flocks become nearly all sheep, and sheep bones increase dramatically compared to all other domesticates in the Icelandic archaeofauna, while the Greenlandic collections maintain the old Viking Age pattern. The Icelandic pattern relates to intensified wool production aimed at a marketable surplus. Does this divergence reflect participation in an early Pax Mongolica world system or local subsistence requirements? **[86] Discussant**

McGrath, Sally [155] *see Gloux, Sabrina*

McGuire, Randall (Binghamton University)

[120] *Modern Material Culture and Ruins in Ambos Nogales (Arizona and Sonora)*

Michael Schiffer redefined archaeology as the use of material culture to study human behavior. This definition established modern material culture studies and has promoted creative archaeological studies of the contemporary world that extend beyond Behavioral Archaeology. But the Modernist Project writ large often leads to devastation, and the United States-México border wall is one material example. The wall has failed to create an impregnable border but rather has generated material debris. Contemporary ruins on both sides of the border in Ambos Nogales, Arizona and Sonora, exemplify the destruction both caused and hidden by the wall.

McGuire, Randall H. [265] *see O'Donovan, Maria [265] see Wurst, Louann*

McGuire, Sara [168] *see France, Christine*

McIlvaine, Britney (Ohio State University) and Lynne A. Schepartz (University of the Witwatersrand)

[119] *The contribution of bioarchaeological analyses to*

current developments in Albanian archaeology

Previous research on human remains from Albanian archaeological sites is limited and largely focuses on skeletal description and potential population affinities. New bioarchaeological research addresses areas of wider anthropological interest relating to nutrition, disease and environmental interactions, population diversity, and behavioral diversity derived from the study of skeletal remains in their mortuary context. These new emphases are contributing to understandings of variation by sex, age, and social status in order to reconstruct the life histories and lifeways of ancient Albanians. Specific examples are drawn from research at Iron Age Lofkënd and the Bronze Age through Hellenistic periods at Apollonia.

McKechnie, Iain [207] *see Szpak, Paul*

McKee, Brian (University of Arizona)

[154] *Invisible Structures: Earthen Architecture, Formation Processes, and Archaeological Recognition*

Earthen structures were preserved and identified under unusual circumstances in two regions. At the Cerén site in El Salvador, rapid burial by volcanic tephra led to exceptional preservation of wattle-and-daub structures, their contents, and surrounding activity areas. In the Virgin River area of southeastern Utah, wattle-and-daub structures were preserved and recognized due to their burial by aeolian sand. In both areas, these structures are rarely documented. They have implications for understanding demography and the ecological and social adaptations of their occupants. I examine the role of cultural and noncultural formation processes in the structures' preservation and their archaeological recognition.

McKenzie, Chantal [42] *see Mt. Joy, Kristen E.*

McKillop, Heather (Louisiana State University) and Terance Winemiller (Auburn University Montgomery)

[172] *Ancient Maya Salt Works, Paynes Creek National Park, Belize: Constructing and Using a GIS for Field Research and Analysis*

The Paynes Creek Salt Works provide a case study of the merits of integrating GIS into research. A GIS, Underwater Maya, was created using Geomedia by Intergraph (now Hexagon) to house the geospatial data from the discovery and mapping of wooden architecture and artifacts preserved in a peat bog below the seafloor, in Paynes Creek National Park, southern Belize. Georeferenced maps, air photos, and satellite imagery placed the archaeological finds in the real world. The GIS updated spatial data added to existing attached excel spreadsheets, which proved useful for entering information on dimensions of building posts, ceramics, and descriptive data. **[227] Discussant**

McKillop, Heather [172] *see Aucoin, Taylor [172] see Heim, Kelly N. [172] see Robinson, Mark [172] see Sills, Elizabeth C. [172] see Harrison, Jessica [172] see Spann, Tamara*

McLay, Eric [139] *see Grier, Colin*

McLeester, Madeleine (University of Chicago)**[232] *Reconstructing the Protohistoric Landscape:******Restoration, Land Use, and Environmental Change***

Due to the juxtaposition of unique ecological diversity and degradation, the Calumet Region is undergoing extensive restoration efforts. However, despite the efforts, restoration targets are not met, and ecosystems continue to degrade. In the Calumet Region, restoration targets often resemble the protohistoric and early historic Calumet; however, archaeological data is often left out of the restoration discourse. This presentation will explore protohistoric land use strategies and their lasting impact on the contemporary Calumet Region's ecological zones. I will discuss signals of anthropogenic change in the paleoenvironmental record and how indigenous groups were strategic co-creators of the Calumet world.

McLellan, Alec (Trent University)**[61] *Settlement Survey at the Ancient Maya Site of Ka'Kabish in Northern Belize***

Investigations of the settlement surrounding the monumental center of the ancient Maya site of Ka'Kabish have revealed several areas of dense occupation, with significant residential variability. Over the course of the 2010 and 2011 field seasons, field survey and test-pit excavations identified 75 mounded structures, along with evidence of non-mounded artifact scatters. These investigations revealed that occupation in the area began by at least the Late Preclassic (300BC-AD100) and continued until the Late Postclassic (AD1200-1521). This paper will discuss the results of these investigations and how they demonstrate changes in the community over time and space.

McManamon, Francis (Center for Digital Antiquity)**[12] *Discussant* [149] *Discussant*****McNamara, Britt (Utah State University)****[250] *Another Door into Southeastern Idaho's******Paleoindian Past: Learning from a Citizen Collector***

Archaeologists often encounter enthusiastic artifact collectors, some of whom have amassed hundreds and even thousands of artifacts. While some dismiss collectors and private collections as data sources for a variety of reasons, many others have reaped significant benefits by working with citizen collectors. This poster shares Utah State University archaeologists' experiences working with a 90-something year-old individual from southeastern Idaho and his collection of dozens of well-provenienced Paleoindian projectile points as a case study illustrating the challenges and rewards of working with collectors.

McNamee, Calla (University of Calgary), Daniel C. Laughlin (University of Waikato), Margaret M. Moore (Northern Arizona University) and Mitchell P. McClaran (University of Arizona)

[38] *Soil phytolith assemblages and historical quadrats: using phytolith analysis to investigate vegetation change in Arizona and New Mexico*

Phytolith analysis is a prominent microbotanical technique employed in archaeological research to identify prehistoric plant use and to reconstruct past environments. However, few studies have examined the ability of phytolith assemblages to reflect short-term trends in changing vegetation communities. This study

examines soil phytoliths from vegetation quadrats in New Mexico and Arizona with records of dramatic vegetation change during the historic period. Through fine resolution soil sampling, the study assesses the ability of soil phytoliths to characterize vegetation communities and to detect historical vegetation change. The poster addresses the importance of sample size and location to interpretation.

McNees, Lance [100] see Smith, Craig S. [20] see Prasciunas, Mary M.

McNeil, Cameron (Lehman College, CUNY)**[167] *The Maya of Ancient Copan: Destroyers or Preservers of Natural Resources?***

As far back as the 1970s Bruce Dahlin encouraged scholars to investigate the interactions between the Maya and their environment, and to define the differences in the ways specific pre-Columbian Maya communities utilized natural resources to feed themselves. Research at Copan highlights the importance of defining the environmental context of the rise and fall of the southern lowland centers. Whereas previous theories proposed that the Maya destroyed their environment by the Late Classic period, thus contributing to the collapse of the ancient city, more recent scholarship has supported the conclusion that they employed a more sustainable approach to agriculture.

McNeil, Jessica (National Park Service)**[34] *Potsherds and Power: Early 18th Century French and Indian Interaction along the Natchez Bluffs***

During the early part of the 18th century Fort Rosalie sat high along the Natchez Bluffs overlooking the Mississippi River, less than four miles from the ceremonial center of the Natchez culture. Its purpose was to provide protection to the French colonists from attacks by England, Spain, and Native Americans. Since 2005, the National Park Service, Southeast Archeological Center has been conducting excavations in and around the remains of the Fort Rosalie. This paper will examine the interactions between the French colonists and the Natchez Indians as manifested through the pottery remains recovered during the excavations at the fort.

McNeil, Jessica [193] see Persons, A. Brooke

McNeill, Casey [244] see Brown, Claire J. [244] see Shakour, Katherine E. [244] see Conway, Meagan

McNiven, Ian (Monash University, Australia)**[251] *Between the living and the dead: ritual relationships between hunters and dugongs of Torres Strait***

All humans have special relationship with animals - it is part of how we ontologically define and position ourselves. Archaeologists gain some access to ancient animal-human relationships through the ways ancient hunters treated animal remains, particularly bones. Torres Strait Islanders of NE Australia created remarkable mounds of dugong bones (a tropical marine mammal) between 500 and 100 years ago. These mounds relate to how hunters ritually enhanced hunting success. Interrogating how we define and understand the ritual and spiritual dimensions of the hunter/live dugong/dead dugong triad is the focus of my paper.

McNutt, Charles (University of Memphis) and Terry Childs (Arkansas Archeological Society)

[189] *A Distinctive Ceramic Motif in Mississippi County, Arkansas*

Five closely clustered sites in southeastern Mississippi County, Arkansas, produce pottery from very late Mississippian or Protohistoric contexts that bears a distinctive motif of punctates in a triangular field. The distribution of this decorative motif is suggestive of social interaction between restricted patrilocal groups over a short period of time.

McNutt, Charles [189] see Childs, Terry

McPherron, Shannon [274] see Goldberg, Paul

McReynolds Shebalin, Theresa (Durham Academy and Exploring Joara Foundation)

[232] *Household Variation at Catawba New Town, ca. 1790-1820*

The Catawba Nation's endurance to the present day can be attributed largely to its members' creative adaptations to the sociopolitical and economic circumstances of the eighteenth and early nineteenth centuries.

Archaeological data from one community indicate that Catawba families employed a variety of social and economic strategies between 1790 and 1820. This paper examines some of this intracommunity variability by comparing the organization and use of domestic space by two households. The results suggest that some Catawba families embraced western social and economic practices while others intentionally emphasized or even exaggerated differences between themselves and their Anglo-American neighbors.

McSwain, Rebecca (Independent Scholar)

[236] *Maya Lithics after 35 Years: Charting Islands, Wrecks, and Reefs in the Sea of Ignorance*

Formal lithics studies in the Maya area have been conducted for about 80 years. There have been various motivations for such studies, beginning with the establishment of site and regional chronologies. Over time, the emphasis shifted to economic and political analyses, accompanied by a range of theoretical approaches influenced by and influencing research design and findings. The results of 8 decades of research have been mixed, but the continuing effort to integrate Maya stone tool data with other lines of archaeological evidence, building upon past work, points towards rich possibilities for the future of Maya lithics.

Means, Bernard (Virginia Commonwealth University), Clinton King (Virginia Commonwealth University) and John Haynes (Marine Corps Base Quantico)

[129] *Virtual Artifact Curation: 3D Digital Data Collection for Artifact Analysis and Interpretation*

The Department of Defense (DoD)'s Legacy Program has funded a project to develop protocols for creating three-dimensional digital collections of diagnostic artifacts from DoD installations and relevant repositories in the Middle Atlantic states. A major goal of the project is to enhance access to archaeological materials curated from DoD installations that are located in distant or inaccessible collections repositories. We also consider

the impact that "virtual curation" has on how archaeologists approach the study and preservation of digital data collected from tangible remnants of the past.

[197] *Discussant*

Me-Bar, Yoav [131] see Lewis, Brandon S.

Median Gonzalez, Isabel [61] see Simmons, Scott E.

Medina, Paulo (California State University, Los Angeles)

[179] *Cave Maw or Jaws of the Sky? Reassessing a Zapotec Motif*

Genealogical registers from Oaxaca record and justify the political position of elites during the decline of Monte Alban. Two registers are inscribed with images of an "ancient" couple, a young couple and a "jaws of the sky" motif. The motif has been associated with the sky and ancient bird deity. The scenes are focused on ancestor genealogy and based on the morphology of the motif, I propose the existence of a relationship to a cave/earth maw and I believe that the use of this motif is setting the scene either inside a cave or just outside of it.

[208] *First Chair*

Megarry, Will [9] see Davis, Stephen R.

Mehrer, Mark (Northern Illinois University)

[256] *Household Archaeology in Neolithic and Bronze Age China*

China's ancient civilization has been revealed in the glory of waxing and waning dynasties during the time when Neolithic villages gradually developed into imperial capitals. Elite culture is well represented by nearly a century of intensive research. However, archaeology has also yielded recovered the remains of the everyday life of the commoners whose labor made the dynasties possible. This paper focuses on how the lives of commoners changed during the Neolithic and Bronze Ages in China.

Mehta, Jayur (Tulane University) and Rachel Stout-Evans (Natural Resources Conservation Service)

[50] *Nothing beside (earth) remains: Power and monumentality at the Carson Mounds site (22CO505/518), Coahoma County, Mississippi*

In Mississippi's Yazoo Basin, large prehistoric settlements with numerous earthen monuments can be found. While some argue the presence of these mounds presupposes the social control of labor, and thus hierarchy, others stipulate mound-building engendered solidarity, implying a degree of equity in the raising of these flat-topped tumuli. Furthermore, the size of earthen mounds can sometimes be attributed to duration of use, but otherwise, variation in mound size can be difficult to explain. This paper evaluates mound volume and construction at the Carson Mounds, a large Mississippian site, with an eye towards explicating the relationship between monumentality and power.

Meierhoff, James (University of Illinois at Chicago) and Cynthia Robin (Northwestern University)

[267] *Everyday Lives of Maya Farmers at Chan, Belize*

This presentation explores the everyday lives of Maya farmers at the farming community of Chan, Belize across a 2000 year period of time to illustrate how

understanding everyday life is crucial for interpreting organization and change in human societies. Far from passive acts and mundane practices the things that Chan's farmers did on a day-to-day basis constructed a long-lived community and had implications for the development of Maya civilization. The significant material traces of farmers' everyday lives allow archaeologists today, as they did for ancient people, to interact with the material record and understand life and change in the past.

Meierhoff, James [153] *see Golitko, Mark L*

Mein, Alicia [37] *see Johnson, William C.*

Melgar, Emiliano (Posgrado UNAM)

[152] *Identifying Technological Styles of Lapidary Objects: The Los Angeles County Museum of Art's Mesoamerican Collection*

In general, the classification of the lapidary objects is based on their morphological and aesthetical characteristics. It avoids the possibility of imitation of specific pieces and styles. Because of that, the study of the technology is critical to identify and distinguish the different manufacturing traditions developed in Mesoamerica. In this paper I will present the technological analyses applied to the LACMA lapidary collection, using experimental archaeology and characterization of manufacturing traces with SEM. By this way, I identify pre-Hispanic pieces from certain manufacturing traditions of Mesoamerica, based on the technological analyses of lapidary collections from different regions and periods.

Meltzer, David (Southern Methodist University)

[241] *Robert C. Dunnell: an introduction to the person and the symposium*

Robert Dunnell was a prolific author, and though best known for his evolutionary archaeology, he made contributions to classification, history and philosophy of archaeology, luminescence dating, and North American prehistory. At the University of Washington he built the archaeology program, spent a dozen years as Department Chair, and advised 29 PhDs. That's the professional ledger. The off campus Dunnell, less widely known, was a consummate story-teller, skilled craftsman, expert in botany and entomology, and a voracious reader of history and science - and People magazine. I'll discuss the two Dunnells, drawing on contributions from his longtime colleague Donald Grayson.

[241] *Second Organizer*

Mendelsohn, Rebecca (University at Albany, SUNY) and Robert Rosenswig (University at Albany, SUNY)

[233] *Families and Feasts: Households and Feasting Practices at the Dawn of Ceramic Technology*

Unlike early ceramic assemblages in many parts of the world, "fancy" wares and teccomate vessel forms (neckless globular jars) characterize the earliest ceramics from the Soconusco region of Chiapas, Mexico. Explanations for these unusual assemblages have ranged from their use as everyday multi-functional vessels to use as competitive feasting wares. Drawing upon data from the coastal site of Cuauhtémoc, this research evaluates the degree in which early households were involved with feasting practices and socio-political

competition.

Mendelsohn, Rebecca [62] *see Rosenswig, Robert M.*

Mendez, Alonso

[269] *The Astronomy of Creation.*

This paper focuses on records found at Palenque, Tikal and Chichen Itza, which reveal a relationship between these sites to the solar stations of zenith and nadir. The cosmology expressed at these sites, and how these stations are integrated into the architectural alignments of major temples, reveal a dialectic approach to both local as well as mythological or "idealized" Zenith and Nadir. This integral relationship between myth and reality conveys a political message that is steeped in a cosmological undercurrent, and helps to identify the symbolic layout of the city, and its pivotal position in the larger landscape.

Mendez, Cesar (Departamento de Antropología, Universidad de Chile) and Donald Jackson (Universidad de Chile)

[231] *Terminal Pleistocene lithic technology and mobility in Central Chile*

We synthesize lithic technology from Terminal Pleistocene sites in Central Chile (~31-34° S), including: Quebrada Santa Julia (12900 cal yr. BP), Valiente (12620-11380 cal yr. BP), Taguatagua 1 (12980 cal yr. BP) and 2 (11475 cal yr. BP) sites. These significantly diverse assemblages cannot be explained through a traditional typological approach. A technological analysis shows that diversity can be better interpreted due to variations in discard rates, raw material availability and site function. These sites can be functionally integrated as segments of an evolving system of the use of space by hunter-gatherers in their first regional exploration. FONDECYT 1090027 grant.

[231] *Second Organizer [231] First Chair*

Mendoza, Rubén (CSU Monterey Bay)

[188] *Streetscapes of the Asphalt Jungle: An Archaeological Approach to the Chicano Youth Counterculture*

The Chicano counterculture, which subsumes Lowrider social clubs, Cholos, Pachucos, Tecatos, Klikas, Mini-Truckers, Spooks, and Pintos, continues to generate a particularly distinctive corpus of material cultures and social networks. In an effort to more fully interrogate the dynamics of materiality and agency among Chicano youth, this paper will report findings from over 35 years of material culture studies among Lowrider social clubs. In this instance, the Lowrider phenomenon is interpreted from the standpoint of clique formation, and those solidarity networks and mutual aid societies borne of the immigrant experience.

[188] *Discussant [188] Second Organizer*

Menocal, Tatianna (Desert Research Institute/UNLV) and Lauren W. Falvey (Desert Research Institute/UNLV)

[67] *Evidence of Historic Wooden Footwear in Southern Nevada*

The Nevada National Security Site (NNSS, formerly the Nevada Test Site), best known for its affiliation with atomic testing, also has a rich history related to mining and ranching. Cultural resources from the NNSS are

managed by the Desert Research Institute (DRI). Investigations conducted by the DRI have produced collections of historic artifacts associated with these activities. A wooden overshoe was recovered from the northern part of the NNSS, where both mining and ranching occurred. This artifact is evaluated with reference to its potential use in these activities and value to early 20th century Nevada history.

Mensan, Romain (universite Toulouse 2 le Mirail)

[11] *Castanet and Regismont-le-haut: A paleo-ethnological view of two Aurignacian sites in the south of France*

The Aurignacian sites of Abri Castanet (Dordogne) and Regismont-le-haut (Languedoc) each have a single archaeological level. Recent controlled excavations in both of these levels have yielded very well preserved combustion structures that seem to be central to on-site activity. Because Castanet is a rockshelter and Regismont is an open-air site, interesting similarities and differences exist between these two occupations. Using recent excavation data and these comparisons, we can begin to understand the character of these Aurignacian occupations from a paleo-ethnological perspective.

Mentesana, Roberta [270] *see Gilstrap, William*

Mentzer, Susan (Eberhard Karls Universität Tübingen), Mary Voyatzis (University of Arizona) and David Gilman Romano (University of Arizona)

[274] *Repeated sacrificial burning events and the development of an anthrosol on Mt. Lykaion, Greece*
The sacrificial altar to Zeus on Mt. Lykaion (Peloponnese, Greece) is an open-air ritual locality containing archaeological materials that date to the Final Neolithic through Late Classical periods. Repeated offering events carried out atop the mountain summit produced a thick burned deposit. Micromorphology reveals that this deposit is best described as an anthrosol that is very distinct in composition, structure and fabric from the local red Mediterranean soils. Abundant fragments of burned bone, charcoal and organic material attracted rodents and insects, whose activities resulted in the development of numerous bioturbation features and disruption of some portions of the ritual deposit.

Mentzer, Susan [20] *see Holliday, Vance T.*

Menze, Bjoern [200] *see Ur, Jason*

Mercier, Norbert [202] *see Morley, Mike W.*

Meredith, Clayton (Idaho State University) and John Dudgeon (Idaho State University)

[177] *Analysis of dental material diagenesis using FTIR as an indicator for potential further biomolecular analysis: a case study in the Pacific*

Raman scattering and FTIR spectroscopy can be used to analyze the crystalline structure of tooth apatite as a semi-quantitative measure of diagenetic processes. Multivariate single value decomposition (SVD) statistics were used on raw spectra with the goal of developing a quantitative and inexpensive method for determining the potential for downstream analysis on dental materials.

Archaeological tooth samples from a variety of depositional contexts across the Pacific were mapped using FTIR microscopy to examine the structural changes produced by intrusive materials within teeth and the relationship between these changes and the potential for further biomolecular analysis (stable isotopes and aDNA).

Merlin, Mark (University of Hawaii at Manoa)

[121] *Remarkable archaeobotanical discoveries of ancient burials in early 20th and 21st confirm the ceremonial Cannabis use in Central Asia during 1st millennium B.C.E.*

Archaeobotanical discoveries in the early 20th and 21st Centuries confirm the ritual use of Cannabis in the first millennia B.C.E. Ancient historical description of Scythian ceremonial use of Cannabis in Eurasian steppes by Herodotus was supported by evidence discovered by Rudenko in the 1920s in frozen tombs of Iron Age horsemen in the Altai Mountains. Early in this century, exceedingly rare, well-preserved ancient Cannabis was found in association with a human burial in arid Western China. This paper discusses the relationships of these discoveries in light of additional ancient evidence for the great antiquity of multipurpose use of Cannabis.

Merrill, William [140] *see Freeman, Jacob*

Merriman, Christopher (University of New Mexico) and Julia Clifton (Museum of Indian Arts and Culture)

[164] *The Paleoindian Occupation of the Northern Jornada del Muerto, New Mexico: Using the Robert H. Weber Collection to Investigate Regional Scale Paleoindian Land Use Patterns*

For roughly 50 years geologist and avocational archaeologist Robert Weber collected, mapped, and cataloged tens of thousands of surface artifacts from the area around Socorro, NM. After his death in 2008 this extraordinary collection was donated to the Museum of Indian Arts and Culture in Santa Fe and included not just artifacts, but detailed maps, notes, and specific provenience information for each artifact. This paper presents the results of a GIS based analysis of the spatial distribution of the Paleoindian portion of the collection amassed from the Northern Jornada del Muerto.

Messenger, Lewis (Hamline University)

[209] *Using the Climatic Analogs Data-Gathering Project ("CADGAP") to Environmentally Contextualize Ancient Cultures*

To understand a culture's "history" involves understanding the climatic and environmental contexts in which people lived, how these changed over time, and if such changes tended to result in structural and perceptual reorganizations, essentially, ancient cultural change. This paper describes a team-based data-analysis project called "Climatic Analogs Data-Gathering Project" (CADGAP) used in undergraduate prehistory and cultural ecology classes. Students use on-line meteorological databases to create spreadsheets to generate climatic scenarios for past times and regions. By seeing and evaluating such changes and comparing them with archaeological sequences, students also develop a greater capacity to relate cultural change to climatic and environmental change.

Messenger, Phyllis (University of Minnesota) [209]
First Chair

Messenger, Phyllis [209] *see Hayes, Katherine H.*

Messer, Andrea (Penn State) [115] *Discussant [115]*
First Chair

Messersmith, Mallory (University of Alabama at Birmingham) and Sharyn Jones (University of Alabama at Birmingham)

[177] *Domestic and Ritual Cooking: Ethnoarchaeology of Fire Features in Fiji's Lau Group*

This paper examines the earth oven, a common Fijian feature, from an ethnoarchaeological perspective. We utilize archaeological, ethnohistorical, and ethnographic data from Fiji's Lau Group. Earth ovens hold an important role in contemporary household food preparation, as well as preparation for feasting and ceremonies. Historical accounts of the region directly following European contact also point to the use of earth ovens in associations with rituals, including cannibalistic practices. While these rituals are no longer practiced, analysis of suspected ritual features, ethnohistorical records, and comparison with ethnographic parallels of everyday fire features can aid in the recognition of prehistoric ritual sites.

Messersmith, Mallory [250] *see Jones, Sharyn R.*

Messineo, Pablo (CONICET- Facultad de Ciencias Sociales (UNCPBA)), María Barros (CONICET - INCUAPA - Facultad de Ciencias Sociales, UNCPBA) and Néilda Pal (CONICET - Centro Austral de Investigaciones Científicas)

[159] *Technological choices in local and non-local stone tools production and use in a ritual context (Calera site, Pampean grassland, Argentina).*

Calera site is located in an intermountain valley in the northwest Tandilia Range System. The hunter-gatherers groups who inhabited this area during the late Holocene exploited a wide variety of rocks and minerals. This site, located near several quarries and workshops, has been interpreted as the result of offerings and ceremonial trash deposited in pits related to ritual activities. The aim of this work is to discuss the strategies applied in the procurement, tool production and use of local chert and non-local orthoquartzite. Economic, functional, and social factors have influenced the way lithic tools were manufactured and used in Calera.

Messineo, Pablo [8] *see González, Mariela E.*

Messner, Timothy (UW - Stevens Point)

[271] *Exploring the emergence of grinding stone technology and its relationship to plants and pigment*
 Grinding stone technologies first emerged in North America during the Archaic period. These technological innovations occurred in tandem with socio-cultural developments, however the connection remains poorly understood. This paper reports on findings from multi-proxy residue analyses of Archaic period Koster grinding tools. The data demonstrates that grinding technology served multiple purposes including plant and pigment processing. While the former likely pertains to

subsistence, the later may relate to symbolic aspects of culture. These findings are then compared to the larger framework of North American grinding stone technology to assess uniformity in the development of this industry.
[271] *Second Chair*

Metcalfe, Sarah (University of Nottingham, UK) and Sarah Davies (Institute of Geography and Earth Science, Aberystwyth University, UK)

[21] *Climate change in central and southern Mexico over the last 2000 years: sites, sensitivity and significance*

The nature of the relationship between climate change and human response remains a focus of debate, sometimes polarising between a tendency to environmental determinism and denial that climate has any influence on human behaviour. Mesoamerica has been a focus of interest in the relationship between climate (especially drought), environment and people at both regional and local scales, in settings of physical and cultural complexity. This paper reviews records of environmental change, primarily from the Yucatan peninsula and the Trans Mexican Volcanic Belt and considers the roles of different sites, proxies and sensitivities to our interpretation of change and its significance.

Meyer, Cailin (Illinois State University)

[240] *Food and Social Identity: Establishing Antebellum Ethnic and Class Boundaries through Faunal Remains*

This paper examines the possibility of identifying the ethnic and class identity of the persons responsible for an antebellum-period feature through its recovered faunal remains. Representing food remains either from the Royston family or from their slaves, the assemblage was discovered on the Royston property in Washington, Arkansas, by Dr. Jamie Brandon. Topics covered in the analysis include: identifying the primary contributors of the food remains; examining how food consumption challenged, changed and maintained expressions of class conflict and ethnic identity; and understanding conscious and unconscious attempts to maintain a social hierarchy through the use of food.

Meyer, Michael [117] *see Jacobs, Zenobia*

Meyer, William (University of North Carolina at Chapel Hill)

[91] *On Changing Places: "Which is the justice, which is the thief?"*

Archaeologists have been drawn to historical ecology because it focuses our inquiry on change in human-land relationships over time. Historical ecology engenders other alterations in archaeological practice. Because of the kinds of data we use, historical ecology often deepens our relationships with living communities. Drawing upon fieldwork in east-central France, I discuss some ethical dilemmas that such re-orientations can create for the archaeologist and suggest ways we might address these problems.

Meyer, William [7] *see Buck, Paul*

Meyers, Katy (Michigan State University)

[59] *Co-Occurrence of Cremation and Inhumation in Cemeteries: A Case Study at Isola Sacra, Italy.*

This presentation examines the nature of mortuary sites

with co-occurrence of burial forms, specifically cremation and inhumation. Cremation and inhumation are generally interpreted as representing different cultural and religious traditions that vary by population or time. Therefore, co-occurrence of these burial forms potentially indicates cultural and social differences of individuals interred. With a lack of research on cremation and co-occurrences of different mortuary forms, sites having these characteristics have been understudied. However, such sites deserve attention in order to create more nuanced interpretations of mortuary behavior. Presented here is a case study: the cemetery of Isola Sacra from Rome, Italy.

Meza, Abigail (Universidad Nacional Autónoma de México, IIA)

[94] *Human's bones tools from La Ventilla, Teotihuacan: Who were used as raw material?*

The ancient City of Teotihuacan, was about 45 km northeast of Mexico City, rose around 150 B.C. and grew to become the center of one earliest state societies in the Americas, and have a strong influence over much of the Mesoamerican world until about A.D. 650. Although is usually to find the use of human's bones like raw material bones tools in different context in this old city, the identity of the "human bone tools" are not clear, we believe that they were probably Teotihuacan people. The analysis of frontal sinuses outline, indicates that there were certainly very closer to the traditional burials and maybe the human's bone tools was part of the mortuary practices and served as physical focus of ancestor worship.

Michael, Amy (Michigan State University), Amanda Harvey (University of Southern Mississippi), Joshua Burbank (University of Oklahoma), Danielle Hanson (Indiana University) and Gabriel Wrobel (University of Mississippi)

[203] *Mortuary Patterns and Use of Space at the Sapodilla Rockshelter, Belize*

Excavations at Sapodilla Rockshelter revealed 34 primary and 4 secondary burials, as well as commingled bones and a variety of artifacts. Ceramics spanned the Late Preclassic through Terminal Classic periods. An inventory and analysis of artifacts and bones allowed identification of particular ritual behaviors, many of which were focused on specific areas of the cave. These patterns imply that space was highly controlled and that differential use of space for certain public or private rituals likely related to both functional and ideological considerations. A review of data from other nearby Maya caves and rockshelters identifies similar patterns of ritual behavior.

Michelaki, Kostalena (School of Human Evolution and Social Change, ASU)

[270] *Exploring Neolithic Taskscapes in Bova Marina, SW Calabria, Italy*

Forty-two samples of geological clays were collected from around the 'communi' of Bova Marina and Bova to understand the various raw materials available to the local Neolithic potters. Comparison of the mineralogical and chemical characteristics of these clays with those of Neolithic ceramics from the sites of Umbro and Penitenzeria (within the same 'communi') revealed that one clay type was utilized for the majority of ceramics, although three types were present. One ceramic style typically thought of as a foreign import, Buff figulina, was

produced locally utilizing a single clay type, which was the hardest to process and fire.

Michelet, Dominique (CNRS/Université de PARIS 1), Grégory Pereira (CNRS, France) and Gérald Migeon (Ministère de la Culture, France)

[98] *Defensive works in Central-West Mexico and their sociopolitical implications*

Several investigations carried out over the last 30 years in Central-West Mexico – particularly in northern Michoacan and southern Guanajuato – have led to the discovery of defensive works, sometimes monumental, dating to the Epiclassic and Postclassic. Moreover, these works are often associated with unprecedented population concentrations. We examine the characteristics of these works and the sites that accompany them, and we investigate the sense of these two types of elements in sociopolitical terms. First, what circumstances contributed to their emergence? Second, what kinds of sociopolitical organizations – newly emergent – could have appeared at the moment of their construction?

Michelet, Dominique [21] see Faugere, Brigitte

Mickelson, Andrew (University of Memphis), Eric Goddard (University of Memphis), Scott Hadley (University of Memphis) and Katherine Mickelson (University of Memphis)

[196] *Early Mississippian Nucleated Settlements in the Hinterlands of the Mississippi Valley in Western Tennessee*

Until recently, the Obion site (40HY14) has been the only known Early Mississippian town consisting of platform mounds and an associated habitation area reported for the region. Magnetometry surveys, topographic mapping, and excavations at Ames (40FY7) and Denmark (40MD85) have demonstrated that both sites are small Early Mississippian towns possessing significant settlements adjacent to small mound complexes. The unique ecological setting of the two sites will be examined. The variability in the settlement plans of Ames and Denmark will also be discussed.

Mickelson, Andrew [196] see Mickelson, Katherine [185] see Hadley, Scott P.

Mickelson, Katherine (University of Memphis) and Andrew mickelson (University of Memphis)

[196] *Early Mississippian Paleoethnobotany at the Ames Site in the Hinterlands of Western Tennessee*

Ames Plantation is a Mississippian mound and village site located in Western Tennessee. The site is situated in diverse ecotone, consisting of loess uplands adjacent to fertile floodplains and wetland habitats. Plant remains from mound and non-mound contexts indicate inhabitants exploited each of these habitats: cultigens and crops were grown in floodplains; mast resources were concentrated in the uplands, and a wide array of fruits and herbaceous resources in rich edge zones. Paleobotanical remains from Ames the only data of the extensive mixed economy during the Early Mississippian period in Western Tennessee.

Mickelson, Katherine [196] see Mickelson, Andrew M.

Mickelson, Katherine R. [2] see Jeter, Marvin D.

Middlebrook, Tom (Texas Archeological Stewardship Network)

[17] *The Use and Limits of Early European Descriptions of Hasinai Elites in the Understanding of Prehistoric Caddo Mortuary Practices in Shelby County, Texas*
During late 17th and early 18th century mission-building entradas to the northeastern frontier of Spanish Texas (the "Kingdom of the Tejas"), several European chroniclers provided descriptions of the socio-political elites amongst the Hasinai Caddo groups. Civil leadership was centered in a headman referred to as a caddi while several constituent groups gave principal religious allegiance to a shamanistic figure known as the grand xinesi who resided with two heavenly children, perhaps twins, called coninesi. Mortuary findings at the prehistoric Tyson (41SY92) and the Morse Mound (41SY27) sites will be discussed in light of these later descriptions of Hasinai elites.

Middleton, Abigail (University of Missouri) and Maria Masucci (Drew University)

[235] *Settlement and Expansion in Coastal Southwest Ecuador: Developments Spanning the Late Formative and Regional Developmental Periods*

Recent survey of previously unstudied areas of the El Azucar and Zapotal River valleys of the southwest Ecuadorian littoral reveals a surprising number of Late Formative-Engoroy sites and a co-occurrence of Engoroy and Integration Period remains. These results draw attention to: the need to examine settlement expansion in the Late Formative; the lack of paleoenvironmental research in which to ground study of Late Formative adaptation; settlement location strategies in the Late Formative and Integration Period; the development of agricultural communities in the Late Formative and adaptations to the high risk littoral regions. These new data and possible explanations are presented.

Middleton, Emily (University of Nevada, Reno) and Peter Carey (University of Nevada, Reno)

[161] *Preliminary Results of the Analysis of an Early Holocene Lithic Assemblage from Rockshelter LSP-1, Warner Valley Oregon*

Two seasons of excavation at LSP-1, a small rockshelter in Oregon's Warner Valley, have produced a modest lithic assemblage containing multiple Cascade projectile points. These points, which occupy a broad temporal range in the Northern Great Basin, are associated with radiocarbon dates of 8,300 14C B.P. at LSP-1. we describe the range of lithic artifacts found with these points, consider the technological activities that those artifacts suggest occurred at the site, and place our findings within the broad context of what we know about early Holocene lifeways in Warner Valley.

Migeon, Gérald [98] see Michelet, Dominique

Mihailovic, Dusan [202] see Morley, Mike W.

Mihailovic, Dušan [202] see Alex, Bridget A.

Mihok, Lorena (University of South Florida) and E. Christian Wells (University of South Florida)

[37] *Geochemical Prospection at Augusta, an 18th*

Century English Settlement on Roatan Island, Honduras
Geochemical analyses of soils and sediments have been used in a variety of contexts to prospect for activity loci, with the greater goal of identifying the nature and extent of past human behaviors at archaeological sites. However, much of this work has focused on prehistoric settlements, leaving gaps in our understanding about the fate and transport of chemical residues in historical settings. This poster reports the results of a multi-elemental analysis of anthrosols from Augusta, Honduras, showing the ways in which 18th Century English settlers used domestic spaces during their attempts to colonize Roatan Island.

Milan, Christopher (Yale University)

[92] *Coast-Highland Interaction on the Central Coast of Peru during the Initial Period and Early Horizon*

Malpaso is a U-shaped temple located in the middle section of the Lurin valley and was occupied from the end of the Initial Period to the middle of the Early Horizon (1800-200 BC). Nearby hamlets can be affiliated with both coastal and highland ethnic groups. As Malpaso developed from a local ceremonial center to a regional center, highland groups were pulled into its sphere. Based on the data collected from Malpaso and neighboring hamlets it will be shown that while early temples facilitated interaction between the two ethnic groups, communities retained a great deal of independence.

Milanovich, Sean (Agua Caliente Band of Cahuilla Indians)

[248] *Cahuilla Trail and Place Names*

This poster focuses on the renaming of trails and place names within the Indian Canyons Heritage Park located on the Agua Caliente Indian Reservation. The park is managed by the Agua Caliente Band Of Cahuilla Indians and is open to the public. The canyons were once occupied by the Paniktikm and Achachem Clans. The Park is an important part of the Tribe's cultural heritage and identity. The canyon areas contain village and habitation areas, gathering areas, trails, TCP's and other places of significance. The Tribe is proposing to change some of the names to traditional Cahuilla names.

Milbrath, Susan (Florida Museum of Natural History)

[269] *A Seasonal Calendar in the Codex Borgia*

An 18-page narrative in the Central Mexican Codex Borgia records an embedded annual calendar representing the changing seasons. Imagery of maize undergoes a seasonal transformation with the alternation of the rainy and dry seasons. Dry season images emphasize death deities carrying maize and fire gods, in marked contrast to rainy season images showing bees, hummingbirds, and an abundance of maize and flowers. The Sun God takes on a seasonal aspect during the rainy season, housed in a flowered temple on the summer solstice and fall equinox, whereas fire-serpent temples represent the dry season on the winter solstice and spring equinox.

[269] *First Chair*

Milideo, Lauren (Penn State University), Carl Falk (PaleoCultural Research Group), Holmes Semken (University of Iowa) and Russell Graham (Penn State)

[38] *Multivariate Analysis of a Late Holocene Faunal Transect Across the Forest-Prairie Ecotone*

The zooarchaeological record can be a useful proxy for reconstructing environments, if various biases can be controlled. This study assessed the effects of taphonomy in overprinting the environmental signal for a late Holocene (4000-0 ybp) archaeological/paleontological mammal dataset (Neotoma database) extending across the prairie-forest ecotone in the upper Midwest. We performed a Nonmetric Multidimensional Scaling analysis of these data and concluded that faunally-based environmental interpretation is possible over large geographic areas with strong environmental gradients (e.g. IL to ND), but taphonomic factors and the "cultural" filter obscure environmental signals at more localized scales (e.g., individual states).

Milideo, Lauren [41] *see Gifford, John A.*

Miller, Christopher, Mareike Stahlschmidt (Institute for Archaeological Sciences, University of Tübingen), Paul Goldberg (Boston University), Francesco Berna (Boston University) and Nicholas J. Conard (University of Tübingen)

[93] *The "Hearths" of Schöningen 13-III/4 and their implication for the evidence for human control of fire in the Middle Pleistocene of Northern Europe*

When and how humans began to control fire has been a central debate in Paleolithic archaeology for decades. Fire plays an important role in human social organization, manipulation of the environment, and is viewed as a necessary adaptation for the colonization of northern latitudes. The "hearths" at Schöningen are viewed as providing the best evidence for the control of fire in the Middle Pleistocene of northern Europe. Here we present results of a multidisciplinary study of four "hearths" at Schöningen 13III-4, the Horse Butchery Site. These results show that a micro-contextual approach is the best method for identifying early "hearths."

[93] *Second Chair*

Miller, Christopher E. [93] *see Stahlschmidt, Mareike*

Miller, D. Shane (University of Arizona), Thaddeus Bissett (University of Tennessee) and Stephen Carmody (University of Tennessee)

[16] *Examining Paleoindian and Archaic Subsistence Trajectories in the Mid-South*

Ever since Brown and Vierra (1983) asked "What Happened in the Middle Archaic?," many have noted substantial changes in the archaeological record during mid-Holocene in Eastern North America. In this paper, we will utilize formal models derived from human behavioral ecology as a theoretical framework to interpret variation in paleobotanical, zooarchaeological, and stone tool assemblages from a sample of sites in the Mid-South from the Paleoindian through Archaic periods. In particular, we argue that the Middle Archaic resembles a potential "tipping point" in a complex adaptive system and may be the result of trends that have considerable time depth.

Miller, D. Shane [43] *see Ballenger, Jesse [24]* *see Gabler, Brandon M. [84]* *see Yerka, Stephen J.*

Miller, Derek (College of William and Mary)

[276] *The Jewish Burial Ground of Barbados*

There are over 300 tombstones in the Jewish burial ground surrounding the Synagogue in Bridgetown, Barbados. The tombstones date from the late 17th century through to the present. The tombstones provide invaluable insights into the societal structure of the Jewish community along with information on the various waves of Jewish migration to the island. Additionally, the linguistic choices made on the tombstones highlight a number of different facets of a person living within a diaspora. The languages chosen indicate connections to various homelands (Iberia, Israel) while also demonstrating integration into island society overtime through the adoption of English.

Miller, Jennifer (University of Alberta)

[83] *Ostrich Eggshell Bead Variation in the East African Later Stone Age*

Ostrich eggshell (OES) beads are present at many African archaeological sites from the Middle Stone Age to historic times. Previous studies of OES bead variability have focused on the hunting/herding threshold in southern Africa and found steady changes in diameter over time. My research demonstrates that these changes are also present in eastern Africa at Mlambalasi, a rockshelter in Tanzania. Not only do the OES beads from Mlambalasi show diameter changes similar to those observed in southern Africa, but they demonstrate that this pattern extends back to at least 14,000 years BP, well into the Later Stone Age.

Miller, Jessica R. [64] *see Schneider, Seth A.*

Miller, Melanie (University of California, Berkeley), Jose Capriles (Washington University in St. Louis) and David Browman (Washington University in St. Louis)

[144] *How much of the herd do pastoralists actually consume? Reconstructing Ancient Pastoralist Food Utilization through Faunal Analysis and Stable Isotopes*

Traditionally pastoralists spend most of their time managing grazing animals. However, their actual consumption of domesticated herds can vary because they also procure other resources including cultivated plants and wild animals. In this paper, we integrate results of faunal identification, and carbon and nitrogen stable isotopes (from collagen and apatite) of human and animal bones, to assess resource utilization by Formative Period camelid pastoralists in the central altiplano of Bolivia. Results suggest ancient herders consumed a diversity of vegetal and faunal resources, including aquatic species. The broad-diet breadth documented in this study is consistent with a risk management pastoralist strategy.

[144] *First Chair*

Miller, Virginia (University of Illinois at Chicago)

[275] *The Castillo-sub at Chichén Itzá*

Despite its dominant position on Chichén Itzá's Great Terrace, the Castillo remains one of the most enigmatic structures at the site. Encased within the outer pyramid is an earlier one and its temple, a rare example of an intact chamber found with furnishings and termination offerings. When the new temple was built, it was dedicated with a cache of similar objects, but accompanying a human sacrifice. This paper explores the function and meaning

of the original Castillo with emphasis on its temple, the ritual offerings of the old and new buildings, and the relationship between the structure and its surroundings.

Miller, Whitney [168] *see* France, Christine

Millhauser, John (Northwestern University)

[62] *A consideration of the social value of salt production: a view from Aztec and Colonial Mexico*

This paper presents results of the survey, mapping, and excavation of an Aztec and Colonial salt-making community at San Bartolome Salinas, Estado de Mexico. Though scholars have argued that Aztec salt-making could not have been a full-time occupation, let alone a basis for entire communities, I argue that, as increasing demand encouraged the intensification and expansion of salt-making, this work became a basis for social solidarity and workplaces became sites of residence, identity, and value. These findings shed light on the role of specialized production in creating and sustaining communities and transforming the social landscape.

Millhouse, Philip (University of Illinois-ITARP)

[198] *The Role of the Apple River Culture on the Northern Mississippian Frontier*

From A.D. 1100-1300 a distinct group of Mississippian people occupied the lower Apple River Valley in northwestern Illinois. It is believed that Mississippians migrated to the area from the south and established a series of settlements with local Woodland people. During the two centuries of occupation these people initially emulated many aspects of Mississippian culture, but soon created their own cultural trajectory. The establishment, development and demise of the Apple River culture ultimately had a profound impact on Native American histories in the upper Midwest.

Mills, Barbara J. [260] *see* Borck, Lewis

Mills, Barbara (University of Arizona), Jeffery Clark (Center for Desert Archaeology), Wm.R. Haas (University of Arizona), Matthew Peeples (University of Arizona) and Lewis Borck (University of Arizona)

[260] *The Topology of Persistence: Network Analysis and Southwest Settlement Stability, AD 1200-1500*
Why did some sites persist through the late prehispanic period of the U.S. Southwest while others were depopulated? In this paper we use social network analysis to explore what characterizes long occupied sites in terms of their structural position and relationships within their network. Using ceramic data in the Southwest Social Networks Database we look at different scales from the individual valley to the macro-regional level to understand variation in network participation by persistent places in their social landscape. We use several network attributes including centrality and topological structure and compare the results to diversity measures and public architecture.

[57] *Discussant*

Mills, Barbara [260] *see* Haas, Wm. Randall **[251]** *see* Murray, Wendi Field

Mills, Robin [27] *see* Curtis, Tiffany A.

Milne, S (University of Manitoba), Robert Park (University of Waterloo) and Mostafa Fayek (University of Manitoba)

[127] *Chert Sourcing and Palaeo-Eskimo Lithic Raw Material Use in the Interior of Southern Baffin Island, Arctic Canada*

The Palaeo-Eskimos are the earliest inhabitants of the eastern Arctic and are well known for their small, sophisticated lithic toolkit. On southern Baffin Island chert is highly variable in colour and is most abundant in the island's interior where it is found in widespread surface scatters. We developed a combined visual and geochemical sourcing approach to assess how many distinct chert sources were exploited by southern Baffin Palaeo-Eskimo toolmakers. This paper presents new data on toolstone diversity in this region and further underscores the challenge of accurately sourcing it.

Milner, George (Pennsylvania State University)

[51] *The Contributions of Population Movement, Warfare, and Climatic Deterioration to the Late Prehistoric Depopulation of the American Midwest*

Over the course of the half millennium ending at AD 1500, the American Midwest went from one of the most heavily populated regions of North America (north of Mexico) to a sparsely occupied landscape with settlement clusters spaced to maximize distance from one another. This dramatic change involved population movement, warfare, and climate change, the effects of which are only incompletely understood with existing archaeological information. Readily available and newly collected data pertaining to this large-scale abandonment are summarized, and a research strategy to address how and why it took place is outlined.

[102] *Discussant*

Milner, George [123] *see* Zavodny, Emily

Milner, George R. [196] *see* Hally, David J.

Milošević, Stefan [202] *see* Alex, Bridget A.

Minc, Leah [235] *see* Yanchar, Kaitlin C.

Mink, Philip (Kentucky Archaeological Survey), Kimberly Istok (University of Kentucky), Christina Pappas (University of Kentucky Office of State Archaeology), Edward Henry (University of Mississippi) and Allison Esterle (University of Kentucky)

[7] *A Grand Cemetery: A Recent Archaeogeomatic Investigation of the Pioneer Cemetery in Grand Canyon National Park*

The Pioneer Cemetery, located on the South Rim in Grand Canyon National Park, is an active cemetery containing the graves of pioneer settlers and individuals employed at the Park through its 93 year history. The interments are representative of an eclectic mix of mortuary practices but poor historic record keeping has hindered the modern management of this resource. This poster presents the results of recent archaeogeomatic investigations of the cemetery. Combining ground penetrating radar and other terrestrial remote sensing data with surface mapping data of the site has allowed us to investigate the mortuary landscape of this unusual resource.

Mink, Philip B. [7] *see Henry, Edward R.*

Mires, Ann Marie

[14] *The Use of Forensic Bioarchaeology in Missing Person Cases*

Current research on missing persons suggests that endangered persons are often found within a one to five mile radius of where they were last seen. These data are used to provide predictive models that can be implemented at the time a person goes missing to reduce the time between death and recovery. Additionally, this modeling is used to revisit unfound, missing person cases in an attempt to locate these unfound after considerable time. Case examples, utilizing FAR (Forensic Archaeology Recovery) personnel, are presented to highlight the use of predictive modeling in search and recovery and in unfound missing persons' cases.

Mirro, Vanessa (Applied EarthWorks, Inc.) and Ann M. Scott (aci consulting)

[208] *Secrets from the Ancestors: Understanding Maya Human Remains in the Cave Context*

Debates surrounding the interpretation of human remains in Maya caves have considerable antiquity. Those that considered caves to be habitation sites generally considered skeletal material to represent deliberate burial. Only with the rise of a specialized cave archaeology that accepts caves as ritual space, has the possibility been consistently explored that human remains are the result of ritual activity, namely human sacrifice. Little has been done to distinguish between sacrifice and deliberate burial in the cave context. Using bioarchaeological data from cave sites in the Maya region, this paper identifies problems with interpretation and offers solutions.

Mitchell, Ammie (SUNY at Buffalo)

[124] *A Reanalysis of the Early Woodland Component at the Sinking Ponds Site, East Aurora, New York*

The Early Woodland period in the northern Eastern Woodlands traditionally marks the beginning of the adoption of ceramic technology, plant cultivation, and increasing sedentism. The Early Woodland Meadowood culture flourished between 3000-2400 B.P., throughout much of New England and southern Ontario. This culture is attributed with the adoption of the earliest ceramic technology, but there are few directly AMS C14 dated sherds found in association with Meadowood materials to support this theory. Excavations were reopened at the Sinking Ponds site in 2011. Results of these excavations call into question the relationship of the Meadowood culture and Vinette 1 pottery.

Mitchell, Mark (Paleocultural Research Group)

[186] *Compositional and Technological Analyses of Copper Artifacts from Four Heart River Communities: Chronological and Cultural Implications*

Copper artifacts commonly are recovered in small numbers from the villages and towns near the confluence of the Heart and Missouri rivers. The earliest examples, dating to around 1200, likely came to the region through a trade network linking the northern Middle Missouri to the southern Great Lakes. After 1500, the number of cuprous artifacts reaching the communities on the

Missouri increased substantially. In the seventeenth century, colonial trade brought European smelted copper and brass artifacts to the region. Data on the form and provenance of copper-based artifacts are crucial for understanding Heart River history and regional connections.

[186] *First Chair*

Mitchell, Mark D. [51] *see Bamforth, Douglas B.*

Mitchell, Seth (AK Environmental) and Lisa Dugas (GAI Consultants)

[78] *Don't Be Cruel, They Have Soul Too: Investigating Social Group Identity Within the Late Prehistoric Monongahela Tradition*

A combination of ceramic and bone tool analyses from different sites in western Pennsylvania illustrates that different social identities can be recognized within the Late Prehistoric Monongahela Tradition. The artisan's preferred manufacturing process intentionally, or unintentionally, creates a shared identity with other group members. Relationships with the environment, between belief and ritual systems, as well as those with other groups may be revealed in the material culture. All of these aspects define the social identity of the group. Material culture studies that focus on total artifact design within a theory of style provide a means to investigate these social identities.

Mitchem, Jeffrey (Arkansas Archeological Survey)

[189] *Decoration and Vessel Form in Parkin Phase Ceramics*

The Parkin phase in northeast Arkansas was defined partly on the basis of ceramic types and varieties. Collections from all known Parkin phase sites were examined, including excavated and surface assemblages, to determine if specific modes and methods of decoration were used consistently on particular vessel forms. The results indicate that there is correlation of the major types and varieties with specific forms, but there is also a great deal of individual variation in some sites, probably the result of individual potters expressing artistic license.

Mixter, David (Washington University in St. Louis), Kara A. Rothenberg (University of South Florida) and Lauren D. Hahn (University of California, San Diego)

[203] *Living during Collapse: An Analysis of Household Modification during the Terminal Classic Period at Actuncan, Cayo, Belize*

Research during the 1990s by the Xunantunich Archaeological Project suggested that the Belizean Mopan River Valley experienced a relatively rapid decline in population during the ninth century in association with the collapse of Classic Maya civilization. Recent research at the prehispanic Maya site settlement of Actuncan suggests a different pattern. Rather than facing abandonment, households at Actuncan continued to grow during the Terminal Classic period. This paper reports on the patterns of architectural modification within three households at Actuncan during the Terminal Classic period and their possible implications for shifting social and political power structures within the Mopan Valley region.

Mizuho, Ikeda

[99] *New Approaches to Cultural Heritage Management: A Case Study from Phrae Province, Thailand*

Ongoing research is presented from Phrae northern Thailand which focuses on cultivating skills regarding how the local community can maintain and promote their own heritage. Cultural heritage has expanded to include diverse and intangible vernacular and spiritual values. Local communities are now considered as a main constituent of cultural heritage which is constructed not only by their attachment to history and archaeology but also by their local customs and traditions. In Thailand the concept of public involvement in heritage management is being recognised within disciplines such as archaeology with the concept of Living Heritage being characteristic in Southeast Asia.

Moats, Lindsey (Texas Tech University), Gregory Zaro (University of Maine) and Brett A. Houk (Texas Tech University)

[61] *The La Milpa Terminal Classic Project: 2011 Investigations of Terminal Classic Construction and Surface Deposits at Courtyard 100*

Investigations at La Milpa, Belize in 2011 targeted a courtyard in the site core with an extensive problematic surface deposit, previously dated to the 10th century. The deposit, which includes substantial numbers of ceramics mixed with other domestic and ritual artifacts, resembles similar Terminal Classic surface deposits, which are receiving renewed attention in Maya archaeology. This paper summarizes the results of the 2011 excavations, which were designed to chronicle the construction sequence at the courtyard, investigate the surrounding structures, and illuminate the nature, age, meaning, and formation process of the problematic deposit.

Moe-Hoffman, Amy [220] see Collins, Joe D.

Mohammed-Amin, Rozhen [129] see Dawson, Peter C.

Mohanty, Rabi [35] see Kingwell-Banham, Eleanor

Moholy-Nagy, Hattula [153] see Golitzko, Mark L

Mollerud, Katy J. (University of Wisconsin-Milwaukee)

[78] *Keeping Up with the Jones': A Comparison of Cambria Phase Pottery from the Owen D. Jones (21Be5) and Price (21Be36) Sites*

The Cambria phase (A.D. 1000-1200) is an archaeological phenomenon centered on a small portion of the Minnesota River in south-central Minnesota. Currently, the Cambria phase is classified as part of the Middle Missouri Tradition, although previous typological analyses have identified a blending of ceramic characteristics from several different late prehistoric cultural traditions, including Plains Village, Mississippian and Woodland. This paper couples attribute and compositional analyses from two understudied Cambria phase sites, Owen D. Jones (21Be5) and Price (21Be36), to better understand the variation within the ceramic assemblage, and how the sites fit into the cultural matrix of the region.

Monaghan, G. William [164] see Baumann, Timothy E.

Monaghan, George [184] see Krus, Anthony M.

Monaghan, John (University of Illinois at Chicago)

[118] *Witchcraft and Sorcery in the Colonial State*

An unexplored dimension of the submission of indigenous people to Spanish colonialism was a belief in the supernatural power of the Catholic Church and related institutions. This paper reviews the evidence that Mesoamerican people suspected that the devastating sicknesses unleashed through contact with Europeans were caused by Church personnel and other officials through witchcraft. It goes on to suggest that in order to combat these new forms of supernatural power, people not only employed traditional means to ward off evil, but also fetishized aspects of Spanish culture in an attempt to protect themselves from the agents of the conquering state.

Monroe, J. Cameron

[237] *Capturing the Countryside: Cities, Practice, and Power in Precolonial Dahomey*

This paper advances a practice-centered approach to urbanism to explore how long-distance forces provided points of articulation between urban and rural elites in the kingdom of Dahomey in West Africa in the Atlantic Era. Historical and archaeological evidence documents a shift from a decentralized urban-rural continuum, in which power relationships were expressed in terms of ritual and tributary relationships, towards a regional landscape in which the rural countryside was 'captured' by a revenue hungry elite class. The result was a dynamic and evolving urban landscape of power that recast the nature of urban-rural interaction over three centuries.

Monroe, J. Cameron [114] see Fanning, Mary Ann

Monroe, Shayla (Howard University)

[69] *More Precious Than Money: Common Cents at L'Hermitage Plantation*

How do archaeologists determine if American plantation artifacts have religious significance? In the absence of artifacts with obvious spiritual meaning we have no material indication of the religious beliefs practiced by enslaved people at plantations such as L'Hermitage. However, recent excavations at the site did yield six silver Spanish reales, in addition to other coins collected during previous surveys. Some scholars have interpreted reales as having spiritual significance on plantation sites. This poster explores whether these unaltered coins suggest that the enslaved at L'Hermitage had access to a secondary economy or whether they stood for something more precious than money.

Montez, Karina (University of Arizona) and Kathrina Aben (University of Maryland)

[69] *A Comparison of Defensive Structures at Sacred Sites in New Mexico and Arizona*

In New Mexico a number of areas, usually sacred springs or mountains, hold cultural and religious significance to the Apache people. They were also often areas where the Apache camped. Many show the remains of multiple structures that indicate long-term presence and possible defensive function. Alternatively, they could have had a more religious purpose. Using select examples, this poster will address such sites' defensive purposes, the

advantages and disadvantages of their high-perched location, and the importance of their position within sacred areas. The content will incorporate architectural analysis, map records, oral history, and historical documents for a thorough assessment.

Montgomery, Lindsay, Severin Fowles (Barnard College, Columbia University) and Jimmy Arterberry (Comanche Nation Tribal Historic Preservation Office)

[199] *Tʔhʔya (the horse): re-thinking the role of non-human actors in the evolution of a "Plains" tradition.* As the horse spread across North America during the early colonial era, its history became entwined with the histories of many indigenous groups. The horse afforded new ways of moving, and these new ways of moving afforded new political aspirations. The Comanche, Pawnee, Ute, or Kiowa individual became a different sort of subject when traveling on horseback; his agenda became a distinctively equestrian agenda, entirely inconceivable outside of the interspecies relationship. In this paper, we focus upon the archaeological evidence of this relationship among Numic-speaking communities of the 18th century in the American Southwest.

[125] *Discussant*

Montgomery, Lindsay [125] *see Wilcox, Timothy*

Moodie, Steven (Trent University)

[203] *Excavations at the Minanha Ballcourt, North Vaca Plateau, Belize.*

Excavations conducted at the Minanha ballcourt in 2010 refined an understanding of its construction history following a rudimentary chronology obtained from excavations conducted in 1999. The 2010 excavations revealed the ballcourt was constructed in a single phase during Late Classic and utilized Early Classic construction as a foundation. The ballcourt's construction coincides with the emergence of a small royal court at Minanha, and also the construction of several other ballcourts in the Vaca Plateau. This paper presents the results of the 2010 excavations at Minanha's ballcourt and three interrelated models detailing the ballgame's role in regional socio-political dynamics.

Moodie, Steven J. M. [203] *see Lamoureux St-Hilaire, Maxime*

Mooney, Adrien (Brigham Young University)

[161] *An Analysis of the Spatial and Temporal Distribution of Fremont Sites near Utah Lake*

Although archaeological work on the Fremont settlements surrounding Utah Lake began in the days of Julian Steward and other early Great Basin archaeologists, the extent of occupation in the area, proximity of sites to each other, and dates for the sites remain relatively unknown. In the 1930s, amateur archaeologist James Bee excavated and mapped several sites near the Provo River Delta, but until recently the materials brought back by Bee had never been analyzed or synthesized. This paper examines Bee's data in order to understand the spatial and temporal distribution of Fremont sites near Utah Lake.

Moore, Ardina [252] *see Lambert, Jean A.*

Moore, Christopher (University of Indianapolis) and Richard Jefferies (University of Kentucky)

[136] *The Social Implications of Altamaha Ceramic Attributes*

Recent comparative research at numerous sites in Spanish La Florida indicates that a variety of local aboriginal wares were replaced by Altamaha/San Marcos ceramics throughout the 17th and early 18th centuries. Closely associated with the Guale and Yamasee, researchers are uncertain what caused Timucuan, Mocaman and other potters to adopt this specific ware. Such a melding of ceramic traditions can be expected to be reflected in within-ware variability in ceramic attributes. This study tests this hypothesis through an analysis of Altamaha pottery from the site of the Mission San Joseph de Sapala on Sapelo Island, Georgia.

[136] *Second Organizer*

Moore, Christopher [136] *see Jefferies, Richard W.*

Moore, Jerry (CSU Dominguez Hills) [26] *Discussant*

Moore, Kaitlyn (University of Arizona)

[67] *"Decolonizing" Culture Contact: Indigenous Archaeology and Self-Determination*

A survey of select archaeological literature regarding culture contact confirmed the well-known increase in publications surrounding the Columbian Quincentenary, but also revealed a mid-1970s upsurge. These peaks correlate with major periods in American Indian self-advocacy seen through protest, litigation, and new legislation. My analysis suggests these increases in culture contact research relate to the public self-advocacy of Native groups, first in the mid-1970s and then from the late-1980s to today. A post-1992 shift in theoretical approaches to culture contact, along with emerging Native self-determination, indicates that culture contact research can be "decolonized" through Indigenous Archaeology and collaboration with Native communities.

Moore, Katherine (University of Pennsylvania)

[238] *Recovering the Cuisine of the Andean Preceramic*

Animal bones are a critical part of the archaeological record at Panauyuca, a deeply stratified cave site in highland Peru. Bone remains form an obvious part of the bulk of the deposit; their taphonomic condition reflects the history of the stratigraphy. How can these data be organized to "see" the underlying traditions of food preparation? Challenges include the complexity and perishability of the record of food and the observations of context and depositional environments in the field. Integration of archaeobiological databases and closer attention to basic zooarchaeological attributes in a spatial context are used to approach this goal.

Moore, Margaret M. [38] *see McNamee, Calla*

Moore, Mark [89] *see Davidson, Iain*

Moore, Michael (Tennessee Division of Archaeology), David Dye (University of Memphis) and Kevin Smith (Middle Tennessee State University)

[197] *WPA Excavations at the Mound Bottom and Pack Sites in Middle Tennessee, 1936-1940.*

From July 1936 to January 1937, archaeologists from the

University of Tennessee directed excavations at the Pack site (40CH1) under the auspices of the Works Progress Administration. Limited excavations were conducted during this time at the Mound Bottom site (40CH8). Charles Nash returned to Mound Bottom in February 1940 for additional investigations. This presentation summarizes current research on the curated Mound Bottom and Pack site records and collections.

Moore, Robert [101] *see Whitley, David S.*

Mora Molina, Coronada [32] *see García Sanjuán, Leonardo*

Morales, Reinaldo (University of Central Arkansas)

[101] *Miniaturism in American Rock Art*

Small figures occur throughout the rock art of the Americas. A few styles, however, are characterized by true miniaturism: the emphasis on very small-scale figures with sometimes astonishing brushwork. The Guadalupe Mountains in New Mexico and Serra da Capivara National Park in Brazil have particularly striking manifestations of this miniaturism. This paper investigates the similarities we see in the paintings from these two disparate regions. These similarities suggest that some modes of figurative stylization can appear related at first glance when they are actually purely coincidental accidents of form.

Morehart, Christopher (Northwestern University)

[238] *Ritual Time: Pinpointing the temporality of ritual practice using archaeobotanical data*

Time is a defining characteristic of ritual. It is necessary to recognize multiple dimensions of temporality to understand ritual practice, especially (1) seasonality, (2) the rhythm of individual acts, and (3) the way in which the materiality of ritual intersects with other domains of life. This paper examines these complex temporalities by studying the archaeobotanical assemblages from ritual contexts from two regions of Mesoamerica: central Mexico and the Maya Lowlands. This project offers an approach to document commonalities and differences in ritual both as a universal human phenomenon and as a constellation of practices unique to particular places and people.

Morell-Hart, Shanti (U.C. Berkeley) [238] *Second Chair*

Morell-Hart, Shanti [238] *see Farahani, Alan*

Morgan, Brooke (Southern Methodist University)

[100] *Paleoindian Landuse in the Great Plains Through Time: An Analysis of Lithic Raw Material Movement*

Although hunter-gatherers living during the Paleoindian period in the North American Great Plains were mobile, it is unknown just how these Paleoindian groups moved across and utilized this vast space through time. Were all Paleoindian groups mobile to the same degree? How do patterns of toolstone exploitation and landuse compare in sub-regions of the Plains that have varying raw material availability? This paper examines the ubiquity and diversity of raw materials at Clovis, Folsom, and Late Paleoindian sites in the Great Plains and documents the movement of lithic raw materials from primary sources to address these questions.

Morgan, Chris (Utah State University), Robert Pack (Utah State University) and Kenneth Cannon (Utah State University)

[9] *Applications of LiDAR to the Remote-Sensing of High-Altitude Residential Features in Wyoming's Wind River Range*

Generation of LiDAR and high-resolution photom imagery data at High Rise Village, currently the largest and oldest high-altitude village known in North America, indicates a way to discover difficult-to-identify relict house features in above-timberline locales, mainly by the creation of extremely high-resolution digital elevation models. Implementation of these methods in other high-altitude settings suggests similar features may be found in other ranges. If so, such discoveries would help shed important new light on the nature of high-altitude culture processes over time and the ecological and evolutionary relationships between high-altitude residential occupations across western North America.

Morgan, Jeff and Santiago Giraldo

[99] *Global Heritage Fund's Role in Global Heritage Conservation and Sustainable Development*

GHF's mission is to protect, preserve and sustain the most significant and endangered cultural heritage sites in the developing world.

[12] *Discussant*

Morgan, Martha

[220] *Archaeological and Archaeometric Interpretation of al-Basra, Morocco Metals*

Links between scientific, technological, and cultural choices are studied through an examination of Maghribi metallurgy, using the early Islamic site of al-Basra, Morocco (C.E. 788-959), as the source for the archaeological metal materials. This descriptive assessment of the al-Basra metals collection details the various levels of structure of the metal objects. Analyses of the metals' spatial patterning across the site, along with the archaeometric examination of the metals' structure using optical light and scanning electron microscopy, enables us to shed light on the scientific knowledge of the metal workers and to reconstruct the technological know-how of the region's metal artisans.

Morgan, Molly (Northeast Lakeview College, Texas State University) [253] *Discussant*

Moriarty, James (Archaeological Damage Investigation & Assessment), David Griffel (Archaeological Damage Investigation and Assessment (ADIA)) and Martin McAllister (Archaeological Damage Investigation and Assessment (ADIA))

[115] *Looting and the Drug Connection: The Danger to the Public and the Need for Public Awareness of this Threat*

Professional and public awareness, of what used to be described as an emerging trend, needs to be enhanced. Looters addicted to drugs, and now especially methamphetamine, "Twiggers" (tweaker diggers), are increasingly involved in archaeological site looting in order to fund their addictions. These criminals also tend to be armed. This situation presents a constant danger not only to field archaeologists and government employees, but also to members of the public. The public

needs to be made aware of this threat in an effort to prevent potentially life threatening and or tragic confrontations.

Moriarty IV, James E. [115] *see Murphy, Larry E.*

Moriarty, IV, James E. [14] *see McAllister, Martin E.*

Morin, Eugène [144] *see Ready, Elspeth L.*

Morin, Jesse [279] *see Collard, Mark*

Morley, Mike (Oxford Brookes University), Jamie Woodward (University of Manchester, UK), Robert Whallon (University of Michigan), Dusan Mihailovic (University of Belgrade, Serbia) and Norbert Mercier (Université de Bordeaux, France)
[202] *Geoarchaeological investigations at Crvena Stijena Rockshelter, Montenegro: Middle Palaeolithic palaeoenvironments of the Western Balkans*
 Crvena Stijena is a large limestone rockshelter in Montenegro, western Balkans. The site has a long history of human occupation, spanning the Middle Palaeolithic to the Bronze Age, recovered from an exceptionally deep (>25m) sedimentary sequence. We present the results of detailed analyses of the Middle Palaeolithic sediments employing a multi-parameter approach to generate palaeoenvironmental data. These data reflect both anthropogenic and climatic change, providing important information concerning Middle-Upper Pleistocene climate regimes in the Balkan Peninsula, and the subsistence strategies adopted by the site occupants. These changes are anchored to a chronological framework constructed from radiocarbon, thermoluminescence, and tephrochronological analyses.

Morley, Mike W. [202] *see Alex, Bridget A.*

Morris, Alexis and Mandisa Thomas (Howard University)
[69] *Identification of Apache Sites in the Black Range of New Mexico through Botanical Remains*
 This research builds on the results of a three-week field study sponsored by the Gila Archaeology Project, surveying for Apache sites. Identification of these sites is difficult because they are ephemeral, due to the Apaches' perishable and portable lifestyle. Examining botanical remains can be helpful in determining site location. Significant vegetation for this purpose includes: Ponderosa pines, junipers, and willows. The presentation will discuss the problems in recognizing Apache sites and the botanical strategies that can be used to do so. It will help provide concrete and material evidence of a culture that is otherwise missing from the archaeological record.

Morris, Craig [64] *see Szymanski, Ryan M.*

Morris, John [61] *see Fries, Eric C.*

Morris, Margaret [80] *see Kasper, Kimberly*

Morris, Zoe (University of Western Ontario), Christine White (University of Western Ontario), Fred Longstaffe (University of Western Ontario), Lisa Hodgetts (University of Western

Ontario) and Neal Ferris (University of Western Ontario)

[124] *Life-stages, landscapes and human-deer interactions during the Ontario Late Woodland period: isotopic, radiographic and histological evidence*
 We reconstructed the interaction of white-tailed deer with Ontario Western Basin and Iroquoian subsistence landscapes to investigate distinctions in hunting strategies and agricultural development between these two Late Woodland groups. The seasonality of dental development was determined using mandibular radiographs. The age and season of death was determined using thin section analysis of cementum. This temporal definition enabled the use of stable carbon, nitrogen and oxygen isotope analysis of dentine and bone collagen and enamel and bone carbonate to reconstruct the short- and long-term patterns of access to maize fields for both deer and humans.

Morris, Zoe [141] *see Booth, Laura [172]* *see Heim, Kelly N.*

Morrison, Alex (University of Hawaii, Manoa) and Matthew J. Bell (International Archaeological Research Institute Inc.)
[226] *The Application of Kite and Pole Aerial Photography to 3 Dimensional Archaeological Modeling: Case Studies from the Pacific Islands*
 Archaeological prospection techniques continue to move toward non-invasive, landscape scale survey methods. Innovative methods based on remote sensing make the acquisition of large scale survey data quick and affordable. In this paper we highlight the use of kite and pole aerial photography as two particularly accessible methods for archaeological research. We emphasize a new suite of techniques for 3 dimensional modeling known as structure from motion (SfM). We also discuss the software, field techniques, and data requirements necessary for effectively creating digital elevation models (DEM) and present examples from Rapa Nui (Easter Island) and the Hawaiian Islands.

Morrison, Bethany (Western Connecticut State University) and Cosimo Sgarlata (Western Connecticut State University)

[280] *Military Precision, or Every Man for Himself? Life among the Troops of the Continental Army at Redding's Middle Encampment, CT.*
 During the winter of 1778-79, after the famous mishaps at Valley Forge, revolutionary troops were stationed at multiple encampments, three of which were located in the town of Redding, CT. Redding's "Middle Encampment" has been investigated through a variety of means, including pedestrian survey, excavation, analysis of formation processes through micromorphology, and residue analysis by Fourier transform infrared spectroscopy (FTIR). Site data have been integrated with the use of geographic information systems (GIS). Results indicate variations from other encampments and begin to illuminate both military and personal struggles at the camp.

Morrison, Bethany [280] *see Sgarlata, Cosimo A.*

Morrison, Michael [35] *see Shepard, Emily*

Morriss, Veronica (Texas A&M University Nautical Archaeology Program)

[264] *Reconstructing the maritime cultural landscape of Thmuis (Tell el-Timai)*

Considering the role of water transport in ancient Egypt, the archaeological evidence for the fluvial harbors of the Nile Delta is scarce. To understand how the inhabitants of Thmuis utilized and interacted with their maritime space, geophysical survey, coring, and excavation were employed by the University of Hawaii and the Institute of Nautical Archaeology at Texas A&M University to locate and explore the design of a potential harbor, and to trace the paleo-waterways around Thmuis. This paper will summarize the findings from the 2009 and 2010 field seasons and offer a preliminary reconstruction of the maritime cultural landscape of Thmuis.

Morrow, Giles (McGill University)

[178] *As Above, So Below: Lacustrine Mimesis and Cosmological Dualism in the Ancient Andean Plaza Hundiada Tradition*

This paper will suggest that the "sunken temple court" or "plaza hundiada" form of the Tiwanaku culture was a mimetic representation of the unseen and sacred sub-surface realm of Lake Titicaca, and of the linked aquatic and chthonic elements ubiquitous to Andean cosmology that have persisted from antiquity into the present. Through an ethnohistorical and ethnographic discussion of the significance of cosmological dualism in this region of the Andes, the sunken court will be presented as a physical and symbolic inversion of those monumental structures that have been suggested to mimic the mountain peaks for which the region is famed.

Morrow, Juliet (Arkansas Archeological Survey)

[55] *Clovis and other fluted point complexes in the Midcontinent*

The Clovis complex (*sensu stricto*) is ubiquitous in North America except for New England. The earliest fluted point complex of that region is related temporally and stylistically to the Gainey complex of the Great Lakes. Gainey has not been securely dated, but appears to correlate with the onset of the Younger Dryas climatic episode (circa 10,950 to 10,700 rcybp). In the manufacturing sequence for Clovis fluted points, partial fluting was accomplished early, but in the manufacturing sequences of post-Clovis (Folsom, Gainey, Barnes, Cumberland, Redstone) fluted points, fluting was accomplished at a later stage and the flute extended across most of the point's face. Distributions of these distinct fluted point styles and raw materials shed light on Paleoindian settlement and mobility patterns in the Midcontinent.

Morsink, Joost (University of Florida)

[165] *Spanish-Lucayan Interaction: Continuity of Native Economies in Early Historic Times*

In 1513 Ponce de Leon states that the Bahamian archipelago is empty of people. The depopulation of the Lucayans, the people that inhabited these islands, was the direct result of disease, slave raiding and migration of people away from Spanish territories. Although depopulation unquestionably happened, recent excavations at MC-6, Middle Caicos, indicate that native economies continued to exist well beyond 1513. This underlines the persistence of native economies in early

historic times, despite the presence of the Spanish. This paper will explore the Lucayan-Spanish relations and reasons why these islands were inhabited for a 100 years after Columbus' 'discovery'.

Moser, Claudia [250] *see Harrington, Katherine*

Moses, Bruce [33] *see Ulrich, Kristi Miller*

Moses, Sharon (Coastal Carolina University)

[162] *Native Americans & African Americans: Interaction & Exchange in Antebellum South Carolina Lowcountry*

Based upon recent excavations conducted on the Hume Plantation slave street on Cat Island, located in Georgetown County, preliminary findings suggest that material cultural exchange likely occurred between Native Americans and African American slaves. If so, such exchange suggests other social and cultural implications. This paper will attempt to provide context for Cat Island amidst multiple populations that utilized it over time, and to make sense of the preliminary data recovered from the Hume Plantation slave street excavations.

Mosher, Matthew (University of Toronto)

[217] *Political Structure in the Indus Valley Civilization: A Comparative Perspective*

The Indus Valley Civilization is not alone amongst historical cultures in presenting elusive material evidence of its political structure; however, unlike the Indus Valley Civilization, many such cultures have been incorporated into comparative studies designed to try and account for the ambiguous material evidence of their political organization. I propose that by incorporating models developed from other areas of the world with histories of urban-based political complexity which lack overt signs of centralized authority, we can better situate the nature of Indus Valley political authority, and in so doing contribute more directly to broader discussions of ancient political variation.

Moss, Madonna (University of Oregon) [204]

Discussant

Most, Rachel [115] *see Hutira, Johna*

Moulherat, Christophe [213] *see McEwan, Colin*

Mountjoy, Joseph [98] *see Rhodes, Jill A.*

Moyes, Holley (University of California, Merced) and Jaime Awe (Belize Institute of Archaeology)

[208] *Cave Ritual Among the Early Preclassic Maya(?) of Western Belize*

Throughout Mesoamerica, dark zones of caves have been used almost exclusively as ritual venues. Cave ritual and symbolism among the Olmec is well documented and has traditionally been considered the earliest cave use in Mesoamerica. It is also integrally connected with rulership. Evidence from western Belize suggests that the earliest settlers in the area were cave users employing similar symbol systems who may have shared Olmec ideology. In this paper we present data that demonstrate the importance of cave rites to political development from both cave and surface contexts in western Belize.

Mrozowski, Stephen [133] *Discussant*

Mt. Joy, Kristen (Texas Army National Guard) and Chantal McKenzie (Texas Army National Guard)
[42] *In the Zone: Integrating the "Cultural Landscape" Approach in Management at Texas Army National Guard*
 Department of Defense instructions for cultural resource programs advocate following a "cultural landscape" framework for management. The approach is supposed to "analyze the spatial relationship among all cultural resources within their natural setting." The advantage for the military is primarily to help prioritize cultural resource surveys to avoid costly projects. This paper looks at cultural landscape as an overall management tool, as opposed to just a planning mechanism, via examples from Texas Army National Guard properties. It examines whether programs can utilize this approach to effectively maintain and protect properties in active military installations.

Mueller, Raymond [167] *see Joyce, Arthur A.*

Mullen, Kyle (University of Kentucky)

[45] *A Debitage Analysis at Caesar's Palace, Harrison County, Indiana*

This paper presents the results and analysis of a detailed debitage analysis of over 2400 flakes from the Knob Creek Site, Harrison County, Indiana. Through a metric analysis, change in lithic technology and raw material resource use will be examined at the Late Archaic to Early Woodland transitional period. This paper will examine how changes observed in lithic technology relate to changes in the site's function through time as well as what this means for larger scale mobility patterns in the region.

Muller, Jon (Southern Illinois University)

[146] *Post-World War II American Archaeology and Class Struggle*

It is important to do an "archaeology of archaeology" that does not repeat the approaches of traditional history, social history, or intellectual history. If our methods are good enough for long dead people, then perhaps they should also be employed in the study of our own discipline. A 'political economic' approach to class struggle in archaeology is suggested.

[146] *First Chair*

Mullett, Amanda and Mark Seeman (Kent State University)

[100] *Understanding The Mobility Patterns Of Early Paleoindians In The Ohio Region Through The Use Of Different Geographic Information Systems (GIS) Functions*

Early Paleoindians had the most expansive mobility ranges of any hunter gatherer group in North America. Archaeologists have rarely gone above the site level to address the size of the mobility ranges for these early colonizers. This research intends to approach this concept at a much broader scale. To do this, we will construct a dataset containing information on the metrics and raw material sources for Ohio region Clovis and Gainey projectile points. Using interpolation functions from ESRI's ArcMap GIS, we will be able to develop a map of the supply zones for two frequently procured Ohio

flint types.

Mullins, Patrick (UNC Chapel Hill), Evan Surridge (UNC Chapel Hill) and Brian Billman (UNC Chapel Hill)

[243] *Fortaleza de Quirihuac: A Chimu Fortification in the Middle Moche Valley*

Fortaleza de Quirihuac is a Chimu fortified settlement built on a hilltop some 400m above the floor of Peru's Moche Valley. During the 2010 and 2011 field seasons, the authors mapped the fortress and conducted surface collections to gain a greater understanding of site activities and chronology. A defensive function is strongly suggested by slingstone piles and parapeted walls protecting all passable routes to the peak and surrounding non-agricultural terraces and compounds. Also, preliminary artifact evidence provides little support for food or craft production and instead indicates an emphasis on the storage and serving of imported food.

Mulville, Jacqui (Archaeology, Cardiff University) and Paul Evans (Freelance Artist)

[157] *Back to the Future? Canines, archaeology, art and engagement*

There is an increasing demand for multi-dimensional public engagement and outreach activities that describe archaeological endeavour, situate research within a modern context and make the past relevant to our futures. Canines are the best exemplars for the wide range of human-animal interactions possible, from domestication to breed standards, and are the focus of our successful outreach events now delivered at workshops and music festivals to diverse audiences. 'Future Animals' merges archaeology, science and art to stimulate discussions on the past, present and future of the human-animal relationship and challenges participants to design animals fit for forthcoming challenges.

Muniz, Adolfo [159] *see Burton, Margie*

Moons, Ann (Applied EarthWorks, Inc) [48]
Discussant

Munoz, Cynthia (University of Texas at San Antonio) and Nathan Divito (Center for Archaeological Research at the University of Texas at San Antonio)

[33] *Observations on a Paleoindian component on the San Antonio River at 41BX1888*

Construction monitoring associated with improvements to the San Antonio River has resulted in the identification of cultural remains in the bank of the pre-channelized stream. NRHP eligibility testing of these deposits identified four components ranging from the Early Archaic to Paleoindian periods. The deepest component appears to be associated with Saint Mary's Hall projectile points. The component consists of low quantities of lithic manufacture debris, expedient and formal tools, and numerous rock-lined hearths. The archaeological materials appear to have been deposited over a relatively short span of time and the locality was not reoccupied extensively during later times.

Munoz, Cynthia [127] *see Mauldin, Raymond P.*

Munoz, Olivia [59] *see Ghazal, Royal O.*

Muñoz Cosme, Gaspar [58] *see Lorenzo, Cristina Vidal*

Munson, Cheryl Ann (Indiana University) and David Pollack (Kentucky Archaeological Survey)

[192] *Far and Wide: Late Mississippian/Protohistoric Extraregional Interactions at the Mouth of the Wabash*
Evidence of Caborn-Welborn extraregional interactions points north/northwest and south/southwest of the lower Ohio Valley. The occurrence of redstone, cupric metals, shell, and bison bone represent the arrival of transportable material items or raw materials. In contrast, locally manufactured ceramic vessels represent the transmission of non-local styles or the presence of potters who relocated to the Caborn-Welborn region. Some may be actual "trade vessels." The presence of these goods and vessels, reflect Caborn-Weborn participation in protohistoric interaction networks. These networks may have played an important role in the sustaining of Caborn-Welborn culture following the widespread collapse of neighboring Mississippian polities.

Munson, Cheryl Ann [239] *see Turner, Jocelyn C.* [239] *see Peterson, Staffan D.*

Munson, Jessica (University of Arizona) and Takeshi Inomata (University of Arizona)

[70] *Building chronologies and constructing temples: Correlating Preclassic Maya architectural sequences with multivariate techniques*

This study investigates the construction and occupation history of two neighboring Preclassic Maya centers using ceramic data from deeply stratified deposits. Substantial Middle Preclassic (900-300BC) occupation has recently been identified at Ceibal and Caobal along the Río Pasión in the southern Maya lowlands, but correlating the sequence of settlement and construction of monumental buildings between these sites is more challenging. We combine frequency seriation and correspondence analysis to compare intersite spatial variations and evaluate Preclassic ceramic chronologies for the Pasión region. This study has implications for understanding population expansion and the spread of religious ideology in the Preclassic.

Munson, Marit (Trent University)

[47] *The material culture of pigments and paints in the Pueblo world*

The past was a colorful place, with significant hues ranging from muted earth tones to bright feathers, turquoise, coral, and shell. But color is much more complicated than superficial appearance; many of the colors of Southwest prehistory were the result of complex manufacturing processes that transformed source materials into paints. This paper draws on ethnographic and archaeological evidence for the use of pigments in the Pueblo world. In particular, it focuses on the material culture of pigments, each with distinctive characteristics, and the diverse methods of processing them in order to create paints of various colors and properties.

[47] *First Chair*

Murakami, Tatsuya (University of South Florida)

[54] *Reevaluating Teotihuacan's Interregional Interaction: A View from the Core*

One of the major contributions of Barbara Stark is her formulation of alternative models for core-periphery relations, specifically between Central Mexico and the Gulf lowlands. Her research has explored varying strategies of provincial polities to interact with expansionist states and to enhance their power. While her models remain largely synchronic, recent investigation has revealed a highly dynamic nature of power relations at Teotihuacan. This paper reevaluates Stark's models in light of changing political organization at the capital city of Teotihuacan and discusses the future directions for better understanding core-periphery relations in Mesoamerica.

Murakami, Tatsuya [134] *see Ashkanani, Hasan J.*

Murata, Satoru [137] *see Harrison-Buck, Eleanor* [201] *see Neff, Hector*

Murdock, Matthieu (The Pennsylvania State University) and Carrie A. Hritz (The Pennsylvania State University)

[99] *A Report on Archaeological Site Stability and Security in Afghanistan: The Lashkari Bazar Survey*

The purpose of this paper is to identify an endangered archaeological site in Afghanistan and examine various site pressures upon it facilitated by a Geographic Information System (GIS). This paper identifies the site Lashkari Bazar, an extensive palatial complex alongside the Helmand River. Daniel Schlumberger in partnership with the Delegation Archeologique Française en Afghanistan (DAFA), surveyed Lashkari Bazar between 1949 and 1952. Most follow-up investigations have since have been suspended, closed and forgotten because of security concerns. We found that Lashkari Bazar exhibits similar site pressures as sites identified in Iraq, caused by military operations and state instability.

Murphy, John

[222] *Large-Scale Irrigation on the Salt and Gila Rivers, ca 400-1400 CE: The Hohokam Water Management Simulation (Phase II) Summary of Results*

The Hohokam Water Management Simulation is a large-scale computational model that allows the virtual recreation of diverse irrigation management strategies while varying: canal system structure and scale; annual and intra-annual flow levels and flooding; crop plant maturation time, water demand, drought sensitivity, and yield; and water and soil chemistry and associated crop responses. The simulation is applied to data drawn from the Hohokam, who managed extensive irrigation works along the Salt and Gila Rivers from ca. 400-1400 CE. Results presented explore alternative management strategies and their implications for Hohokam social organization, resilience, transformation through time, and eventual decline.

[222] *First Chair*

Murphy, Larry (ADIA), Martin E. McAllister (ADIA), James E. Moriarty IV (ADIA) and David E. Griffel (ADIA)

[115] *Is Archaeology Really Treasure Island?*

In the media, the term "treasure" is frequently used when discussing the looting of terrestrial and submerged

archaeological sites. Phrases such as, "Officers believed the suspects were searching for treasure" are common. The media's use of the treasure terminology is unfortunate because it conveys to the public that the goal of archaeology is to recover items of monetary wealth, rather than knowledge about past human cultures, and perpetuates the "Indiana Jones" concept of our discipline. Archaeologists and others should discourage media from presenting archaeology as treasure.

Murphy, Larry E. [14] see *McAllister, Martin E.*

Murphy, Laura (University of Kansas) and Rolfe Mandel (Kansas Geological Survey)

[37] *Paleoenvironmental reconstruction at the Beacon Island site, a Paleoindian bison kill in northwestern North Dakota*

Phytoliths and stable carbon isotopes were analyzed to infer changes in vegetation at the Beacon Island site. Analyzed together, these techniques corroborate and strengthen paleoenvironmental interpretation. Results indicate that during site use (10,300 14C yr B.P.) the plant community was a mesic C_3 grassland. Gradual warming and drying occurred after that time, but there was no major turnover in the plant community through the Holocene. Overall, it is likely that the Agate Basin occupants did not experience climatic conditions drastically different from modern conditions, though the occupation coincided with the coolest and perhaps wettest episode for the period of record.

Murphy, Stephen (The Metropolitan Museum of Art)

[182] *Buddhism and its Development in Northeast Thailand and Central Laos: A landscape archaeology approach to Dvaravati Period settlement patterns and Buddhist material culture*

This paper employs a landscape archaeology approach to investigate the spread and development of Buddhism in northeast Thailand and Central Laos 6th-11th centuries CE. This movement was largely determined by pre-existing settlement patterns with moated sites, dependent on large-scale river systems in regard to water management, agriculture, transport and communication being of particular importance. The distribution of sema stones provides further evidence for the spread of Buddhism as do Buddha images carved into rock-faces on mountaintops/rock-shelters. The relationship between Buddhism and society is also explored illustrating that its arrival resulted in new cognitive and physical conceptions of the landscape.

Murray, Emily [239] see *Hill, Mark A.*

Murray, Wendi (University of Arizona) and Barbara Mills (University of Arizona)

[251] *Identity Communities and Material Practices: Relational Logics in the U.S. Southwest*

This paper explores how depositional practices within different identity communities express distinctions in associative networks of people, things, animals, and places. Focusing on two contemporaneous areas of the U.S. Southwest, Chaco and Hohokam, we discuss how different relational logics of deposition underscore fundamental contrasts in identities, ontologies, and ritual practices, and how depositional practices provide access

to what Catherine Bell (1992) calls "indigenous distinctions" - produced and practiced by people in the past, rather than archaeologists' superpositioning of categories. Cache deposits from Chaco and Hohokam were created following culturally specific logics that structured object associations, object placement, and object treatment.

Murtha, Timothy (Penn State)

[102] *What's in a number? Population estimates and archaeology of the Classic Maya*

Beginning with the earliest explorations in the Maya region, archaeologists have been fascinated by how the ancient Maya made a living in what has been perceived to be a challenging lowland landscape. Accompanying this fascination has been nearly a century of attempts to reconstruct ancient population history. Yet despite these efforts, debate still remains about the specific constants applied or methods used. This paper critically reviews the history of population reconstruction in Maya archaeology in order to identify how perspectives and methods have shifted. I also compare approaches from other archaeological regions to contextualize recent estimates.

Musiba, Charles [113] see *Cummings, Linda Scott*

Musser-Lopez, Ruth

Arlene (www.SiteStewardJournal.com; www.RiverAHA.org)

[24] *Cost Sharing Stewardship of "At-Risk" Archaeological Sites via Multi-Resource Volunteer Monitoring*

Site Stewardship is a public archaeology program dependent upon many factors for long-term success including: clear goals; written, vetted standards and guidelines; careful selection of public volunteers; their diligent education, training and oversight; active engagement of historic preservation professionals; and funding. Thoughtfully selecting the most "at-risk" sites for monitoring directs funding where it is needed most. A pilot program, using a unique report form, teamed volunteer monitoring of "at-risk" sites with other monitoring needs including wildlife, wilderness and recreational use. The burden of initial extra program coordination time is outweighed by the benefit of cost sharing and reducing redundant costs.

Na, Li Jing [166] see *Quave, Kylie E. [39]* see *Stich, Kyle*

Nachmias, Amnon (Amnon Nachmias University of Haifa), Guy Bar-Oz (University of Haifa), Dani Nadel (University of Haifa) and Dan Malkinson (University of Haifa)

[234] *What are the large chain kites and associated features in the Eastern Levant?*

Hundreds of Desert Kites in East Jordan and Syria compose long chains which extend across tens of kilometers. Smaller and isolated Desert Kites are also present in the Sinai and Negev deserts. These structures were built for series of mass harvesting of wild ungulates. Zooming on the eastern chain kites using Google Earth and GIS methods reveals significant variability in geographic settings, construction characteristics and associated features. While some kites were built as mass hunting traps, many of the chain kites were devised to

capture and corral semi-domesticated herds (onagers?).

Nadeau, Jaclyn (University at Albany, New York State Museum)

[84] *An Analysis of Eastern New York Debitage Assemblages: Combining Stage Models and Flake Attribute Data*

I present preliminary findings on the cultural and technological changes occurring in prehistoric populations of eastern New York from the Late Archaic through the Late Woodland. The research is based primarily on assemblages excavated through cultural resource management projects and housed at the New York State Museum and Rogers Island Visitor's Center. Reduction stages and manufacture techniques identified at archaeological sites are often used to link settlement patterns and lithic technology. This study focuses on a combination of easily replicable techniques to examine whether the transition to sedentism can be seen in variations in resource use and reduction strategies.

Nadel, Dani (Dr.), Guy Bar-Oz (The University of Haifa, Haifa, Israel), Uzi Avner (Arava Institute and the Dead Sea-Arava Research Centre, Ben-Gurion University, Eilat, Israel) and Dan Malkinson (The University of Haifa, Haifa, Israel)

[234] *Ramparts Instead of Walls: Building Techniques of Mass Hunting Traps in the Negev Highland*

To date, there are 12 'Desert Kites' (large game traps) known in the Negev Desert, southern Israel. Where possible, they were dated to the 4th – 3rd millennia BC. Some are located in flat areas, but most are in the hills. In several cases the traps were constructed on steep slopes, with the walls of the arms leading to a small, round, massive enclosure. In at least three of the latter, the enclosure was constructed of a wide rampart and not a vertical wall. These are the first of their kind in the region to be studied and discussed.

[234] *Second Organizer*

Nadel, Dani [234] *see nachmias, amnon*

Nadel, Dany [89] *see Yaroshevich, Alla*

Nado, Kristin (Arizona State University), Natalya Zolotova (Arizona State University) and Kelly Knudson (Arizona State University)

[71] *Diet and Socioeconomic Status at Teotihuacan, Mexico: Preliminary Indications from Stable Carbon and Nitrogen Isotopes*

Diet and cuisine provide insight into the economic power relationships governing food production and consumption while also reflecting nonmaterial aspects of social life such as ideology and social identity. The stable carbon and nitrogen isotope analysis of archaeological human remains from three contexts within the site of Teotihuacan was undertaken to provide a preliminary assessment of the degree and nature of status-related differences in diet among residents. Results provide new information concerning daily subsistence at Classic-period Teotihuacan and suggest that members of distinct status or class groups maintained dietary practices measurably different in both carbohydrate source and animal protein intake.

Nagaoka, Lisa (University of North Texas)

[250] *The Pleistocene Extinction Debate: Archaeologists' Perspective*

Nearly 50 years after the overkill model was proposed, the cause(s) of Pleistocene extinctions is/are still being debated. While the two main camps, anthropogenic versus climatic, have debated vigorously, few archaeologists participate directly in this debate. Thus, it is unclear what most archaeologists think about Pleistocene extinctions. Since the extinctions debate impacts research on human-environment interactions outside of archaeology, it is important to understand how divided/united archaeologists are on the topic. I will survey archaeologists at the SAAs to document perceptions about the evidence, causes, and the debate itself. Data will be analyzed and displayed in real-time.

Nagy, Andras (University of Cincinnati) and Anthony Tamberino (University of Cincinnati)

[70] *Landscape Modification and Water Management at Corriental Reservoir, Tikal*

Recent excavations and survey have provided a highly productive assessment of landscape modification and water management at Tikal from the Late Preclassic through the Late Classic. Focusing on Corriental Reservoir, the use of geochronological, stratigraphical, and particle size analysis evidence suggests the presence and use of water filtration systems and an elaborate "switch-gate" along the eastern reservoir berm to control both the accumulation and release of pooled water. This study as well has implications for other paleo-environmental studies in the Maya Lowlands.

Nakazawa, Yuichi

[112] *Identification of thermally altered obsidian toward understanding site formation processes in prehistoric hunter-gatherer site*

Thermally altered obsidian can create informative data to elucidate the formation processes of archaeological records. The present poster is a site-scale study to distinguish cultural and natural formation processes, through an explicit examination of thermally altered obsidian artifacts from the late Upper Paleolithic open-air site of Kawanishi C in Hokkaido, northern Japan (dated to ca. 21,000 B.P.). Analytical methods and results of formation processes in hearth-centered concentration of obsidian artifacts are presented. This study also gives a behavioral implication of prehistoric hunter-gatherer's site organization.

Nako, Nontsasa (Binghamton University)

[230] *Narrative Privilege and Unequal Access in South Africa's TRC*

Conceived as a democratic, accessible and progressive project that would go a long way towards redressing the injustices of the past, the South African TRC as a memorialization project excavated public memory to reconstruct South African history from the point of the oppressed in an effort to provide as "complete a picture" as possible of the country's apartheid past and to promote reconciliation. And yet, the project of making sense of its achievements remains a largely academic (therefore privileged and exclusive) endeavor, while those whose stories of pain necessitated the commission and whose "voices" legitimated it remain marginalized. This paper analyzes some of the memoirs, plays, and artworks that have been produced by former TRC

commissioners, journalists and activists to examine the authorial and narrative privilege that attends acts of recall, and to problematize the notion of "including" previously marginalized groups in the creation post-conflict national memories and archives.

Nanavati, William

[39] *Tragedy Averted: Imperial Conservation in the Andes*

Prehistoric occupation of the Upper Mantaro River valley began in the Early Formative Period (ca. 1900 BC). As populations settled the valley, they grew rapidly until Spanish contact. With increasing populations in the Formative Period, palynological evidence from two lake cores indicates anthropogenic deforestation. However, these records show an increase in aliso (*Alnus acuminata*) at the beginning of the Middle Horizon and continuing until the Colonial Period. The combination of historical records and extant palynological, archaeological, and climatological data demonstrates that hierarchically imposed soil and wood conservation (i.e., imperial agroforestry) effectively reversed a "Tragedy of the Commons" scenario.

Nannini, Nicola [202] see *Peresani, Marco*

Napier, Tiffany (University of Nebraska-Lincoln), Matthew Douglass (University of Nebraska-Lincoln), LuAnn Wandsnider (University of Nebraska-Lincoln) and Ron Goble (University of Nebraska-Lincoln)

[110] *OSL-Assisted Analysis of Past Sand Hills Resiliency in a Hyper-Dynamic Environment during the peri-Medieval Warm Period*

This poster presents preliminary results of a study assessing the resiliency of native adaptations to the Sand Hills as it experienced drought, vegetation loss and dune reactivation during the peri-Medieval Warm Period. Effects of dune reactivation on land use practices, settlement locations, and emigration out of the Sand Hills or to local river oases were investigated through a meta-analysis of previously documented archaeological assemblages from across the region. OSL data derived from samples above, below, and in paleosols document the most recent re-vegetation of the Sand Hills. Within this framework, the resiliency of past Sand Hills adaptations is addressed.

Napierala, Hannes [93] see *Julien, Marie-Anne*

Napolitano, Matthew (American Museum of Natural History, U. West Florid) and Matthew Sanger (American Museum of Natural History, Columbia University)

[2] *Reevaluating the development of fiber-tempered ceramics in southeastern North America*

Ceramic technology first developed on the southeastern coast during the Late Archaic in the form of fiber-tempered ceramics. In 1993, Sassaman published a landmark study on Late Archaic ceramics which serves as the baseline for our understanding of early ceramic production and its role in society. In the almost two decades since that publication, many of our conceptions and theories of Late Archaic societies have changed entirely. This paper synthesizes southeastern Late Archaic studies focusing on work completed in the past two decades in order to rethink the development,

production, and social significance of fiber-tempered pottery.

Nash, Carole (James Madison University)

[174] *Hunter-Gatherers, Resilience Theory, and the American Chestnut Forest: Persistence and Change in the Middle Atlantic Uplands*

Anchored by cultural ecology, the multidisciplinary research tradition developed by William Gardner at Catholic University approached cultural change as an adaptive response to externalities at the regional scale. Using Resilience Theory to consider multiple temporal and spatial scales, this presentation expands Gardner's paradigm with a case study from the Late Archaic Virginia Blue Ridge. Here, culturally-maintained stands of American chestnut, rather than acting as a commons, became resource territories, their maintenance requiring similar social reorganization as that necessary for horticulture. The regional veneer of persistent mountain lifeways masked transformative changes in upland sociality directly related to complexity in the lowlands.

[174] *First Chair*

Nash, Donna (UNCG)

[104] *Wari Imperial Colonization of the Moquegua Valley: A Plausible Scenario?*

New data is changing earlier working models of the Wari colonization of Moquegua (AD 600-1000) demonstrating that it was a complicated multi-ethnic affair. In this paper I review current evidence resulting from three years of research at Cerro Mejía, recent finds on Cerro Baúl, and survey of the Wari canal system to make a broad sketch of the Wari presence in Moquegua. Based on population size, labor investment, stylistic diversity, and elite largesse evidence is presented to support the hypothesis that the colony in Moquegua was a state sponsored enterprise rather than a grass roots or independent colonial expansion.

Nash, Donna [104] see *Sharratt, Nicola O.*

Nash, Robert (University of California, Davis)

[161] *Low-Level Food Production among Northern Peripheral Fremont Groups in the Northeastern Uinta Mountains of Utah*

The notion of low-level food production as a stable economic system is problematic; however, Red Canyon Fremont groups practiced a low-level food production economy that appears to have represented a stable solution to the local environmental setting. The Red Canyon region is located at the northern fringe of agricultural expansion, providing a unique opportunity to gain insight into the character of low-level food production. This paper presents conditions required for the development of stable low-level food production economies, and argues that the role of domesticates, as well as circumstances surrounding their adoption, are critical factors.

Nash, Stephen (Denver Museum of Nature & Science)

[205] *Paul Sidney Martin and the (Lack of) Imagining of Native America*

Paul Sidney Martin excavated Ancestral Puebloan sites in Colorado, defined Mogollon in New Mexico, and developed the New Archaeology in Arizona. There is scant evidence that Martin included or considered Native

Americans in this research even though he was digging their ancestral sites. In the 1940s, Martin installed a color comic strip in the Field Museum's Archaeology of North America hall, ostensibly to make the exhibit more appealing to the public. This comic strip is one of the few instances in which Martin depicted Native Americans during his career. This paper examines how such could be the case.

Nassaney, Michael (Western Michigan University)
[257] *Discussant*

Nathan, Rebecca (Indiana University)

[125] *Mapping Multiple Landscapes in the Northern Bighorn Basin: An Ethnoarchaeological Study*

This paper explores the implications and possible benefits of utilizing an archaeological, ethnographically-informed, deductive predictive model. Utilizing environmental data from the Bighorn Canyon area in the northern Bighorn Basin, a GIS-based predictive model was created to aid in large-scale archaeological survey on the Crow Reservation in southern Montana. However, the model did not accurately predict the locations of archaeological sites in a preliminary study. This paper presents the theoretical framework for a new predictive model, using data collected from ethnographic interviews with Crow tribal members and research of ethnographic literature to inform the model's calculations.

Nauman, Alissa (Hamilton College), Nathan Goodale (Hamilton College) and Lisa Smith (University of Montana)

[110] *Gender and Household Activity in the Slocan Narrows Pithouse Village, Slocan, British Columbia*

In recent decades archaeological studies that aim to connect activities, places and objects of material culture with the active roles of women, men and children have become increasingly common; however, engendered archaeological studies remain limited in the Interior Pacific Northwest. In this research we draw upon ethnographic literature, material culture and descendant community perspectives to explore facets of identity and gendered activity at the Slocan Narrows Pithouse Village, a community located within the Upper Columbia River system of the Interior Pacific Northwest dating ca.3000-250 cal.BP, with focus on remains of beaver processing activities in a house dating ca.1400 cal.BP.

Nauman, Alissa [110] see Goodale, Nathan B. [114] see Prescott, Catherine [244] see Lash, Ryan P.

Nava Blank, Alberto [41] see Rissolo, Dominique

Navarro-Farr, Olivia (The University of New Mexico) and Gina Diaz (Ford Foundation Predoctoral Fellow the University of New Mexico)

[188] *Excavating Identity, Reclaiming Power: The Fusion of Chicana/o Art and Pre-Columbian Iconography*
Artistic expressions of contemporary Chicana/o politics rely heavily on a vast corpus of Pre-Columbian iconography and material culture. Many draw upon elements of ancient Mesoamerican visual culture that are the most widely recognized. Examples include the dismembered Aztec Goddess Coyolxauhqui or the Maya Queen of Yaxchilan, Lady K'abal Xook, seen running a thorny rope through her tongue. This paper presents an

interdisciplinary exploration of the intersection of Mesoamerican imagery and Chicana/o identity. In it we explore issues of personhood, memory, and power through reclamations of material culture and sacred imagery.

Ndanga, Jean-Paul [38] see Kiahtipes, Christopher A.

Nedelcheva, Petranka [63] see Kay, Marvin

Neff, Hector (California State University-Long Beach) and Satoru Murata (Boston University)

[201] *Ceramic production on Mesoamerica's tropical coasts.*

One of Dean Arnold's key insights was that individuals turn to ceramic production when returns are greater than for other economic pursuits. From this perspective, the tropical coasts of Mesoamerica, which are of little use for agriculture, would have been favored for ceramic production once Mesoamerican people became fully committed to agricultural subsistence. This hypothesis deserves further exploration based on recent excavations along the Caribbean coast of Belize and recent surveys in southern Chiapas, Mexico. In both cases, post-Formative sites appear to have been dedicated to the dual industrial activities of ceramic and salt production.

Neff, Hector [87] see Larmon, Jean T. [235] see Schreyer, Sandra [111] see George, Richard J. [127] see Malyk-Selivanova, Natalia

Neff, Loy [24] see Gabler, Brandon M.

Negrino, Fabio [11] see Riel-Salvatore, Julien

Neily, Robert B. [216] see North, Chris D.

Neiman, Fraser (Monticello)

[241] *Boutique Breakout? Prospects for Evolutionary Research Programs in Archaeology.*

Robert Dunnell was an early and prescient champion of the idea that evolutionary theory would play an important role in any successful attempt to pursue the unmet scientific aspirations of the new archaeology. While this insight will likely be vindicated, evolutionary theory remains a boutique interest in our discipline. I discuss some factors that may be responsible for this situation and others that might alter it. The latter include the increasingly apparent social costs of relativist epistemologies and the power of evolutionary models, being developed at the intersection of several disciplines, to deliver credible accounts of human history.

[160] *Discussant*

Neiman, Fraser [67] see Smith, Karen Y.

Neitzel, Jill (University of Delaware)

[190] *How the Southwest Was Complex*

Since Ben Nelson admonished his colleagues to study how prehistoric Southwestern societies were complex, they have tried to forsake typologies. But old types endure, and new ones have been proposed. Consequently, a legacy of ethnographic progressivism constrains views of societal variation; and the act of classification homogenizes the variation that is recognized. Non-typological, processual alternatives are

most successful with individual cases and comparisons of specific characteristics in different cases. But when Southwest archaeologists draw conclusions from whole case comparisons, they invariably resort to types. Is it possible to both accommodate variation and generalize without types?

[190] *First Chair*

Nelson, Aimee (Idaho State University), Dinesh Bastakoti (Idaho State University) and John V. Dudgeon (Idaho State University)

[111] *Do performance characteristics explain variation in archaeological selection and use of Snake River obsidian?*

Owing to its volcanic geologic history, the Snake River Plain is home to over 20 archaeologically-important obsidian sources. Previous research has described differential frequency of occurrence and transport distance for several southern Idaho obsidian sources, implying preferential selection criteria were used. We test the hypothesis that performance characteristics, measured using high-resolution morphology mapping of fracture surfaces, explains the spatial and temporal extent of particular obsidian utilization in southern Idaho. In particular, we explore the idea that predictability of fracture pattern will be selected over characteristics like hardness or vitreousness and that the temporal trend of obsidian utilization shows this pattern.

Nelson, Ben A. [71] *see Schwartz, Christopher W.*

Nelson, Erin

[50] *Sacred Ash: Linking Community and Cosmos*
Ethnographic sources indicate that fire and its alternate forms—smoke and ash—are powerfully symbolic substances for many historic period southeastern Indian groups. This paper explores the ways in which people incorporated ash into mound building and associated ceremonial practices at Parchman Place, a Late Mississippian site in the northern Yazoo Basin. I suggest that among many potential functions, ash served as a link between the community and the broader Mississippian cosmos.

Nelson, Greg [177] *see Schaub, Amelia M*

Nelson, Sarah (University of Denver) [105] *Discussant*

Nelson, Shaun (Utah National Guard), Ephriam Dickson (Fort Douglas Military Museum) and Jane Stone (University of Utah)

[42] *Camp Floyd: Corner Stone of Utah's Military Cultural Landscape*

In 1857, 2,500 soldiers under the command of Colonel Albert Sydney Johnston entered Utah to suppress the "Mormon Rebellion". Following months of raids by Mormon, Johnston's soldiers established a permanent military post southwest of Salt Lake City. Camp Floyd was the largest military post west of the Mississippi, and had a great impact on the regional economy and culture. In 2009, the Fort Douglas Museum, Utah National Guard, and Camp Floyd State Park formed a partnership to conduct excavations on the site. The results shed additional light on nineteenth century military life in Utah.

Nelson, Zachary (Cardno ENTRIX)

[102] *Living Under the Turtle Lords: A view from Piedras Negras, Guatemala*

Pennsylvania State University's ongoing focus on commoner interactions and activities at Classic Maya sites reveals much about settlement, population and life. At the Guatemalan site of Piedras Negras, analyses move beyond simple population estimates and settlement counts to examine what it meant to live under the ruling lineage during various epochs. Epigraphic and household data are meshed to provide a detailed look at the rise and demise of this polity.

Nelson, Zachary [115] *see Haunton, Christian J.*

Neme, Gustavo A. [273] *see Gil, Adolfo*

Netherly, Patricia (Vanderbilt University)

[52] *Inka Internal Frontiers in Chimor*

For much of its history, the frontier between Chimor and the Inka Empire lay on the lower western slopes of the Andes. When Chimor was overcome, the Inka faced tenacious opposition on the part of some segments of the former Chimor polity. Archaeological evidence and colonial reports show that this led the Inka to adopt a strategy of internal frontiers in these areas in addition to their general policy of containment and indirect rule.

Neubauer, Fernanda and Michael J. Schaefer (UW-Madison)

[277] *The spatial and technological organization of precolonial lithic production from the sand dunes of Pedra Rachada in Paracuru, Ceará, northeast Brazil*
Four archaeological sites were identified in the Pedra Rachada sand dunes of Paracuru during surveys conducted by the Arqueologia Brasil contract archaeology company in July 2010. A sample of 572 lithics was analyzed in situ at these four surface sites. This qualitative analysis was undertaken in the objective of identifying technological patterns of lithic production in an effort to understand the spatial use and organization of the sites. A diverse range of activities are represented in the lithic assemblages showing that the sites range from single episode occupations to important landmarks where people were returning to repeatedly throughout time.

Neubauer, Fernanda [99] *see Schaefer, Michael J.*

Neusius, Phillip D. [209] *see Chiarulli, Beverly A.*

Neusius, Sarah (Indiana University of PA) and Beverly Chiarulli (Indiana University of Pennsylvania)
[232] *Dating the Late Pre-Contact Period in Central Western Pennsylvania*

As part of a long-term research project focused on Monongahela and related sites in the river drainages of central western Pennsylvania, we have obtained a series of standard radiocarbon and AMS dates that help establish the history of the region prior to European contact. These dates indicate that the area was occupied more or less continuously from the eleventh through the sixteenth centuries although individual villages were occupied, abandoned, and reoccupied. This program of radiometric dating underscores the importance of obtaining multiple dates from village sites and the preferability of AMS dates on botanical remains.

[209] *Discussant* [232] *First Chair*

Neusius, Sarah W [209] *see Chiarulli, Beverly A.* [271] *see Boon, Andrea L.*

Neves, Walter [158] *see Strauss, André*

Newbold, Bradley (Washington State University), R. Kyle Bocinsky (Washington State University), William D. Lipe (Washington State University), Phil R. Geib (University of New Mexico) and Brian M. Kemp (Washington State University) [88] *Revising Early Turkey Domestication in the Southwest*

Recent genetic studies of ancient Southwestern turkeys provide intriguing revelations into the origins and distribution of domestic turkey stocks within prehistoric North America. For example, archaeological turkey populations in the Southwest exhibit strong genetic uniformity typical of domesticated species. These populations, however, are not derived from the presumed ancestral domestic lineages of Mexico and represent a secondary domestication event in the Southwest. Here, we explore the early phases of turkey husbandry in the Four Corners region in Classic Basketmaker II and III times and also examine morphological and archaeological evidence of even earlier turkey use elsewhere in the Southwest.

Newlander, Khorri (University of Michigan)

[127] *Defining Paleoarchaic Chert Procurement Ranges in east-central Nevada*

Current models of Paleoarchaic subsistence-settlement in the Great Basin rely heavily on obsidian provenance to define the ranges over which people and resources traveled, though disagreement persists regarding the behavioral processes (e.g. residential mobility, exchange) these ranges represent. Evaluation of these alternatives requires contextualization of obsidian within a comprehensive understanding of Paleoarchaic technology, including other toolstone. This research utilizes laser-ablation inductively coupled plasma mass spectrometry and portable x-ray fluorescence spectrometry to define complementary "chert procurement ranges" from several assemblages in east-central Nevada, building, ultimately, toward a multi-dimensional model of Paleoarchaic mobility and exchange.

Newman, Kimberlee [89] *see Davidson, Iain*

Newman, Sarah (Brown University), Jose Luis Garrido (Universidad de San Carlos) and Nicholas Carter (Brown University)

[66] *It Ain't Over 'til It's Over: The Terminal Classic at El Zotz, Guatemala*

This paper discusses the transformations of the site core of El Zotz, Guatemala, during the Terminal Classic. Despite the well-known political, economic, and social upheavals of this time period, four seasons of excavations at the site's Acropolis and the satellite group of Las Palmitas have revealed not only continuity in population and cultural traditions, but a fluorescence in elite occupation that included investments in monuments, residential architecture, and local production.

Newman, Sarah [66] *see Carter, Nicholas P.*

Newsom, Lee [41] *see Gifford, John A.*

Nguyen, Dai [220] *see Gu, Jiyan*

Nials, Fred (Desert Archaeology, Inc.; GeoArch)

[222] *Irrigation and Field Systems at the Las Capas Site, Tucson Basin, USA*

The remarkable stratigraphic integrity and preservation of canals and fields at Las Capas permits reconstruction of the Early Agricultural period irrigation system to a degree never before seen. More than 750 bordered-basin fields and 180 canals and ditches were recorded in 6 stratigraphic levels separated by 20 cm to 1 m-thick overbank flood deposits. Field sizes appear to have been adjusted for available water, although a consistent field-water delivery system was used throughout the duration of occupation. Ironically, the irrigation technology that allowed farming at the site appears to have been a factor in site abandonment.

Nials, Fred [20] *see Prasciunas, Mary M.*

Nicholas, George (Simon Fraser University)

[265] *Marx, Indigenous Peoples, and the Postcolonial Challenge*

A continuing challenge in developing a postcolonial archaeology is identifying and addressing inequalities affecting descendant communities in the practice of archaeology and in access to and benefits from its products. Indigenous archaeology can address this by promoting indigenous values and by utilizing various theoretical constructs, including Marxism, that promote praxis. Here Marx offers important insights into understanding how archaeologists have monopolized the means of (knowledge) production, and provides a set of critical tools for countering this. I discuss the utility of a Marxist critique within the context of Indigenous archaeology and through examples of community-based heritage research initiatives underway internationally.

[125] *Discussant*

Nicholas, Linda M. [201] *see Carpenter, Lacey B.*

Nicholls, Brian (University of Wisconsin-Milwaukee), Thomas Zych (University of Wisconsin-Milwaukee) and Mark Dudzik (Wisconsin Department of Natural Resources)

[187] *Recent LiDAR Imagery of the Aztalan Site*

LiDAR imagery of Aztalan State Park was acquired by the Wisconsin Department of Natural Resources as part of an effort to proactively manage park resources. Analysis of topographic mapping as well as bare earth models derived from the LiDAR point cloud highlights the irregular shoreline of the west bank of the Crawfish River in the vicinity of the riverbank enclosure. Banks in this area are dissected by numerous erosional features likely related to aboriginal occupation. However, the riverbank midden reported as a linear ridge in the early 20th Century is clearly visible and remains relatively intact.

[187] *Second Chair*

Nichols, Caitlin (Murray State University), Caroline Schmidt (Murray State University) and Anthony Ortmann (Murray State University)

[185] *Microartifact Analysis of Mound C at Poverty Point: Exploring the Function of a Late Archaic Mound*

The function of Archaic mounds in the Lower Mississippi Valley is poorly understood. Recent excavations at Poverty Point's Mound C provide a unique opportunity to examine the function of one late Archaic mound. Previous research on Mound C revealed differences from known habitation areas at Poverty Point, however, relatively few macroartifacts were recovered from the surfaces of mound construction stages. This low density of macroartifacts has made it difficult to determine the exact nature of activities undertaken on the mound. Microartifacts obtained from recent excavations in Mound C provide another perspective on the nature of activities associated with this earthwork.

Nichols, Deborah (Dartmouth College) and Susan T. Evans (The Pennsylvania State University)

[102] *Land and Water at Teotihuacan: A New Look*

Teotihuacan's presence across Mesoamerica is marked by the pierced disk symbol, representing water as well as preciousness. Central to Teotihuacan was its worship of water; its system of urban drainage matches in ingenuity and feeds into its productive canal irrigation networks. Reconstructing this integrated system reveals how the city's drainage program was an integral part of Teotihuacan's history that was accompanied by changes in residential patterns, monumental construction projects, and the iconography that documented these changes. "New ecologies" offer frameworks useful to archaeologists for understanding the politics and rituals of land and water, along with their adaptive significance.

[149] *Discussant*

Nichols, Deborah L. [54] see Crider, Destiny Lynn

Nichols, Teresa (Indiana University)

[125] *Indigeneity around the Globe: Intersections of Social Science and Social Justice*

Linking archaeological cultures with modern populations has been considered an interesting, although problematic, area of scientific exploration. But for many indigenous peoples this has significant impacts on their status. A prime example of the use of archaeology to alternately support or deny indigenous rights is seen in land claims cases. Archaeology, like many disciplines, struggles to maintain rigorous and impartial research methods while connecting to modern concerns. Is it possible to be a social scientist working for social justice? These concerns have no simple solution, but considering a few cases around the world might begin to show better ways forward.

[125] *First Chair*

Nicholson, Christopher M. [96] see Welch, Kristen R.

Nicolaides, Monica (University College London)

[63] *Rooting out the Grasses in the Early Epipaleolithic: Preliminary Microbotanical Results from the Eastern Levant*

This paper will present preliminary findings from a microbotanical analysis of stone tools and sediment samples from four Early Epipaleolithic (ca. 25,000-18,500 cal. BP) sites in the Eastern Levant. Direct evidence for plant-use during the Last Glacial Maximum (LGM) is rare in this region because macrobotanical remains are often

poorly preserved. New starch and phytolith evidence will allow us to root out the grasses and explore people-plant interactions during this period of climatic extremes. These findings will contribute to current discussions of hunter-gatherer response and adaptation in the face of environmental uncertainty.

Nielsen, Axel (CONICET Argentina)

[154] *The Role of 'Performance Characteristics' in a Semiotics of Materiality*

How do the physical properties of artifacts contribute to the reproduction of meaning in practice, and therefore, to the constitution of knowledgeable agents? The concept of "performance characteristics" is a useful tool for exploring this issue—central to materiality studies—in prehistoric cases. Putting into focus a range of representative conditions commonly encompassed by the notion of indexicality, it supports a contextual analysis of material meanings that avoids many difficulties associated with semiological approaches. In the Andes, for example, ancestor worship resorted to the performance characteristics of multiple artifacts to distribute the agency of the dead into wide object networks.

Nielsen, Axel [26] see Avila, Florencia

Nieves Colón, Maria (SHESC, Arizona State University), Hector J Diaz-Zabala (Department of Biochemistry, Advanced Genetics Laboratory, Ponce School of Medicine & Health Sciences) and Juan C Martinez-Cruzado (University of Puerto Rico-Mayagüez)

[193] *Sub-Saharan African and West Eurasian maternal (mtDNA) lineages in the Dominican Republic*

We attempt to elucidate recent population history in the Caribbean, by using mtDNA to estimate the contributions of sub-continental West Eurasia and sub-Saharan Africa to the modern population of the Dominican Republic. HVR-I sequences of 570 samples collected in 43 locations indicate that 71% of Dominican mtDNAs originate in sub-Saharan Africa (n=403), while 15% originate in West Eurasia (n=83). Differences in the apportionment of these sub-continental lineages across the landscape were observed. We found large contributions of West and West-Central African lineages to the Dominican population (59% and 18%). Additional sequencing is currently underway for all samples of Eurasian origin.

Nishimura, Yoko (SUNY Stony Brook)

[134] *Sacred space beneath mundane floors: a systematic comparison of material culture between household floors and intramural burials in northern Mesopotamia*

Titris was a Mesopotamian city containing residential buildings with subterranean family crypts. The house occupants drew a clear line of spatial demarcation between the sacred place of the dead and the mundane space for daily household activities within the individual houses. However, the occupants of these houses placed mostly utilitarian, mundane items into the family tombs as funerary offerings. Using the Titris houses as a case study, I will examine the complex relationship between the funerary and domestic activities within the houses. I conclude that the residential funerary practices are

characterized by an overall sense of 'ordinariness' and domesticity.

[134] *First Chair*

Niziolek, Lisa (The Field Museum, Chicago)

[256] *Ceramics under the Sea: Pre-Modern Maritime Trade in East and Southeast Asia*

This project investigates pre-modern maritime trade and intraregional exchange networks in East and Southeast Asia using collections from The Field Museum, Chicago. These collections include high-fired ceramics from the Java Sea Wreck—an Indonesian vessel carrying mostly Chinese cargo found off the coast of Java—dated to the thirteenth century A.D. and other East and Southeast Asian collections from the museum, which include Chinese dragon jars, celadons, and blue-and-white porcelains from archaeological contexts. Specifically, the results of compositional analysis of porcelain and stoneware bodies and glazes from primarily Song dynasty (A.D. 960 to 1279) vessels will be presented.

[256] *First Chair*

Nohe, Sarah [24] see Harding, Gregg E.

Nolan, Kevin (AAL, Ball State University)

[239] *Least Cost and Flow Modeling of Late Prehistoric Interaction in the Scioto River Valley*

I explore an alternative method to predict prehistoric trade patterns. Nolan and Cook (2010; 2012) used reconstructed drought index values to model patterns of change in inter-community interaction for the entire Ohio Valley within the framework of the Winterhalder-Kelly model. Site specific predictions were derived from the original model using both DEM and difference-of-precipitation cost-surface analyses to predict likely trading partners (i.e., easy to travel to and different precipitation). The dual cost-surface analysis had limitations. I replace the difference-of-precipitation cost analysis with a hydrological analysis of the same surface. This new analysis reveals how interaction should "flow" in central Ohio.

Noll, Christopher (Plateau Archaeological Investigations)

[213] *Tools of Necessity: The Experimental Identification of Flake Tool Pressure Flakers*

Archaeologists concerned with lithic technological organization comment that stone was rarely used as a pressure flaking tool though the attributes of stone pressure flakers are not widely known, making recognition of the tool in archaeological assemblages difficult. Experimental use of stone pressure flaking tools suggests that recognizing the tool form is dependent on the identification of the type and relative position of edge modification which forms a diagnostic relationship. The flake tool pressure flaker is defined by a crushed edge and the presence of a load application surface suitable for prehension with a direct load path to the use edge.

Noori, Kamaran [129] see Dawson, Peter C.

Norder, John (Michigan State University)

[194] *Rock Art, Indigenous Identity, and Cultural Tourism in the North American Midcontinent*

This paper discusses examples from Minnesota through Ontario that focuses on the ways that rock art sites have

increasingly become important foci for the maintenance and empowerment of community identity for Siouan and Algonquian speaking peoples. At the same time, several of the most visible places have become sites for various forms of cultural tourism. As such, it also becomes important to identify and discuss how Indigenous community desires to protect and maintain these sacred places for traditional cultural use are couched within these non-Indigenous heritage management and/or tourism structures.

Norman, Garth (ARCON, Inc.)

[62] *Izapa Precession and 2012: Calendars, Origins, and Diffusion*

All evidences point to Izapa, Mexico as the place of origin of the Maya calendar based on Equinox Precession and Izapan civilization's base date of 592 BC that anchored the World Ages history with baktun-katun cycles to 3112 BC, and gave birth to the Long Count from the Calendar Round. Izapa Stela 5 Tree of Life is the earliest Popol Vuh record. Izapa's influence spread far and wide including distant Nazca, Peru. Izapa's sophisticated traceable culture markers include astronomical orientations, calendar observatory, geometric design and standard measures (which combined in (design planning and mapping).

Norman, Neil (William and Mary)

[190] *Claustrophobic and Civilized Cities: Recent Progress in the Archaeology of Urbanism Along the West African Coast, 1000-1800 AD*

The intellectual connection between cities and civilization is a longstanding and uneasy one. Lewis Henry Morgan did much to promote the notion of cities materializing the pinnacle of human progress. In turn, archaeologists drew from the work of Morgan to generate prescriptive definitions of urbanism. As a result, entire societies and regions were omitted from early discussions of cities. This paper surveys recent attempts to decouple the elision between cities, civilization, and progress and in so doing promote recent contributions of the unique nature of West African urban forms to the study of urbanism and social complexity.

Norman, Scotti (Vanderbilt University), Chad Gifford (Columbia University) and Samuel Connell (Foothill College)

[52] *Frontier Resistance to the Inka: the Cayambe Effects on Imperial Strategy*

Archaeological models of imperial conquest have focused on core dominance, investigating peripheral societies in light of empires attempting to colonize them. Focusing on imperial core can cause archaeologists to overlook how peripheral dynamics influence the imperial narrative. A confederation of northern Ecuadorian societies are known for resistance to Inka rule, archaeologically manifested through a fortified landscape. Specifically, the rapid construction, interconnectedness, and close proximity of Inka and local Pambamarca fortress complexes demonstrate resilience shown by local populations to remain uncolonized. This paper presents new evidence of Cayambe defensive strategies and exhibits how these strategies shaped Inka expansionary tactics.

Norman, Sean (University of South Florida)

[37] Landscape Reconstruction of the Crystal River Site (8C11)

Crystal River, on Florida's west-central Gulf coast, is one of the largest and mound complexes in eastern North America. Environmental shifts and social development impacted the composition of the site during its occupation from 100 B.C. to A.D. 600. The deposition of shell into middens and mounds exhibits obvious large scale landform alteration, but the full extent of landscape modification is poorly understood. This research aims to reconstruct the landscape throughout the site's occupation using geoarchaeological methods. Forty-six soil cores systematically recovered using a GeoProbe provide the necessary data to interpret the dynamic history of this culturally developed terrain.

North, Chris (Logan Simpson Design) and Robert B. Neily (Logan Simpson Design)

[216] A Pueblo IV Period Hopi Pottery Firing Complex on Antelope Mesa

A recent linear survey near the ancestral Hopi village of Awat'ovi identified a newly discovered Jeddito Yellow Ware pottery-firing area. The pottery-firing area, located between two outlier villages east of Awat'ovi, contained three distinct firing areas adjacent to coal seams. Jeddito Black-on-yellow, Jeddito Corrugated, and Sikyatki Polychrome sherds dominated the assemblage; a small number of Pueblo III whiteware sherds were also recognized. In this poster we summarize the relatively informal nature of the pottery kilns, and other features, to provide one example of Jeddito Yellow Ware production during the Pueblo IV period.

Novic, Juliana (ASU School of Human Evolution and Social Change)

[62] Class clustering in the neighborhoods of Calixtlahuaca, Mexico

Did ancient Mesoamerican elites live in elite neighborhoods of cities, or did they tend to live dispersed throughout the city? I present analyses of surface data from Calixtlahuaca suggesting that elite households (apart from the royal palace) were not clustered in the center of the city, close to the civic architecture. Nor were elites living clustered together anywhere else in the city. Instead, elites were distributed on the edges of the city, mixed with commoner households. This paper compares the pattern at Calixtlahuaca and other large cities in Mesoamerica.

Nowell, April (Univ of Victoria-Dept of Anth) and Melanie L. Chang (University of Oregon)

[202] Pornography is in the Eye of the Beholder: Sex, Sexuality and Gender in the study of European Upper Paleolithic Figurines

When the discovery of the Aurignacian Hohle Fels figurine from Germany was announced publicly in June 2009 it was described in both popular media and in academic journals as "pornographic," "a 35,000 yr old sex object" and as a "prehistoric pin-up." But what does 'pornographic' mean in an Ice Age context? This paper examines the role of presentism in the analysis and interpretation of human figures in the visual cultures of the European Upper Paleolithic and takes a communities of practice approach to explore the intersection between gender constructs and materiality.

Nuevo Delaunay, Amalia (INAPL-Buenos Aires)

[8] Discussing architectural features of 20th century sites in marginal areas: five study cases in Argentinean Patagonia.

During the first half of the 20th century a variety of architectural features coexisted in the marginal areas of Argentinean Patagonia, mostly due to the concurrency of the recently arrived stockbreeding society and the circumscribed local indigenous people. The stockbreeding society's settlement type was that of small land units known as "estancias", characterized by typical European-descent architectural features. On the other hand, places occupied by indigenous people appear to broadly imitate the methods of the incoming settlers, although not in an identical way. Architectural features at five sites located in the Santa Cruz Province exemplify these differences.

Núñez-Regueiro, Paz [213] see McEwan, Colin

Nunnally, Patrick [209] see Hayes, Katherine H.

Nycz, Christine (University of Nebraska - Lincoln)

[84] Re-Examining the Middle Holocene in the Eastern Central Plains

Current interpretations for the Middle Holocene eastern Central Plains emphasize specialized bison procurement and low regional bison mobility. This poster reports on analysis of two Middle Holocene chipped stone assemblages, Hill (13ML62) and Simonsen (13CK61), commenting on current Middle Holocene interpretations. This analysis highlights a tool form unique to this subregion and time period, hafted scrapers.

Nyers, Alex (Graduate Student) and Loren Davis (Oregon State University)

[37] Establishing Early Chert Use with PXRF: A Case Study from the Cooper's Ferry Site

Chert artifacts are commonplace in Columbia River Plateau archaeological sites; however, establishing the provenance of cherts has traditionally proven difficult, limiting their utility in understanding prehistoric mobility and trade. To address this problem and study early chert use in the southeastern Plateau, portable x-ray fluorescence (PXRF) and multivariate statistics were used to characterize elemental properties of six chert sources from Idaho's Salmon River basin. PXRF analysis of 700+ chert artifacts from the Cooper's Ferry site were compared against these sources, with results indicating the majority of artifacts came may have come from a single, but as yet unsampled, chert source.

Nygard, Travis [275] see Wren, Linnea H.

Nyman, James (University of North Carolina)

[232] Defense Against 'Decline': Using the Production Step Measure to Question Patterns of Cultural Decline Reflected in Ceramic Assemblages

The Native Americans who lived among the colonists in the Lowcountry of South Carolina during the 17th century, have consistently been relegated to the footnotes of history in larger narrative of colony building and cultural interaction. This is in large part due to assumptions of 'collapse' resulting from the consequences of European expansion. Archaeologists have used their pottery tradition as an indicator of their

cultural decline due to its "sloppy" and "poorly made" appearance. Through the use of the production step measure I reveal that their ceramics instead indicates cultural persistence despite the pressures of life in the Lowcountry.

O'Boyle, Robert (University Of Montana), Alvin Windy Boy Sr, Duncan Standing Rock Sr and Videl Stump Sr

[250] *Cultural Heritage on the Rocky Boy's Indian Reservation in North Central Montana*

The Chippewa Cree have been developing cultural resource program for the Rocky Boy's Indian Reservation in north central Montana. The Chippewa Cree rely on a rich variety of resources including medicinal plants, historical documentation, archaeological sites, as well as our most treasured resource: the wealth of knowledge and experience of our elders. Utilizing these, the Chippewa Cree are not simply preserving culture; we are active participants in the cultural heritage process. This poster provides an overview of many of the activities completed by the Tribal Historic Preservation Office, in conjunction with the Tribal Historic Preservation Advisory Committee and Tribal Archaeologist.

O'Brien, Helen (Pima Community Class) and Jon Boyd (Pima Community College)

[111] *XRF Analysis of Materials from the Burro Creek/Pine Creek Archaeological Survey*

The Burro Creek/Pine Creek Archaeological Survey, begun in 2003 as a joint venture between Pima Community College and the BLM in a remote area about 40 miles northwest of Prescott, Arizona, has now completed its 9th session. This field season Bruker Elemental made a Tracer III-V+ portable X-ray fluorescence analyzer available for a month. Results of the analysis of 270 projectile points, 51 pieces of debitage, other tools and lithic material sources are presented here with a focus on sourcing obsidian used to manufacture projectile points.

O'Brien, Matthew (University of New Mexico) and Curtis Storlie (Los Alamos National Laboratory)

[144] *A New Methodology to Anatomical Refitting using a Multivariate Approach*

Anatomical refitting is a useful tool to link the social observations and theory from cultural anthropology and apply them to the archaeological record. Concerns over the accuracy and precision of existing refitting methods have limited its use in archaeology. In essence, anatomical refitting has been hampered by a Catch-22 scenario. If the faunal assemblage is too large, then existing methods became inefficient, and if the sample is too small, then the interpretative power of the observations become marginal. This paper presents a new multivariate method that shows marked improvement in small and large samples over existing approaches.

O'Brien, Meghann [276] see Donop, Mark C.

O'Brien, Michael (University of Missouri)

[241] *Niche Construction Theory: A Key Concept in Evolutionary Studies*

Theory and empirical data strongly imply that recent human history involves extensive gene-culture co-

evolution, much of it as a direct result of human agricultural practices. Niche construction theory (NCT), a relatively new development within evolutionary biology, has important implications for understanding this co-evolution. NCT has the ability to unite several approaches in anthropology and archaeology that, despite some early rhetoric, are not at all incompatible. NCT is especially useful because it looks beyond climate, instability, and external environments as causes of evolutionary events and attempts to incorporate behavior as an active variable in driving both environmental change and human evolution.

O'Brien, Michael [160] see Boulanger, Matthew T. [123] see VanPool, Todd L.

Ochoa-Winemiller, Virginia [191] see Winemiller, Terance

Odell, George (University of Tulsa), Colleen Bell (University of Tulsa), Donald Blakeslee (Wichita State University), Sarah Chandlee (University of Tulsa) and Maclaren Law de Lauriston (University of Tulsa)

[232] *Manufacturing Protohistoric Wichita Pipes*

A collection of surface materials from a site in central Kansas has yielded Wichita-related Florence pipes of Kansas pipestone in several stages of manufacture, use, and breakage, as well as several lithic tool types that have been postulated to have been employed in the manufacture of those pipes. These types were sampled for lithic use-wear analysis, and some of them were found to possess wear exactly like the wear on tools from the site, indicating one of the few such sites on the continent. Tools of this nature were then used to construct just such a pipe.

O'Donnabhain, Barra (University College Cork, Ireland) and Katherine Beatty (University College Cork)

[59] *About Face: a 'careless' burial from Knowth, Ireland*

An atypical prehistoric burial was recorded as a 'careless' deposit. Re-examination indicates prone burial and we suggest that the deprivation of the face may be deliberate. We argue that the power wielded by the face has been overlooked in bioarchaeology. Saturated with culturally produced meanings, the face is a powerful site of personhood and identity formed at the interface of the social and physiological. The face-to-face relationship is an essential primacy for investigation into the lived experience of the world. De-facing the individual limited the deceased's spiritual prospects but also reduced their impact on the living.

O'Donovan, Maria (Public Archaeology Facility), LouAnn Wurst (Western Michigan University) and Randall H. McGuire (Binghamton University)

[265] *What's in the Middle of a Marxist Archaeology? Marxism, Method, and Middle Range Theory*

The question of a Marxist methodology replicates positivist thought and views the creation of knowledge as a rigidly definable process. We argue that Marxism offers us a true alternative that dialectically intertwines theory and method. Method cannot be separated from theory; indeed we would argue that there is no Marxist method and that many attempts to create one have had

pernicious ends. The absence of a distinct method or middle range theory in Marxism is one of its strengths. This is demonstrated in real world applications, which employ a relational analytical framework that defines concepts only within their dialectical context.

O'Donovan, Maria [265] *see* Wurst, Louann

Oestmo, Simen (IHO, Arizona State University)

[64] *Digital Imaging Technology and Experimental Archaeology: Steps toward the Development of a Methodological Framework for the Identification and Interpretation of Fire Modified Rock (FMR)*

Here I present the result of a series of experiments and analysis of FMR, a common but often overlooked archaeological artifact type. Experiments simulating different burning scenarios were conducted and a low-cost digital imaging method, designed to limit intra-analysis bias, was used to quantify FMR color values. Statistical tests and a blind test suggest that unburned rocks and FMR can be both statistically and physically separated. A burning scenario model, based on measured experimental data, applied to FMR from a South African Middle Stone Age site, shows that the archaeological samples are statistically related to experimental burning scenarios.

Oetelaar, Gerald (University of Calgary)

[199] *Entangled Worlds of the Blackfoot: Movement to the Sacred Grounds or Fur Trade Posts*

The world of the Blackfoot includes a complex web of relationships between animate and inanimate entities mediated by spirits. The Blackfoot homeland is dotted with special places of spiritual energy linked by paths leading the Blackfoot on their annual ritual pilgrimage to the sun dance grounds. Designed to ensure the renewal of the land and its resources, this pilgrimage also becomes an historical journey through the archive of the group and a strategy to maintain ties with neighboring groups. In this paper, I explore the adjustments to this complex web in light of the entangled world of the fur trade.

Ogden, Jessica [64] *see* Dufton, Andrew

O'Gorman, Jodie (Michigan State University), Jennifer Bengtson (Michigan State University) and Ryan M. Tubbs (Michigan State University)

[105] *Impacts of Social Interaction among Women in the Past: A Central Illinois River Valley Case Study*

Migration of Oneota people into the Central Illinois River Valley at ca. A.D. 1300 led to prolonged interaction between Oneota and Mississippian groups. The violent nature of this interaction dominates the literature as the Norris Farms 36 cemetery has produced important physical evidence of pre-Columbian warfare in the midcontinent. This paper takes a broad bioarchaeological view of the impacts of social interaction as seen through female biological and material remains in cemetery and village contexts. By doing so, we contribute to an understanding of the social context for violence.

O'Gorman, Jodie [78] *see* Upton, Andrew J.

O'Grady, Patrick W. [20] *see* Jenkins, Dennis L.

O'Hagan, Terry [244] *see* Lash, Ryan P.

O'Hara, John (NYU)

[11] *Rediscovering the Abri de la Souquette: a re-analysis and contextualization of an Aurignacian site in the vallon de Castel-Merle*

The Abri de la Souquette is located in the vallon de Castel-Merle, approximately 50 meters from the renowned sites of Abris Blanchard and Castanet. Although much of the site was destroyed by excavations in the early 20th century, the evidence recovered suggests an Aurignacian record of comparable richness to these adjacent sites, and test excavation conducted in the 1980s confirmed the survival of intact deposits. This paper will present an analysis of this excavation and the lithic material recovered, focusing particularly on raw material selection and carinate reduction sequences, and will contextualize these data within current research in the vallon.

O'Hara, Michael (Arizona State University)

[116] *The Local and Regional Contexts of Sinagua Mortuary Practices*

Mortuary practices in the Flagstaff region varied over time and indicate changes in social organization and extra-regional contacts. The pattern prior to the eruption of Sunset Crater was inhumation in abandoned pit houses. This pattern persisted into the post-eruptive period, but new developments included the adoption of cremation burial and the establishment of formal cemeteries. The choices made between cremation and inhumation appear to have been associated with social identity defined by participation in a religious belief system and community of practice. Offerings suggest that new social roles appeared and mortuary practices were used to negotiate transitions of power.

O'Hear, John [185] *see* Steponaitis, Vincas P.

Ohnersorgen, Michael (Dept. of Anthropology, University of Missouri-St. Louis)

[54] *Interaction and Exchange in West Mexico's Postclassic Aztatlán Tradition*

Recent research at Chacalilla, Nayarit, addresses issues of craft production, settlement organization, and regional and interregional interaction associated with the Early-Middle Postclassic period Aztatlán tradition. As a former graduate student of Barbara Stark, the author's interests in these research themes and the application of relevant methodologies to examine them were inspired by Stark's research in Mesoamerica's Gulf Coast lowlands. This paper synthesizes results from recent survey, excavation, and artifact compositional sourcing at Chacalilla, identifying particular aspects of research influenced by Stark's ideas, while simultaneously providing an updated understanding of political-economic organization and interaction along the Postclassic West Mexican coast.

Oka, Rahul (University of Notre Dame)

[190] *Abandoning Typologies but not Morgan: Stages/Types as Recurring Emergent Properties in the Indian Ocean Interaction Complex*

Lewis Henry Morgan's enduring (and unintended) legacy was in generating a typology of social-evolutionary stages and influenced Elman Service and Morton Fried.

Though typologies have been critiqued, I am not convinced that we abandon stages/types. This paper will use data on the struggles between political, commercial, and social groups of the Indian Ocean to show the endurance and resilience of the types of social-political organizations proposed by Morgan, Service, and Fried over 2000 years. I argue that stages/types should be seen as recurring emergent properties of complex interactions rather than as static steps up the typological ladder towards complexity.

Okumura, Mercedes (University of Sao Paulo, Brazil) and Astolfo Araujo (University of São Paulo, Brazil)

[158] *The Southern Divide: Early Holocene differentiation of bifacial points from South-eastern Brazil*

Bifacial points have been used to characterize the "Umbu" Tradition in South-eastern Brazil. This Tradition has been observed in archaeological sites dated from the early Holocene to near historical times. Such a great temporal range and vast territory, associated with a lack of systematic regional studies of the projectile points, have suggested the existence of a diversity within this tradition which has been ignored so far. Through geometric morphometric analysis, this paper aims to test the hypothesis that there are important differences in the early Holocene bifacial points associated to the Umbu Tradition in South-eastern Brazil.

Oland, Maxine (Keene State College)

[233] *Maya Households in Transition: Postclassic-Colonial Period Household Archaeology at Progreso Lagoon, Belize*

This paper examines Maya households on the west shore of Progreso Lagoon during a series of indigenous and colonial transitions in the 15th and 16th centuries. At Progreso Lagoon, archaeology indicates a changing social, political and economic environment beginning in the 15th century, less than 100 years before the Spanish incursion into the region. Household groups ultimately helped shape the outcome of historical transitions, as they adapted daily practices to meet new realities, and made strategic choices about political and economic alliances. This paper considers the role of household practices in shaping colonial period interactions at the community.

Olguin, Ivan (Ivan Olguin)

[210] *Una vista arqueologica general de las recientes investigaciones realizadas en el poblado de San Pablo Villa de Mitla, Oaxaca*

Como parte de las actividades realizadas dentro Centro INAH-Oaxaca, recientemente se han llevado a cabo rescates arqueológicos en el área urbana del poblado San Pablo Villa de Mitla. De esta manera se ha logrado obtener una muestra de materiales arqueológicos que permiten continuar con la investigación de aquellas áreas del asentamiento prehispánico que han quedado sepultadas debajo del asentamiento actual fundado por los españoles en 1528, logrando así incrementar el conocimiento de la dinámica social del sitio. Por otro lado estos trabajos han servido para establecer estrategias de investigación dentro de la problemática urbana de la Zona Arqueológica de Mitla.

Oliver, James [33] see *Snow, Susan R.*

Oliver-Lloyd, Vanessa [129] see *Ryan, Karen*

Olson, Kyle (Ohio State University)

[134] *Revisiting Tureng Tepe: A new look at an old excavation in northeastern Iran*

Tureng Tepe is the largest Bronze Age site in the Gorgan Valley of northeastern Iran. The site was excavated in 1931 by Fredrick and Susanne Wulsin, and again between 1961 and 1975 by Dr. Jean Deshayes. While Dr. Deshayes produced many publications, the Wulsins published very little about their work at Tureng Tepe. This archival project originally set out to investigate the terracotta figurines from Tureng Tepe housed at the University Museum of Pennsylvania, but discovered that much more information was available to work with. Preliminary analyses of various unpublished aspects of the Wulsin's excavations are presented.

O'Mansky, Matt (Youngstown State University) and Arthur Demarest (Vanderbilt University)

[151] *At the Edge of the (Lowland) World: Sebol and Shifting Trade Routes along the Highland-Lowland Interface*

Recent research at the site of Sebol is allowing archaeologists to delineate the cultural boundary between the Maya highlands and lowlands in the Classic and Terminal Classic periods. Located in the northern Alta Verapaz, Sebol always retained a highland identity, despite its proximity to the powerful lowland center of Cancun. Even as much of the southern lowlands was abandoned in the late eight century and ninth centuries and trade routes shifted as traditional routes shut down, Sebol maintained its highland identity and connections, as evidenced through architecture and artifacts.

O'Neill, John [244] see *Lash, Ryan P.*

Orchard, Trevor [207] see *Szpak, Paul*

Oré Menéndez, Gabriela (Pontificia Universidad Católica del Perú - PATL) and Krzysztof Makowski (Pontificia Universidad Católica del Perú - Programa Arqueológico Valle de Pachacamac)

[156] *The potters of Pachacamac valley: highland and coastal relationships through LA-ICP-MS ceramic analysis*

The relationship between the highlands and the coast of the Lurin valley (Peru), according to both ethnohistorical and archaeological information, has been ever changing and dynamic. This process was further altered by the inca conquest and restructuration of the valley. Our new investigations using LA-ICP-MS (Laser Ablation Inductively Coupled Plasma Mass Spectrometry) technology on samples of clay and sherds from along the whole valley open a new window to understand from these relationships the manufacture and movement of the pottery produced locally and further proves that ceramic style was not concomitant with the identity of these populations.

[156] *First Chair*

Oré Menéndez, Gabriela [156] see *Hernandez Garavito, Carla C.*

Orr, David

[280] *Fifty Years of Archaeology at Valley Forge : The Interpretation of Washington's Continental Army*
 Since the 1950's archaeologists have been excavating encampment sites at Valley Forge. Following the metal detectorists' activity during this time, John Cotter utilized the site for his first forays into teaching historical archaeology at the University of Pennsylvania. Since then the author has led numerous investigations at several Brigade sites over the course of the last thirty five years. This paper will bring a holistic analysis to this research and discuss a plan for future work on the site.

Orrego Corzo, Miguel [30] *see Schieber de Lavarreda, Christa I.*

Ort, Jennifer (University of Maine Orono) and Brian Robinson (University of Maine, Orono)
[268] *Paleoindian Aggregation Patterns in Northeastern North America: Analysis of the Bull Brook Site, Ipswich Massachusetts*
 Paleoindian occupation sites in the Northeast are characterized by dense tool concentrations (loci) representing activity patterns and are an important measure of site size, organization and duration. The Bull Brook site in Ipswich, Massachusetts has 36 loci arranged in a ring-shape which has been speculated as representing either a repeated occupation over time, or an aggregation of several bands. Continuing analysis of artifact distributions combined with a reconstructed site map reveal contrasting activity patterns between interior and exterior portions of the ring as well as around the ring, contributing to the interpretation that the occupation represents a highly-organized, planned event.

Ortman, Scott (SFI/Crow Canyon)
[51] *Precipitation, Temperature and Settlement in the Village Ecodynamics Project Study Areas*
 Long-term research by the Village Ecodynamics Project has resulted in detailed reconstructions of population dynamics for two portions of the northern U.S. Southwest. These two areas—the Central Mesa Verde region and the Tewa Basin—were densely-occupied by maize agriculturalists during the past two millennia, and these areas are also linked historically through migration. In this paper I examine the role of precipitation and temperature for the history of human settlement in these two areas, paying special attention to climate-forcing vs. climate-contributing models for the 13th century movement of population from Mesa Verde to the Rio Grande.

[272] First Chair [272] Second Organizer

Ortman, Scott [272] *see Coffey, Grant*

Ortman, Scott G. [272] *see Varien, Mark D*

Ortmann, Anthony (Murray State University) and Lee Arco (Washington University in St. Louis)
[2] *Recent Excavations on Poverty Point's Mound C*
 The smallest mound at the Poverty Point site, Mound C, is also one of the most unusual architectural features at the site. Mound C occupies a unique position on the landscape and was constructed—unlike any other mound at the site—as a series of platforms separated by thin accumulations of cultural debris. Previous excavations suggest these platforms provided surfaces for non-

domestic, possibly ritual, activities. Recent excavation of a 6-meter profile near the center of the mound is providing insight into the function of the mound, the pace of its construction, and its relationship to the rest of the site.

[2] First Chair

Ortmann, Anthony [185] *see Nichols, Caitlin E.*

Orton, Jayson [83] *see Schwartz, Steve*

Osborn, Alan (University of Nebraska-Omaha)
[132] *Spurred flake gravers, eyed bone needles, and tailor-made skin clothing: Paleoindian responses to the Younger Dryas Cold Event*
 Spurred flake gravers have long been recognized as a component of early Paleoindian tool assemblages. Although several different functions of gravers have been proposed, little attention has been given to why these implements are restricted to the early Paleoindian period. Both archaeological data and recent studies of the Younger Dryas Cold Event (12,900-11,600 cal yr B.P.) support the functional arguments of MacDonald (1966) and Irwin (1970) that spurred flake gravers were used in the production of bone sewing needles. Eyed sewing needles were essential for the manufacture of skin clothing as an adaptive response to cold stress throughout much of North America.

Osborne, James (Harvard University)
[57] *Feasting Scenes from the Near Eastern Iron Age: Cultural Insights from Elite Feasting Practices in the Syro-Anatolian City-State*
 Feasting scenes constitute one of the most aesthetically distinctive aspects of the Syro-Anatolian kingdoms, a collection of polities located in northern Syria and southeastern Turkey during the Iron Age (c. 1200-600 B.C.E). To date, analysis has tended to interpret the Syro-Anatolian feast as an act related to mortuary practices. This paper examines the contribution that recently excavated examples from sites like Zincirli Höyük and Tell Tayinat can provide to the scenes' interpretation. While a mortuary connection remains clear in many cases, we argue that the Syro-Anatolian feast was one node in a broad and complex array of connected cultural meanings.

Osburn, Tiffany [17] *see Bruseeth, James*

Ossa, Alanna (University of Pittsburgh) [54] First Chair [54] Second Organizer

Ossa, Alanna [54] *see Wilson, Nathan D.*

Ostahowski, Brian [279] *see Pevny, Charlotte D.*

Ostapkowicz, Joanna
[165] *'Either a piece of domestic furniture...or one of their Gods': The study of Lucayan duhos*
 Duho (ceremonial chairs) from the Bahamas and Turks and Caicos islands are among the largest and most complex examples of their kind to emerge from the Caribbean as a whole. A recent radiocarbon study of 14 examples in museum collections indicates that this uniquely Lucayan duho style emerged from about AD 1000, shortly after permanent settlements were

established on some of the islands. The speed with which this style appears, and its elaborate nature, hints at the importance of duhos early on in the development of a uniquely Lucayan material culture.

Osterholtz, Anna (University of Nevada Las Vegas), Debra Martin (University of Nevada Las Vegas) and Kathryn Baustian (University of Nevada Las Vegas)

[94] *Determining MNI for Tell Abraç*

Determining the MNI for the large number of commingled human remains from Tell Abraç in the UAE (c. 2000BC) required recording of both individual bones and bone features. This provided data on what elements were represented as well as those that were underrepresented. For example, the MNI for adults is 274 based on the right talus but 150 based on the distal left humerus. Variation in element representation can reveal cultural practices (secondary burial practices) and taphonomic variables (differential preservation). This method of analysis demonstrates the utility of using bone features when there are a large number of fragmentary remains.

[94] *First Chair*

Osterholtz, Anna [94] see Stodder, Ann L. W. [116] see Martin, Debra L.

Otarola-Castillo, Erik [84] see Burnett, Paul

Otárola-Castillo, Erik (Iowa State University), Dean Adams (Iowa State University), Scott Chumbley (Iowa State University) and Brent Danielson (Iowa State University)

[96] *Morphometric Analyses of Bone-Surface Marks*
Analyses of bone-surface marks resulting from sharp-force trauma are crucial to studies regarding the evolution of human subsistence. Most investigations rely on surface morphology to identify cutmarks and their patterning, discriminate these from non-human-behavioral processes, and identify the objects or agents responsible for making the marks. Currently various methods are employed to accomplish this. These approaches, however, are difficult to replicate, quantify, and compare. Consequently, cutmark morphological analyses and identifications have remained contentious over several decades. This study provides a novel analytical technique and a practical protocol to quantify bone-mark morphology, and statistically discriminate between marks created by different agents.

Otten, Sarah (University of Illinois, Urbana-Champaign)

[199] *Death as Movement: Cahokia's Ridge-top Mounds as Active Places*

Ridge-top mortuaries are unique Cahokian constructions most commonly associated with buried bodies. However, drawing from Tim Ingold's (2006) concept of entanglements, I argue that ridge-top mortuaries are part of a meshwork. Meaning, these places were not static earthen monuments to the dead, but instead were active spaces experienced through time as part of a larger meshwork of religion, death, and burial. Particularly, this paper focuses not only on the movement of peoples (both dead and alive) to and from these mounds, but on the diachronic aspect of ridge-tops as their histories and

meanings moved through time.

Otterson, Katherine [141] see Hamilton, Nathan D.

Otto, Kristina (San Juan College) and Linda Wheelbarger (San Juan College)

[221] *Ceramics at the Point Community Center, Middle San Juan Region, Northwestern New Mexico*

The Point Site, an ancestral Puebloan great house, is situated along the San Juan River outside Farmington, New Mexico. The majority of ceramics recovered from San Juan College excavations at the site have thus far revealed a preponderance of Early Bonito phase (AD 900-1020) types, although site occupation extended from AD 800 to 1300. Analysis has revealed a large quantity of sherd or sand and sherd tempered ceramics contrasting with the local Middle San Juan dominance of granular igneous tempered ceramics associated with this time period. Ceramic trade wares are also evaluated with reference to the site's apparent southern Chacoan influence.

Outram, Alan (University of Exeter), Adrien L. Hannus (Augustana College, SD), Richard Evershed (University of Bristol) and Landon Karr (University of Exeter)

[55] *Understanding Organic and Inorganic Trade in the Initial Middle Missouri: A Case Study from the Mitchell Prehistoric Indian Village*

The nature of inward trade in material culture to the Initial Middle Missouri site of Mitchell, South Dakota is examined. The evidence for bone grease production at the site is discussed, and the possibility that bison meat and fat products were used for outward trade is raised. The difficulty of obtaining direct evidence of organic trade is discussed. Pilot work on tracing the movement of organic trade products through the analysis of absorbed lipid residues in ceramics is outlined. Attention is given to ways of identifying sources of organics products as well determining their nature.

Overholtzer, Lisa (Northwestern University)

[267] *Dwelling on the Past: The Materiality of Everyday Life at Xaltocan, Mexico*

At Xaltocan, a site settled on top of a human-constructed island, the detritus of everyday life accumulated over the centuries to form the tell-like topography visible today. Within the site small house mounds resulted from ancient people living in the same spot for many years, rebuilding their houses over the remains of earlier houses. This paper examines the practical and cultural reasons that people enacted such reiterative practices. It also explores the material consequences of living where the physical remains of the past are ubiquitous on the landscape and household social space is shared across generations.

[267] *First Chair*

Ovilla Rayo, Gengis Judith (Arqueóloga) and Gilberto Hernández Díaz (Centro INAH Oaxaca)

[210] *La vajilla prehispánica en la Zona Monumental de Atzompa durante la Época IIIB-IV.*

Durante las cinco temporadas de campo realizadas en el Proyecto Arqueológico del Conjunto Monumental de Atzompa se ha explorado buena parte del área nuclear de este sitio prehispánico, donde se ha recuperado gran

cantidad de materiales de cerámica que en su mayoría corresponden a tiestos de domésticos. A partir de la clasificación cerámica conocemos las principales formas que integran la vajilla utilizada en la Época IIIB-IV (Clásico Tardío) en el sitio arqueológico de Atzompa. En esta ocasión se expondrán los diferentes tipos que integran dicha vajilla, así como sus similitudes y divergencias con el sitio de Monte Albán.

Owen, Bruce (Sonoma State University)

[104] *Ceramic and textile evidence of Wari interactions with Osmore drainage populations from the sierra to the coast*

The Wari intrusion into the upper Osmore drainage is nearly invisible at contemporary local settlements, suggesting only minimal interaction. Nevertheless, surface ceramics show that a few Wari ceramics were held by indigenous residents near the Wari outpost, perhaps in only certain segments of society or moments in time, and a previously undescribed Wari tapestry tunic was included in a burial in the coastal portion of the valley. While some of these finds may reflect curation or repurposing after Wari abandoned the drainage, collectively they suggest some limited exchange of prestige goods and probably their circulation within indigenous exchange networks.

Ownby, Mary (Desert Archaeology Inc.)

[270] *The Importance of Petrography for Interpreting Compositional Data: a case study of Tanque Verde Red-on-brown*

Although petrographic analysis has now resumed a place of significance in ceramic research, its role in interpreting statistical patterns in compositional data is still undervalued. To illustrate the importance of petrography, a study of Tanque Verde Red-on-brown from Arizona is presented. Through the petrographic analysis of 37 samples, a large NAA data set of almost 700 samples has now revealed intricate patterns of production and consumption among the Hohokam during the Classic period (A.D. 1150-1300). It is thus advocated that projects with chemical data from ceramics should always include a component of petrography to clarify the meaning of compositional groupings.

[270] *First Chair*

Owsley, Douglas [168] see France, Christine

Oxenham, Marc (Australian National University) and Hirofumi Matsumura (Sapporo medical University, Hokkaido, Japan)

[60] *Social Identity, Group Membership and Tooth Ablation in Neolithic Man Bac, Vietnam*

Aspects of personal identity in the context of group membership 3,500 to 4,000 years ago at Man Bac, Northern Vietnam are explored. Building on previous work investigating the articulation between palaeohealth and the social construction of childhood at Man Bac, we focus on adult variation in tooth-ablation patterning. These dental motifs vary by sex, age and grave good assemblage. The absence of tooth-ablation in subadults suggests an association with membership of a group(s) not accessible to children and young adults. Implications are discussed with reference to other instances of differential ablation in contemporaneous and later Southeast Asian assemblages.

Oxenham, Marc [60] see Willis, Anna

Pace, Meghan [170] see DeHaven, Lydia S.

Pack, Robert [9] see Morgan, Chris

Padilla, Antonio (Ecological Communication Corporation)

[33] *Excavation Results of 41BX256*

During the fall of 2009 and summer of 2011 Ecological Communications Corporation (EComm) conducted archaeological investigations along the San Antonio River at site 41BX256. Original investigations of the site revealed a continuous occupation of the area from the Early Archaic Period to the Spanish Colonial Period. Based on findings from our original investigations, new investigations were proposed to further examine a questionable feature encountered in 2009. The paper presented will discuss our findings from the original investigations and the findings of our investigations conducted in 2011.

Padilla, Liliana [151] see Barrientos, Tomas J.

Paige, Bradley [109] see Peterson, David L.

Pailes, Matthew (University of Arizona)

[260] *Centrality and Household Economic and Political Success at a Thirteenth Century Hohokam Village*

This research utilizes network analysis to explore household interaction patterns of a prehistoric Hohokam village, Cerro Prieto (ca. AD 1150-1300). In the parlance of network theory, groups of households are treated as nodes and interconnecting walkways as edges. This application employs multiple measures of centrality to gauge the effect of network position on household success. High centrality scores correlated with qualitative assessments of household economic and political success. The ability to control information and capital flows through the settlement network allowed a few households to disproportionately attract exterior members, coordinate communal labor to their benefit, or attain other specialized roles.

Paine, Richard (University of Utah)

[191] *Reconstructing Late Classic Land Control at Copan, Honduras: a Demographic Test.*

Land control is central to understanding ancient economic and political organization, but is difficult to reconstruct archaeologically. A demographic measure, the Shannon Index, and dated residential group occupations from Copan are used to test a hypothesis of land control, based on a post-classic K'iche' model. Principal lineage heads at Utatlan controlled agricultural land, distributing it to members and receiving support for lineage houses. If Copan's lineage heads controlled land, their households should have benefited materially as competition for land intensified after the valley was fully colonized. The Shannon Index measures demographic heterogeneity providing a means to quantify colonization.

Paiz, Lorena [30] see Arroyo, Barbara

Paiz Aragon, Lorena (Universidad del Valle de

Guatemala), Bárbara Arroyo (Museo Popol Vuh), Andrea Rojas (Universidad del Valle de Guatemala), Javier Estrada (Universidad de San Carlos de Guatemala) and Emanuel Serech (Universidad de San Carlos de Guatemala)

[30] *Santa Isabel And The South Part Of The Valley Of Guatemala In The Middle Preclassic Period*

With the presence of at least 13 mounds and one plain monument, Santa Isabel is one of the largest settlements in the Central Maya Highlands during the Middle Preclassic period. This paper will present preliminary results from a research project that is just starting and promises to contribute with data for the understanding of the southern Guatemalan Central valley. The role of Santa Isabel within the Canchon area and the outskirts of the Guatemala Central Valley will contribute to our understanding of the Middle Preclassic period and the rise of complexity in the Maya Highlands.

[30] *First Chair*

Pal, Nélica [159] *see* Messineo, Pablo G.

Paling, Jason (University at Albany)

[191] *Leaving No Stone Unturned: Investigating Preclassic Lithic Production, Consumption, And Exchange At San Estevan, Belize And K'O And HamontÚn, Guatemala*

This paper investigates the relationship between economic and political complexity through the examination of lithic procurement, production, consumption, and exchange among Late Preclassic (300 B.C. – 250 A.D.) households across Maya lowland political centers. The examination of household assemblages provides a means to not only determine the accessibility of long-distance luxury items, but also utilitarian and subsistence goods, within a society and to interpret the mechanisms for their appearance. A bottom-up approach is adopted that will gauge the participation of these households in local, regional and inter-regional exchange networks.

Palka, Joel (University of Illinois-Chicago), A. Fabiola Sanchez Balderas (Proyecto Xanvil, Mexico), Rebecca Deeb (University of Illinois, Chicago) and Caleb Kestle Kestle (University of Illinois, Chicago)

[233] *Protohistoric Maya Households and Community at Lake Mensabak, Selva Lacandona, Chiapas*

Recent investigations revealed Late Postclassic to possible historic period (ca. A.D. 1400-1600?) Maya sites at Lake Mensabak, Chiapas, Mexico. Their small house platforms were not clustered around plazas as seen in the late Preclassic period (ca. 200 B.C. to A.D. 200). Instead, the Protohistoric Maya grouped their houses in linear arrangements around the lake rather than concentrating them in centers. Artifacts in these households are surprisingly homogeneous, including exotic pottery, obsidian, shell, and copper bells. Evidence points to household autonomy at Mensabak, with lineage and site function structuring the Protohistoric Maya community rather than political alliances and economic inequalities.

Pallan Gayol, Carlos (INAH, Mexico/University of Bonn, Germany)

[242] *Addressing Terminal Classic Interaction Dynamics*

within the Puuc-Maya Region through Epigraphic and Ceramic Correlations

The notion of "Puuc" and many key concepts related to it call for revision. Rather than merely referring to a region of the Maya world or a stylistic set of traits, it should account for a set of underlying cultural processes that shaped corresponding manifestations. To this end we seek to correlate ceramic data with the rapidly-increasing number of hieroglyphic texts discovered in the Puuc, focusing on the interaction between major and secondary sites under the stress of a fragmented landscape conformed by competing ideological and political systems, diverse religious and military practices and increasing populations of shifting ethnical compositions.

Palmer, Amanda [18] *see* Lewis, Jennifer **[207]** *see* Marshall, Amanda L.

Palumbo, Scott (College of Lake County)

[90] *Evaluating the Relationships Between Pre-Columbian Surface and Subsurface Archaeological Deposits from Panama*

This paper describes simple methods to examine the associations between surface and subsurface sherd deposits. The relationships between surface and subsurface sherd densities are considered using linear regression analyses, and comparisons of the interpretive consequences of using surface or subsurface datasets are explored. The relative utility of using surface remains is illustrated by an archaeological site from a highland Panama. This paper argues that surface deposits do present variable advantages to researchers working in the tropics despite the depth of archaeological deposits or the effects of post-depositional processes.

[122] *Discussant*

Pantoja Díaz, Luis R. [58] *see* Zimmermann, Mario

Panyushkina, Irina (Lab of Tree-Ring Research, University of Arizona)

[103] *Climate change and demography of Bronze-Iron age agropastoralists in Central Asia*

While archaeological research in Central Asia documents the adaptation of humans to climate change by means of vigorous integration of economic strategies among ancient farming and herding populations, the evidence for how the evolving economy of agropastoralists related to the prehistoric demography remains obscure. We assembled multiple climatic proxies in Central Asia to evaluate possible implications of long-term and short-term climate variability to changes in fertility, mortality, and migration of the ancient population inhabiting the mountain-steppe landscape of Semirechya. This study investigates the temporal resolution and precision as well as the spatial scale of interconnected archaeological and environmental datasets.

Papirtis, Michael [53] *see* Daugherty, Sean I.

Pappas, Christina [7] *see* Mink, Philip B.

Paredes-Umaña, Federico (ATACO Archaeological Project)

[19] *The role of public monuments in the creation of ethnicity and political authority in Western El Salvador. Early power representations and the legitimization of*

political authority in complex societies are examined using a new data set from Western El Salvador including sculptural traditions. The public use of a local sculptural style related to a non-institutional practice of magical power, together with early power representations depicting divine kings in early Maya attire may be the result of a series of strategies to gain political legitimacy over an area of 3000sqkm in Southeastern Mesoamerica during the Preclassic Period.

Pargeter, Justin (Center for Language and Culture, University of Johannesburg) and Marlice Lombard (Center for Language and Culture, University of Johannesburg)

[89] *Stone-tipped projectile technologies: a multifaceted approach and South African perspective*

The South African Middle and Later Stone Age records represent key signatures when researching the development of bow-and-arrow technology. These archaeological phases encompass several technological transitions spanning significant climatic changes, and are well-documented. Multianalytical approaches combining experimental, morphometric, use-trace, faunal and cognitive evidence, allow for improved understandings of ancient hunting technologies in the region. However, questions about the driving forces and variability as well as implications of the manufacture, use, possible discontinuation and re-introduction of bow-and-arrow technology remain. This paper synthesises current evidence for the production and use of bow-and-arrows in South Africa and offers new insights.

Paris, Elizabeth (University at Albany-SUNY)

[233] *Household Autonomy and the Organization of Chipped Stone Tool Production in the Jovel Valley, Chiapas, Mexico*

At the small hilltop sites of the Jovel Valley, the juxtaposition of broadly available local resources and scarce long-distance commodities allowed households to engage in complex chipped stone tool provisioning strategies that were strongly influenced by their sociopolitical networks. Nearby chert sources of varying quality provided plentiful resources for local producers and consumers, while obsidian from highland Guatemala was imported in the form of finished prismatic blades and prismatic blade cores. Many low-status households in peripheral residential zones retained a high degree of autonomy to provision their own households, while high-status houses reflect intensified chert tool production and access to non-local obsidian.

[233] *Second Organizer [233] First Chair*

Paris, Elizabeth [233] *see Gallaga, Emiliano*

Parish, Ryan (University of Memphis)

[127] *FTIR reflectance spectroscopy analysis of Dover and Ft. Payne chert*

Determining the source for artifacts manufactured from chert continues to be an important research objective commonly performed using visual identification and/or geochemical analysis on a subset of the sample. In some cases these methods have frustrated researchers due to overlapping variability both between and within outcrops. Potential errors in chert sourcing studies are compounded in areas where multiple procurement locations of macroscopically similar materials may be

obtained. The use of Fourier Transform Infrared (FTIR) spectroscopy may provide a cost effective, fast, non-destructive, and accurate means to differentiate chert at both the inter- and intra-outcrop levels of analysis.

[127] *First Chair*

Park, Douglas (Yale University)

[206] *The Tombouze Model: Investigations into the seasonal urbanism at prehistoric Timbuktu, Mali 500BC – AD 1000*

This paper explores human response to climate change and investigates how this interaction helped to form large-scale prehistoric urbanism in the Timbuktu region. The Tombouze Model endeavors to illustrate and explain a unique seasonal urbanism defined by a dense, multi-centric and corporate social landscape. The model is built upon the cultural mechanisms of sustainability, resilience and heterarchy. Data used in the presentation come from intensive archaeological investigation, climate study, oral history, and GIS analysis. The case at prehistoric Timbuktu demonstrates that West Africa can play a fundamental role in emphasizing the variable conditions under which prehistoric urban societies develop.

Park, Robert [127] *see Milne, S Brooke*

Parker, Bradley (University of Utah)

[230] *Nationalism, the Production of Knowledge, and the Silencing of the Past*

This paper highlights a case in which archaeological evidence is not being harnessed, but rather silenced, in the name of nationalism and as an instrument in a current political conflict. It discusses how a politically charged interpretation of archaeological sites is contributing to the creation of nationalism, the hardening of territorial claims and the construction of national identity. To do so this paper documents the on-going active participation of archaeology in the creation of a political narrative by tracing the production of scientific knowledge around historical silences and politically motivated interpretations of the archaeological record.

Parker, Evan (Tulane University)

[56] *The proliferation of pseudoarchaeology through "reality" television programming*

The number of media productions concerning archaeological investigations has increased drastically within the last decade. This development is not necessarily attributable to legitimate film documentaries, publications, or even fictional narratives, but to the rise of "reality" television programming on educational networks that depicts supposedly legitimate archaeological investigations. These programs serve as conduits through which dubious archaeological information is legitimized then transmitted to the general public, thereby affecting popular understandings of the past. This paper examines how pseudoarchaeological claims promulgated through these programs have gained traction among popular audiences and addresses how such influences can be mitigated in a mass-mediated culture.

Parker, Evan [201] *see Bey, George J.*

Parkinson, William (Field Museum of Natural History), Attila Gyucha (Hungarian National

Museum), Paul Duffy (University of Toronto) and Richard Yerkes (Ohio State University)

[200] *On the Shoulders of Giants: Regional and Micro-Regional Studies in the Prehistoric Carpathian Basin* European archaeology is historically schizophrenic; grand syntheses of the entire continent are created through the narrow perspective offered through the excavation of individual sites. While such macro-scale syntheses are essential for the discipline of archaeology, they need to be tethered to specific regional and micro-regional studies. This paper discusses the long history of systematic, intensive, regional studies in the Carpathian Basin and how those earlier survey projects have facilitated more recent micro-regional studies that incorporate cutting-edge research techniques that only recently have become available. Together, these multi-scalar, diachronic, datasets constitute one of the richest archaeological records in the world.

Parkinson, William A. [190] *see Duffy, Paul R.*

Parr, Christopher (Panamerican Consultants, Inc.) [3]
Discussant

Parsons, Alexandra (Southeast Archeological Center)

[34] *French Subsistence and Animal Use at Historic Fort Rosalie*

This paper presents the results of faunal analysis from multiple contexts at Fort Rosalie, Natchez National Historic Park, and evaluates general subsistence practices, the uncommon prevalence of bear remains, and other animal use patterns. The overall diet consisted primarily of mammals, birds, and fish, with a limited use of turtles. French residents consumed domesticated birds and mammals, but heavily relied on wild resources in the area. An unusually high number of bear remains were recovered from the site, as well as a high number of ducks and wading birds.

Parsons, Jeffrey (University of Michigan) [200]
Discussant

Parsons, Timothy (National Park Service)

[155] *Baden: Modeling the Late Copper Age on the Hungarian Plain using Ceramic Petrography*

The origins of the Baden culture on the Great Hungarian Plain have long been questioned. To test the Baden migration hypothesis, ceramic petrography was used to describe and measure paste characteristics of 114 Middle Copper Age, Late Copper Age, Early Bronze Age, and Middle Bronze Age sherds from the Körös region of the Great Hungarian Plain to determine if changes in manufacturing techniques accompanied changes in ceramic form and decoration at the beginning of the Late Copper Age (ca. 3,500 B.C.). Results indicate continuity in manufacture and technology during the time period covered by the study.

Pastrana, Alejandro (INAH) and Felipe Ramírez (INAH-Dirección de Estudios Arqueológicos)

[73] *"Reinterpretando Cuicuilco"*

"Reinterpretando Cuicuilco" Alejandro Pastrana y Felipe Ramírez DEA-INAH A raíz de una serie de trabajos geoarqueológicos llevados a cabo en Cuicuilco desde 1996 al 2007, se aportaron datos estratigráficos,

arqueológicos y nuevos fechamientos de la erupción volcánica que cubrió la mayor parte del asentamiento; esta información reciente al contrastarse con la visión arqueológica producida por las investigaciones realizadas en esta población preclásica del sur de la Cuenca de México entre 1927 y 1985, permite replantear aspectos importantes vinculados con la temporalidad, distribución espacial, etapas constructivas, estratificación social y las esferas de interacción.

Patch, Shawn (New South Associates, Inc.)

[107] *Ground Penetrating Radar, Feature Identification, and Archaeological Interpretations at Site 40MI70, Marion County, Tennessee*

Identification of prehistoric features with particular emphasis on possible burials at site 40MI70 prompted a ground penetrating radar (GPR) survey of approximately 5.5 acres. Results yielded significant information about the spatial distribution of specific feature types and initial interpretations of cultural patterning, which were then used to guide design changes and data recovery planning. This paper discusses the overall effectiveness and unexpected benefits of GPR in a Section 106 compliance setting. The GPR data proved to be critical to all phases of the project including data collection, interpretations, and consultations.

Paterson, Alistair (Uni of Western Australia) and Jo McDonald (University of Western Australia)

[194] *Past futures: rock art in Australia's North West*

Western Australia has one of the world's largest concentrations of rock art. This is a significant heritage-management issue for researchers, government, developers, and the public. For indigenous communities, rock art is one of a series of contemporary issues which include land claims and access to traditional country; the ability to manage cultural environmental and social values; heritage work; tourism potentials and impacts; relationships with government and resource-extraction companies; and debates about self-determination and indigenous futures. Here we review some of these issues through the 'Connection to Country' programme and the push for World Heritage Listing of the Dampier Archipelago.

Patterson, David B. [96] *see Du, Andrew*

Patterson, James (University of South Carolina), Tyler Hill (Georgia State University), Hazel Sanchez (Georgia State University) and Halle Stoutzenberger (Georgia State University)

[227] *Recent Excavations at Vista Alegre: Stratigraphic Evidence of Landscape Modifications at an Ancient Maya Port*

In conjunction with interdisciplinary research, archaeological excavations were conducted at the site of Vista Alegre in Quintana Roo, Mexico. While the initial goal of excavation was to recover previously identified human remains, this paper focuses on the stratigraphic record associated with the site's Early Classic and Terminal Classic occupations. We investigate how these data correlate with our understanding of past coastal geomorphology, and what they reveal about the scale of landscape modifications undertaken during the Terminal Classic reoccupation of the site – particularly as it relates to the building-up of the island.

Patterson, Thomas (University of California, Riverside)

[265] *Marxism, Analytical Concepts, and Archaeological Data*

This paper investigates basic economic categories that are presupposed by archaeologists to connect archaeological data and to explain the sociocultural patterns and processes of change seen in the archaeological record of past societies. Its topical foci are the concepts of exchange, value, and money; its societal focus is the mission period of Alta California; its goal is to show how to use Marx's concept of value and money to handle concrete archaeological and historical evidence from this era.

Pauketat, Timothy (University of Illinois)

[198] *Archaeologies of Religion and the Power(s) of Cahokia*

Understanding 11th century history in the Mississippi valley begins with religion as experienced (not mythologized) through the movements of people and cosmic powers, seen and unseen. Not unlike Chaco, a Cahokian cosmos was embodied and emplaced through momentary intersections of powers that involved aligning buildings, posts, pilgrims, objects, and celestial happenings. I examine such intersections and alignments to explain both Cahokian citations of Mexican referents and Cahokia's expansion into distant northern and southern lands.

[26] *Discussant*

Pauketat, Timothy [198] *see Benden, Danielle M.*

Paul, Kathleen (Arizona State University) and Michelle Butler (University of California Riverside)

[181] *Childhood, Ritual And Identity In An Early Classic Context At Charco Redondo, Oaxaca*

Bioarchaeological analyses of children in mortuary contexts can inform interpretations of identity performance and meanings of childhood and its role within the community. This paper focuses on infants, children and adolescents (n=10) interred in an Early Classic communal burial area at the site of Charco Redondo, Oaxaca. The direct and indirect association of these burials with a midden may indicate that these individuals were recognized as active members of corporate groups. Material culture associated with childhood and ritual recovered from within the midden indicates that mortuary practices at Charco Redondo generated and strengthened children's unique social roles and age identities.

Paunero, Rafael S. [231] *see Skarbun, Fabiana*

Pavao-Zuckerman, Barnet (University of Arizona)

[25] *Cattle Ranching Strategies at Mission San Agustín de Tucson*

Cattle ranching was the predominant economic activity at eighteenth to nineteenth century Spanish colonial missions in the Pimería Alta. New zooarchaeological evidence excavated from Mission San Agustín de Tucson, by Desert Archaeology, Inc., yield further insight into animal husbandry practices, and the processing of cattle carcasses at missions in support of a regional market for tallow and tallow products. This research

highlights the importance of Native American labor to the success of regional colonial enterprises, and the contribution of zooarchaeology to the development of colonial-period archaeology.

Pawlowicz, Matthew (University of Virginia)

[142] *Stable Isotope Analysis of Archaeological Sediments from Mikindani, Tanzania: Implications for Communities of the Southern Swahili Coast*
Interactions between past societies and their environments have become important subjects for archaeological study. This paper presents the possibilities of one means of exploring the human/environment relationship – stable-isotope analysis of archaeological sediments – through a discussion of recent research from Mikindani, Tanzania. Over the past two millennia the inhabitants of the Mikindani region have wrought significant changes to their coastal environment as they have participated, to greater and lesser degrees, in the developments marking the emergence of Swahili Culture on the East African coast. Stable-isotope analysis provides important evidence of those changes, marking shifts in local plant communities.

Payne, Angie [194] *see Weeks, Rex*

Payne, Claudine (Arkansas Archeological Survey)

[189] *Defining the Nodena Art Style*

The sculptured, painted, incised, and engraved pottery of the St. Francis Basin of the Middle Mississippi Valley merits the designation precolumbian art. As the term "Nodena" has historic precedence in this region, it seems reasonable to term this regional art style the Nodena art style. In this paper, I explore the characteristics of the art style, touching on time, space, artistic medium and execution, motifs, affective properties, artist, and audience. In so doing, I endeavor to provide a definition of the Nodena art style.

[189] *First Chair*

Paz, Victor [212] *see Eusebio, Michelle S.*

Pazmino, Audrey (University of Colorado at Boulder), Kathryn Putsavage (University of Colorado at Boulder) and Jeffery Ferguson (University of Missouri Research Reactor)

[111] *Obsidian Source Evidence for Regional Interaction Throughout the Southern American Southwest*

The Black Mountain site (LA 49) of southern New Mexico is possibly the largest post-A.D. 1130 site in the Mimbres region and has a long occupation history starting around A.D. 550. After A.D. 1130 the Mimbres region underwent dramatic changes in material culture, demography, and social organization. The Black Mountain site's role in these changes is shown through obsidian. Using X-ray fluorescence (XRF) we have sourced obsidian found at LA 49. These samples come from various quarries throughout the southern Southwest and provide one line of data being used to investigate regional interactions in that area.

Peacock, Evan (Mississippi State University) and Janet Rafferty (Mississippi State University)

[241] *Why Are We STILL Not Following the Principle of Representativeness in CRM?*

In 1984, Dunnell's seminal work, "The Ethics of Archaeological Significance Decisions," presented an unassailable argument for why CRM should focus on variability in the archaeological record. Subsequent work by other scholars has highlighted the need to adopt a materialist, as opposed to an essentialist, framework in CRM. Despite these efforts, CRM continues as a biased enterprise that punishes innovation and rewards conformity, ignoring our obligation to future archaeologists and wasting taxpayer dollars along the way. We review the reasons for this continuing, unacceptable state of affairs, and, following Dunnell's lead, offer suggestions for how the CRM process might be improved.

Pearsall, Deborah (University of Missouri) [238]
Discussant

Pearson, Charlotte L. [192] *see Jordan, Kurt A.*

Peate, David W. [138] *see Waterman, Anna J.*

Pechenkina, Ekaterina (Queens College of CUNY), Lei Sun (Henan Provincial Institute of Cultural Relics and Archaeology) and Xiaolin Ma (Henan Provincial Institute of Cultural Relics and Archaeology)

[60] *Bioarchaeological perspectives on Yangshao/Dawenkou interaction on the Central Plains of China*

Between 5000 and 3000 BC, the Central Plains of China were the preserve of Yangshao, neighbored to the east by the Dawenkou culture. Around 3300-3200 BC, Dawenkou began to spread westward into northern Anhui and farther into eastern Henan. Using analysis of human skeletal remains excavated from Middle to Late Yangshao sites, we examine the consequences of this interaction for human health. Comparing assemblages from the core and periphery of the Yangshao territory, we document a marked increase in skeletal stress indicators, as well as unusual patterns of oral pathology at the peripheral sites.

Pedler, David (Mercyhurst Archaeological Institute), Allison Byrnes (Mercyhurst Archaeological Institute), Todd Grote (Eastern Michigan University) and Allen Quinn (Mercyhurst Archaeological Institute)

[84] *Spatial Analysis of Lithic Artifacts from Irvine Flats, a Prehistoric Site Complex on the Upper Allegheny River in Northwestern Pennsylvania*

Irvine Flats is a large floodplain and terrace complex located at the confluence of the Allegheny River and Brokenstraw Creek at the western boundary of the Allegheny National Forest in northwestern Pennsylvania. Twenty-three archaeological sites ascribing to the Early Archaic through Historic periods have been recorded in this 70 hectare area. An extensive surface survey recovered abundant lithic artifacts that appear to demonstrate continuous human occupation on relatively stable landforms since the early Holocene. Spatial analysis of the lithic artifact distribution was employed to identify temporal and functional artifact clusters which have implications for time-transgressive trends in site use.

Peebles, Giovanna (State of Vermont) [3] *Discussant*

Peeples, Matt (Arizona State University) and Wm Randall Haas (The University of Arizona)

[260] *Filling in the Gaps: Brokerage in Social Networks across the American Southwest*

In social network analysis, brokerage refers to the processes through which individuals or social groups mediate interactions among distinct social sites that would otherwise be unconnected. Brokers occupy key positions in networks often characterized by enhanced influence and opportunities. In this paper, we use a large settlement and ceramic database, containing information on sites across a large swath of the American Southwest (A.D. 1200-1540), to identify and characterize settlements that filled such brokerage roles at a regional scale. We further explore whether brokerage positions can emerge through random interactions, or if they instead suggest specific underlying social structures.

Peeples, Matthew [260] *see Mills, Barbara J.*

Peeples, Matthew A. [260] *see Borck, Lewis*

Pelch, Taryn [191] *see Zidar, Charles M.*

Peniche May, Nancy (UCSD) and David Anderson (Tulane University)

[19] *Experimentation and Political Strategies: Xtobo and Xaman Susula in Preclassic Northwest Yucatan, Mexico*
Recent research at the neighboring Preclassic settlements of Xtobo and Xaman Susula in northwestern Yucatan suggests that local political actors were experimenting with strategies for consolidating power and influence in the region. Xtobo is one of the region's largest settlements and includes a traditional pyramid/plaza complex indicative of stratified sociopolitical power. Xaman Susula is a much smaller settlement located in Xtobo's periphery, yet excavations uncovered throne-room style architectural typically associated with high-level elites. This paper will explore the political strategies employed by the emerging elites of these settlements to better understand the development of Maya political strategies.

Pennycook, Carlie (University of Western Ontario, Canada), Christine White (University of Western Ontario), Victoria Dominguez (Instituto Nacional de Patrimonio Cultural (INPC), Ecuador), Maria Guevara and Fred Longstaffe (University of Western Ontario)
[235] *Pre-Columbian Diet and Health in the Quito Basin During the Integration Period*

This study combines stable carbon-, nitrogen- and oxygen-isotope data from human bones and teeth with palaeopathological and mortuary data from the Pre-Columbian Ecuadorian highland sites of Tajamar and NAIQ. These data demonstrate the existence of distinct diet and health patterns at each site. Both intra- and inter-site differences in the experience of illness and lifestyle are evident. Our findings corroborate previous isotopic studies in the highlands suggesting meat consumption was not elite status specific. In particular, it appears that maize contributed less to the diet of certain groups than the ethnohistorical evidence has given us to date.

Perdikaris, Sophia (Human Ecodynamics Research Center CUNY)

[86] *Education for Sustainability: Islands of Change, a Circum Atlantic Example*

The Islands of Change initiative connects interdisciplinary science with innovative approaches to science education and heritage outreach, connecting the two rural island communities of Barbuda, WI and Thingeyjarsveit, Iceland. Both are products of complex historical human/environment interactions which continue to affect their potential for future sustainability and both face the challenges of educating citizens and future leaders for resilience and nurturing young scientists with strong social commitment. This paper explores how Education for Sustainability helps create students with an awareness of social, economic and environmental concerns and provides them with a historic dimension to contextualize this understanding.

[165] *Discussant*

Pereira, Carla (California State University, Long Beach)

[214] *Transmission Patterns among Late Prehistoric Potters of Mississippi River Valley Ceramics*

Traditionally, measuring patterns for ceramic artifacts is performed by stylistic description that focuses on decorative markings and the method of manufacture. However, the temper's stylistic components are rarely described or analyzed. As evidenced by the work presented last year, by examining the variation in size and shape of shell temper particles over time and space in late prehistoric Mississippian ceramics we can establish patterns of prehistoric transmission and manufacturing practices. This expanded study seeks to further understand the demonstrable relationship of size, shape, and style in the temper and surface decoration of Mississippian ceramics.

Pereira, Grégory [98] *see Michelet, Dominique*

Pereira, Tamiris Maia Gonçalves [277] *see Silva, Rosicler T.*

Pereira, Telmo (Universidade do Algarve)

[135] *Raw material management as a response to local and global environmental constraints*

Between OIS 8 and OIS 2, Southern Iberia faced important climatic changes, with major impact on available resources. In this changing scenario, one of the most reliable assets was raw material, due to its constant (e.g., highly predictable) presence on the landscape. Thus, it would be expected stable technological strategies through time. However, that is not the case and raw material management presents variation in time, culture, region and setting. In this paper, we focus on measuring those changes and reflects local and global environmental adaptations, stressing the differences between pre and post arrival of the Anatomic Modern Humans.

Pereira, Telmo [135] *see Haws, Jonathan A. [135]* *see Bicho, Nuno*

Peres, Tanya (Middle Tenn State Univ) and Aaron Deter-Wolf (Tennessee Division of Archaeology)

[159] *Embedded: 4,000 Years of Shell Symbolism in the*

Southeast

Prehistoric peoples of the southeastern United States depicted their complex of beliefs on media including ceramic, stone, shell, and their own bodies. In this paper we focus on the use of shells as an artistic and ideological medium, and the cognitive behaviors that resulted in the selection of marine gastropods as an iconographic substrate. By the late prehistoric period, marine and freshwater shells were embedded with 4,000 years of physical and symbolic geography. We examine the use of shell to recall ancestral origins, sanctify the landscape, and legitimize power through the acquisition and display of symbolic exotica.

Peres, Tanya [144] *see Altman, Heidi M.*

Peresani, Marco, Rossella Duches (Università di Ferrara, Dipartimento di Biologia ed Evoluzione, Sezione di Paleobiologia), Nicola Nannini (Università di Ferrara, Dipartimento di Biologia ed Evoluzione, Sezione di Paleobiologia), Andrea Picin (Neanderthal Museum) and Matteo Romandini (Università di Ferrara, Dipartimento di Biologia ed Evoluzione, Sezione di Paleobiologia)

[202] *Disentangling the significance of Discoid technology: first results of the last three field campaigns at Grotta di Fumane, Italy*

This contribution presents the first results achieved from the excavation of layer A9, embedded in the final Mousterian sequence at Grotta di Fumane, North-Italy. The extensive investigation has brought to light evidence of key relevance for improving our knowledge over the Discoid lithic technology, a method largely used by Neanderthals in as many as different contexts in Europe. Basing our assumption on the techno-typological and functional data extracted from the study of the lithic and bone tools, and once integrated with the archaeozoological study, we try to infer the significance of the human frequentation in a so specific context.

Peresani, Marco [202] *see Picin, Andrea*

Pérez Cortes, Enrique [73] *see Sugiyama, Nawa*

Perez Cortez, Enrique [98] *see Jimenez, Peter F.*

Perrelli, Douglas (University at Buffalo, Archaeological Survey)

[45] *Quarries and Camps: Raw Material Availability, Land Use and Lithic Technology in Western New York during the Archaic-Woodland Transition*

The location of chert resources in western New York effects land use patterns and lithic technology. Places where chert resources correspond with navigable water create opportunities for chert acquisition at camp sites. Despite similarities of setting and resource availability, the acquisition and use of chert resources in these settings changes through time. Shifting patterns of lithic reduction at creek-side camps with abundant raw chert are evident during the Archaic-Woodland transition. Material patterns demonstrate that factors like mobility, land use and social structure are more important determinants of lithic technology than raw material availability and setting.

Perri, Angela (Durham University)

[157] *Early Holocene Dog Burials and Pleistocene-Holocene Climate Change*

Despite much work on the Pleistocene-Holocene transition, little is known about how human foragers adapted their hunting strategies to adjust to new environments and prey species. This paper explores the potential role of early Holocene dogs as valuable hunting tools to foragers adjusting to new forested environments. Preliminary findings suggest significant parallel developments, specifically the burial of dogs, characterize hunter-gatherer adaptations from the temperate forests of North America, Northern Europe and Japan. It is suggested that these intentional dog burials are an indication of the importance of dogs in a temperate forest hunting strategy, employed simultaneously by hunter-gatherer groups around the world.

[157] First Chair

Perrotti, Angelina (Washington State University), John G. Jones (Washington State University) and Sara Bon-Harper (Monticello)

[67] *Landscape Dynamics and Historical Settlement: Palynology and Erosion on a Slave-Occupied Domestic Site*

Settlement dynamics on the historic Monticello Plantation are revealed through a layered methodology combining excavation with a detailed palynological examination. Site 6 at Monticello is a slave-occupied domestic site from the earliest decades of the nineteenth century. Its location on an active erosional slope coupled with the colluvium at its base presents a complex geoarchaeological setting. A preliminary understanding of this site, reflected by stratigraphic interpretation and pollen analysis, is presented here.

Perry, Elizabeth (SWCA Environmental Consultants)
[72] Discussant

Perry, Jennifer (Pomona College)

[126] *An Interior Look at the Late Holocene on the Channel Islands*

In the Santa Barbara Channel region, research into the late Holocene has been concentrated along the coast and interpreted primarily through a maritime lens. In contrast, less is known about interior settings on the mainland and Channel Islands despite their significance to exchange and interaction. On Santa Cruz Island, one of the exceptions is an interior site, CA-SCRI-801, that has two distinct components dating to ~3000 BP and post-500 BP. In this paper, these components are compared and contrasted, and then discussed with respect to how they inform our current understanding of the late Holocene.

[74] Discussant

Perry, Megan and Lisa Leone (East Carolina University)

[14] *Recovery rates of skeletal remains from wooded areas in eastern North Carolina*

The rural nature of eastern North Carolina means that human remains deposited in discrete locations can remain undetected for considerable periods of time. Here we explore the relative distribution of skeletal element recovery of bodies (N=16) left in wooded areas in the North Carolina's coastal plain. Our investigation house

found distinct patterning in which elements from the body are recovered and the effects of animal scavenging on the disposition of the remains with various post-mortem intervals (PMIs). The results of our study have implications for estimating the time since death in eastern North Carolina, and other similar rural regions.

Perry, Megan [139] see Souther, Lauren A.

Persons, A. Brooke (Virgin Islands State Historic Preservation Office), John Cornelison (National Park Service), Jessica McNeil (National Park Service) and Meredith Hardy (National Park Service)

[193] *Archaeological Investigations at Great Pond, St. Croix, US Virgin Islands*

This presentation discusses the results of recent investigations at the Great Pond Archaeological Site, an elongated, multi-locus residential site that abuts a large salt pond and extends along the southeastern shore of St. Croix in the US Virgin Islands. The site's long occupational history extends from the late Saladoid through the Elenan Ostionoid period and is evident in a series of shell middens and residential contexts along the coastline. Geophysical survey (Ground Penetrating Radar) and recent excavations have yielded new data regarding the early Ceramic Age settlement of the island.

Persons, Brooke [276] see Bello, Charles A.

Perttula, Tim [72] Discussant [17] First Chair

Perttula, Timothy [17] see Girard, Jeffrey S.

Pestle, William (University of Illinois at Chicago)

[193] *In Death as in Life: Mortuary and Isotopic Variation in Ceramic Age Puerto Rico*

Through diverse aspects of burial treatment, a community commemorates real or imagined aspects of a deceased person's character and accomplishments, as well as their group identity. In this paper, I examine variation in diet, as reconstructed by stable isotope analysis, and mortuary treatment as observed in burials from the Ceramic Age Puerto Rican sites of Paso del Indio and Punta Candelerio. I argue that aspects of this variation, in both the food consumed in life and the treatments afforded in death, flows from the different statuses occupied by the deceased individuals in life.

[193] First Chair [193] Second Organizer

Pestle, William J. [29] see Torres-Rouff, Christina

Peters, Ann (University of Pennsylvania Museum) and Elsa Tomasto (Pontificia Universidad Católica del Perú)

[195] *Textile production, exchange, accumulation and display: Forms and expressions of power in the Paracas Necropolis*

Ongoing research on Paracas Necropolis gravelots has generated proposals regarding gendered social roles and assertive leadership in interacting communities associated with the Paracas and Topará ceramic traditions, c. 2000 BP. We compare artifact types in biologically male and female burials; sequence and complexity in the post-mortem construction of these conical, layered, "dressed" mortuary bundles. Reconstructing full assemblages permits comparisons of

formal variation within and among mortuary assemblages, suggesting that textile exchange played a role in reproducing social networks. Regalia indexing ritual roles and incorporating mythic referents is correlated with evidence for lifetime achievement and participation in high-risk activities.

Peterson, Christian (University of Hawai'i at Manoa)

[190] *Distinguishing Kinds and Assessing Degrees of Inequality in Household Artifact Assemblage Data*
The observation that societies exhibit inequality of different sorts is often used to steer clear of the interpretation that some are more unequal than others. The concept of heterarchy, for example, avoids the imagined implications of inferiority conjured up by ranking societies along a continuum of inequality. Such approaches unfortunately shift our attention away from scales of measurement toward qualitative and even typological differences between societies. A consistent means of distinguishing between different kinds of inequality as well as assessing greater and lesser degrees of inequality is required. The analysis of household artifact assemblage data provides just such a means.

Peterson, Cynthia [67] *see Doershuk, John F.*

Peterson, David (Idaho State University), Pavel Kuznetsov (Samara State Pedagogical University), John Dudgeon (Idaho State University), Bradley Paige (Idaho State University) and Monica Tromp (Idaho State University)

[109] *Microstructure and trace element composition of Late Bronze Age gold work from Late Bronze Age burials in the Middle Volga (Samara, Russia, ca. 1800-1700 BC): Investigation of diffusion bonding and sources*
Three spiral ornaments with electrum foil covering bronze cores were recovered from burials in the Nizhnyaya Orlyanka and Spridonovak II kurgan cemeteries in Samara, Russia (1800-1700 BCE). Analysis of sections through these objects detected variable enrichment of gold and silver in portions of the foil, raising the possibility that a gilding technique known as diffusion bonding may have been used in making them, which is previously unknown in metalwork from the region. SEM-EDS is utilized in further evaluating the possibility of diffusion bonding, and ICP-MS is applied in the first trace element analysis of ancient gold from the Middle Volga.

Peterson, Emily (University of Washington)

[95] *Interisland Exchange in Island Southeast Asia: Insights from the Banda Islands, Maluku, Indonesia*
The role of interisland exchange and interaction in the spread of ceramic technology and domesticated animals through Island Southeast Asia (ISEA) has been the focus of much discussion. However, relatively few provenance studies have provided the kind of direct evidence that is needed in order to characterize these networks, especially for eastern ISEA. Results of LA-ICP-MS analysis of pottery and stable isotope analyses of pig's teeth from sites in the Banda Islands, eastern Indonesia demonstrate that from the earliest appearance of these materials, exchange networks connected the inhabitants of these small and geographically isolated islands to other populations.

Peterson, Jane (Marquette University)

[105] *Diverse lives: Neolithic women in the Near East*
The rise of agriculture is frequently conceptualized as a fundamental turning point for humanity. The changes that women experienced across the transition to agropastoral lifestyles have often been interpreted as the results of far-reaching, homogeneous processes with similar biocultural trajectories and outcomes. In light of accumulating data, methodological innovations, and shifting theoretical influences I advocate for a more "local" scale of analysis. Data suggest that the roles and responsibilities of Neolithic women may have been quite diverse across the Levantine Near East.

Peterson, John (University of Guam)

[182] *Landscape evolution in Cebu, central Philippines: the impact of sea level, social history, and tectonism on cultural landscapes*
Landscape formation is often discontinuous, and cultural landscapes may be fragmented and found in chronological and spatial mosaics rather than continuous progressions. Two periods of human occupation in the Carcar area of the central Philippines are discussed relative to these effects. A flank-margin cave, Marigondon cave, formed in the submarine 20 meter reef platform when subaerial in the period from 80,000 to 12,000 ybp. In the period 2,000 to 5,500 ybp a high sea still-stand altered coastal terrain. These two contexts for human settlement are situated in the complex mosaic of the present geography of Cebu.
[182] *First Chair*

Peterson, Staffan (Indiana University - Bloomington) and Cheryl Ann Munson (Indiana University - Bloomington)

[239] *A Revised Chronology for Yankeetown, Angel, and Caborn-Welborn Cultures in Southwestern Indiana and Adjacent States.*
This paper summarizes the current chronological database for Yankeetown, Angel, and Caborn-Welborn phases present in the area of the confluence of the Ohio, Wabash and Green Rivers between AD 900 and 1650. We relate these data to competing models of regional cultural change. Using Bayesian analyses we suggest beginning and end dates for the three cultures. Older sequentialist conceptions of cultural change emphasized a blank slate for Angel after Yankeetown and a Mississippian succession from Angel to Caborn-Welborn. We suggest that after AD 1000, migration, fission of Mississippian groups, and contemporaneity of populations with different cultural identities are better supported.

Peterson, Staffan [239] *see McGill, Dru*

Peterson, Veronica [60] *see Pike-Tay, Anne*

Petinaris, Lydia (Missouri State University) and David Byers (Missouri State University)

[141] *Judy's Cave: A Woodland Period Cave Site in Southwest Missouri*
Over the past three years, Missouri State University, in cooperation with a private landowner, has conducted excavations at the School House Rock site complex in Wright County, Missouri. Most of these investigations have targeted a small rockshelter site named Judy's

Cave. Situated near the Woods Fork of the Gasconade River, the site contains approximately one meter of stratified archaeological deposits that have produced a rich collection of Woodland Period lithic and ceramic materials, as well as a substantial faunal assemblage. This poster presents the results of a faunal analysis emphasizing quantification of the abundant deer remains from the site.

Peto, Ákos [113] *see Logan, Melissa K.*

Peuramaki-Brown, Meaghan (University of Calgary), W. James Stemp (Keene State College) and Tristan Carter (McMaster University)

[61] *Green Obsidian Circulation and Consumption Among the Ancient Maya of Belize*

Recent EDXRF characterisation of obsidian artefacts from the Maya site of Buenavista, Belize documented a small quantity of green (peralkaline) obsidian from the Pachuca source in Mexico. This highly distinctive material represents a small but significant component of assemblages in Belize, particularly within Early Classic deposits. This paper reviews the larger regional data, discussing the importance of such material with regards to colour, origin and political networks, resulting in a prestige evidenced by the often special nature of the artefacts and associated contexts. Distribution patterns are examined with regard to ancient trade networks in addition to site-specific excavation trends.

Pevarnik, George (Temple University)

[174] *A Petrographic Reappraisal of Pottery Aplastics: Some Theoretical and Methodological Implications for Analysis and Interpretation*

Multiple petrographic analyses of Native American pottery from the Delaware Valley demonstrate that macroscopic methods commonly used to identify mineral inclusions are often insufficient. The data suggest that a theoretical framework used to construct types/typologies is inadequate because it does not account for compositional variability (i.e., clays and temper/aplastic) that is the product of differential resource availability related to production location. The theoretical and interpretive potential of future pottery analyses are discussed and used to demonstrate how these methods may serve as an indicator of varied social processes that are not tangible using traditional approaches.

Pevny, Charlotte (R. Christopher Goodwin & Associates, Inc.) and Brian Ostahowski (R. Christopher Goodwin & Associates, Inc.)

[279] *Technological Strategies Used to Mediate Raw Material Constraints: Investigations at a Quarry in the North Florida Panhandle*

Archaeologists describe lithic raw material availability in terms of quality, abundance, and package size. These characteristics affect decisions concerning reduction strategies and tool production. This paper explores how raw material constraints influence reduction strategies when toolstone is abundantly available, but of very poor quality. We present information gathered from Site 8TA452, a prehistoric quarry on the FGT pipeline corridor in north Florida. The Coastal Plain chert available at the site contains botryoidal and fossiliferous inclusions that limit the volume of knappable material per package. Refit and experimental studies were used to interpret how

these raw material constraints were mediated.

[279] *First Chair*

Pevny, Charlotte [100] *see Carlson, David L.*

Pezzutti, Florencia (Colorado State University) and Anna Cohen (University of Washington)

[91] *Ancient Landscapes: Exploring Built Environments through Remote Sensing in the Lake Pátzcuaro Basin, Michoacán, Mexico*

The creation and maintenance of the engineered environment forms a critical component of ancient statecraft. We highlight the spatial/temporal distribution of landesque capital during the Postclassic period (A.D. 1000-1520) within the Lake Pátzcuaro Basin, Michoacán, México using satellite imagery, LiDAR, and full-coverage survey. Here we argue that landesque capital landscapes were critical to the formation of the Purépecha (Tarascan) Empire.

Phillippi, Bradley (Northwestern University)

[240] *The Economy's Role in Imperial Transitions: An Archaeological and Historical Example from New Amsterdam and New York*

The relationship between colonialism, mercantilism, and nascent capitalism has been and continues to be an insightful line of inquiry in historical archaeology. The preservation of economic policies and practices in colonial transitions despite the usurpation of one imperial power by another is the subject of this research. Historical and archaeological evidence from a seventeenth-century city block in New Amsterdam is used to understand on a macro level how and why English soldiers were able to confiscate New Netherland from the Dutch in 1664. The implication of this research for understanding modern conflict between nation states is also discussed.

Phillips, Erin (University of Alabama)

[196] *Seriating Designs Engraved on Pottery in Moundville's Hemphill style*

In this paper, I will discuss the qualitative methods, process, and usefulness of seriating designs from engraved pottery executed in the Hemphill style. The Hemphill style (1300-1450) is Moundville's representational art style which depicts such subjects as a winged serpent, crested bird, raptor, bird tails, hand and eye, and centering symbols. The resultant phyletic seriation divides the style into three style phases, Early Hemphill, Middle Hemphill, and Late Hemphill.

Phillips, Kelly (University of Wyoming)

[83] *Solutrean Seal Hunters: Deconstructing Assumptions of the Solutrean Hypothesis*

Perceived technological similarities between Solutrean and Clovis have resulted in a theory suggesting the two are historically related. Proponents of this theory inherently assume that there would have been a viable sea ice route, probable cause to embark on such a route, and that the Solutrean would have possessed the behavioral and technological adaptations necessary to survive the journey. Through the use of a computer simulation which employs paleoclimatic, paleobiological, and ethnographic data, this research systematically assesses these assumptions and reveals that a Solutrean transatlantic expansion during the Last Glacial

Maximum would not have been feasible.

Phillips, S.

[153] *The Influence of Social Networks on Patterns of Prehistoric Obsidian Raw Material Procurement in the Kuril Islands of the North Pacific Ocean*

The Kuril Islands, located in the North Pacific Ocean between the northern Japanese island of Hokkaido and the Russian Kamchatka peninsula, contain no native sources of high-quality obsidian, yet obsidian stone tool artifacts are found throughout the island chain. Geochemical data indicates that obsidian from both Hokkaido and Kamchatkan sources was transported into the Kuril Islands, but that the contribution of obsidian raw material from the two source areas changed significantly through time. The transition in source use suggests differences in the social networks that facilitated obsidian material procurement that were associated the culture groups that occupied the island chain.

Phillips, Shaun (Statistical Research, Inc) and Phillip Leckman (Statistical Research, Inc.)

[183] *Trail Use and Context in the Southern Jornada Mogollon Landscape*

Previous research in the Jornada region of south-central New Mexico and west Texas demonstrates the presence of prehistoric trails and footpaths apparently connecting residential locations to logistic activity areas. These trails are recognized from linear patterns of ceramic sherds and features. Eight of these trails have been identified on Fort Bliss Military Reservation in various physiographic settings. Integrating these trails into a landscape context within larger settlement systems enables investigating questions about mobility, trail chronology and orienteering, as well as defining connections between sites. This paper addresses these topics with several recently identified trails on Fort Bliss.

Philmon, Kendra (Florida Atlantic University), Douglas Broadfield (Florida Atlantic University), Michael Harris (Florida Atlantic University) and Peter Ferdinando (Florida International University)

[139] *A comparative study of treponemal disease in the tibiae of two south Florida archaeological populations: Fort Center (8GL12) and Highland Beach (8PB11)*

We assessed and compared the prevalence of treponemal disease in skeletal samples from two south Florida Woodland archaeological sites. Specifically, we macroscopically evaluated the frequency and severity of periosteal lesions, osteomyelitis, and bowing in dry tibiae. We predicted that the higher status inland population from Fort Center would have a lower incidence of disease than the relatively lower status coastal population from Highland Beach. Our results confirm this prediction. In sum, we found a disease incidence frequency of 0.62 in the Highland Beach sample, compared to 0.15 in the Fort Center sample, a conclusion that validates our biocultural approach.

Picard, Jennifer (University of Wisconsin-Milwaukee)

[187] *Excavations in Aztalan's Riverbank Midden: A Record of Material Culture*

Excavation of a 3-m-X-2-m trench through the riverbank midden at Aztalan has provided new stratigraphic information about the site. In particular, Feature 8, a deposit of ash and burned earth within the midden has

yielded a dense cultural assemblage including lithic debris, shell-tempered pottery, bone, and shell. This feature also contains a relatively high frequency of cut copper pieces. Although copper has been recovered from earlier excavations at Aztalan, precise provenience and contextual data related to use and discard of this material is often lacking. Analysis of the Feature 8 assemblage may help to resolve some of these issues.

Picha, Paul (State Hist Soc of North Dakota) and Carl Falk (PaleoCultural Research Group)

[186] *Curved Technology: Elk Antler Bow Production and Use in the Middle Missouri Subarea*

Elk antler bows are reported among the Mandans and Hidatsas of the Middle Missouri Subarea. Ethnohistoric accounts and accompanying artwork describe and illustrate them, while nineteenth-century ethnographic collections document at least one example. Archaeological specimens are rare. A production-based analytic framework for antler technology guides identification of the antler bow in the regional archaeological record. Recent investigations in the Heart River region of North Dakota provide evidence of the production of antler tools and decorative items. Models of artifact production, use, and discard are strengthened with the addition of elk antler technology to the material roster.

Picin, Andrea (Neanderthal Museum) and Marco Peresani (Università di Ferrara, Dipartimento di Biologia ed Evoluzione, Sezione di Paleobiologia)

[202] *The emergence of Levallois technology in the western Mediterranean*

The introduction of Levallois method in Europe was an asynchronous event of reorganization of the local core technology. This new concept of flake production followed diverse regional patterns with chronological differences between the northern European territories and the western Mediterranean. In this paper the lithic assemblages of unit VIII and unit VII of San Bernardino Cave (Italy) are presented. These assemblages are dated with ESR and U/Th methods respectively to MIS 7a and the beginning of MIS 6. The technological analyses detected the appearance and the development of Levallois method.

Picin, Andrea [202] see *Peresani, Marco*

Pickard, Catriona [75] see *Bonsall, Clive*

Piedrasanta, Rony [66] see *Doyle, James A.*

Pierson, James M. [254] see *Wright, David K.*

Pike, Matthew (Indiana University-Purdue University-Indianapolis)

[184] *Beyond the Palisade: Using geophysical remote sensing techniques to investigate life outside the walls at Angel Mounds*

Geophysical remote sensing and landscape approaches to archaeological interpretation have the potential to increase our understanding of the Mississippian world, in particular the lower Ohio River valley and Angel Mounds. A magnetometer survey was conducted on 7.11 hectares of land just outside of the palisaded village, identifying areas of magnetic anomaly. Previous excavation in the

area from 1939 has shown prehistoric use of the area, and further analysis of these collections will be conducted to assist in interpretation. Through this analysis, we can interpret the role that the surrounding areas would have played in the life of Angel Mounds inhabitants.

Pike-Tay, Anne (Vassar College), Xiaolin Ma (Henan Administration of Cultural Heritage, China), Minghao Lin (Cambridge University), Kate Czechowski (Vassar College) and Veronica Peterson (Vassar College)

[60] *'You are what you eat': New evidence for pig domestication in Henan, China*

Dental remains of *Sus scrofa* from ritual pits H160 and H208 of Longshangang Neolithic site in Xichuan County, Henan are analyzed for evidence of domestication. Three methods of dental analysis are discussed: odontochronology, tooth wear assessment, and linear enamel hypoplasia (LEH) assessment, which provide age at death, season of slaughter and season of birth data. The LEH height frequencies on the second molars of the mandibles correspond with the possibility of double farrowing, an indication of a high degree of human manipulation of suids. This conclusion is supported by the season-of and age-at slaughter data.

Pikirayi, Innocent

[108] *Projecting Power: stone architecture as an expression of political ideology in the Zimbabwe tradition, AD 1280 – 1830*

Architecture has always played an important role in public life. Whether in homage to an individual or as a monument to an institution or ideology, architecture has always been a potent symbol of wealth, status and power. For the stone structures of the Zimbabwe Tradition architecture represents a powerful form of expression, reflecting agendas and needs of the ruling elite. Construction of political power during the time of Great Zimbabwe and Khami was ideological, and epitomised through stonewalled architecture. Great Zimbabwe and Khami type architectural styles express two competing political ideologies, critical in understanding state dynamics on the Zimbabwe plateau.

Pillsbury, Joanne (Dumbarton Oaks) and Miriam Doutriaux (Dumbarton Oaks)

[152] *Incidents of Travel: RW Bliss, Panamericanism, and the Idea of the Pre-Columbian*

In 1935, Robert Woods Bliss, a former ambassador to Argentina, toured the remains of ancient Maya sites. Fueled by the revelations of Carnegie Institution excavations and dedicated to the concept of Panamericanism, Bliss returned to the U.S. intent on increasing awareness of the Americas' pre-Hispanic past. Up to that time, Pre-Columbian objects had been in the domain of natural history museums, but Bliss believed that it should be displayed in art museums alongside European painting and sculpture. In pursuing this goal, he transformed the public perception of the Pre-Columbian in the postwar era.

Pimentel, Gonzalo [29] *see Torres-Rouff, Christina*

Pink, Christine (The University of Tennessee) and Rebecca E. Bria (Vanderbilt University)

[29] *Mortuary ritual at the Hualcayan site in the Callejón*

de Huaylas, Peru.

Presently the Callejón de Huaylas is a relatively understudied region in the north-central highlands of Peru. During the 2011 field season, the hillside cemetery at Hualcayan was excavated to elucidate population structure and mortuary practices of the resident population. This study focuses on a highly visible machay tomb that included an in-situ burial, and dates to the Middle Horizon (750-1000 AD). The machay is considered in the context of an ongoing survey of the extensive cemetery at Hualcayan. These results provide preliminary insight into the demography, health, mortuary ritual, and social complexity of inhabitants during the Middle Horizon.

Pink, Christine [5] *see Witt, Rachel G*

Pintar, Elizabeth (Austin Comm. College), Jorge G. Martinez (ISES-Universidad Nacional de Tucuman, Argentina) and Michael D. Glascock (Archaeometry Laboratory-University of Missouri Research Reactor)
[112] *Obsidian Acquisition Strategies in a High Elevation Desert in NW Argentina.*

We present the results of XRF analyses on obsidian projectile points and debitage from two multi-assemblage hunter-gatherer sites in the Salt Puna so as to explore the use of various obsidian sources during the Altithermal (8000 – 6000 BP). What effect did the increasing aridity have on the mobility patterns of foraging groups, and thus on obsidian acquisition and use? First, we consider paleoenvironmental and sourcing data as means to discuss the relevance of the location and distance to these multiple sources. Last, we examine residential and logistical mobility during this arid trend.

Piper, Philip [212] *see Eusebio, Michelle S.*

Pires, Ana Elisabete [157] *see Detry, Cleia*

Piscitelli, Matthew (University of Illinois-Chicago) and Sofia Chacaltana Cortez (University of Illinois at Chicago)

[77] *Using LA-ICP-MS to Observe Imperial and Local Political Dynamics in the Upper Moquegua Valley during Inca Occupation*

Through the identification of trace elements, geochemical analysis reveals chemical signatures for different geologic sources. The purpose of this study is to present the results of LA-ICP-MS analysis conducted on ceramic samples collected from Late Intermediate Period (1,000-1,450 A.D.) and Late Horizon (1,450-1,532 A.D.) sites in the Moquegua Valley, Peru. This study will provide information about the types of interactions among local groups inhabiting the valley before, during, and after the Inca presence in this region. This research will also help to understand ceramic production and distribution among communities in the region and to elucidate interactions between ethnic groups.

[10] *Discussant [77] First Chair*

Plimpton, Christine (Archaeological Investigations Northwest (AINW))

[240] *Freedom of Movement: A Syntactic Analysis of American Domestic Space Use from the Colonial Period to the Present*

Syntactic analysis is a methodology that elucidates the

cognitive rules of space use, a determinant of culture, which is reflected in the built environment. One aspect of syntactic analysis is permeability; the ease of movement between spatial units and with the outside. A syntactic analysis focusing on permeability was conducted on floor plans of American homes from the Colonial period to the present. Consistently, American dwellings have ease of movement through multiple routes between various spatial units and with the outside.

Plog, Stephen (University of Virginia) [47] *Discussant*

Plog, Stephen [164] *see Martin, Worthy N.*

Pluckhahn, Thomas (University South Florida), Victor D. Thompson (The Ohio State University), W. Jack Rink and Brent R. Weisman (The University of South Florida)

[124] *Stepped Pyramidal Mounds of the Woodland Period in the Southeastern United States*

Archaeological investigations at sites on the Gulf Coast of Florida revealed evidence for the construction of stepped pyramids comprised of shell. At Roberts Island, stepped construction was definitively identified in strata from a trench excavation, and was dated to the Woodland period, ca. 1000 B.C. to A.D. 1050. Geophysical survey at the nearby Crystal River site supports the inference of similar construction for at least two additional mounds dating to the same period. This is the first discovery of stepped pyramidal construction in North America north of Mexico, and suggests greater sophistication in architectural planning and execution than commonly recognized.

[124] *First Chair*

Pluckhahn, Thomas [209] *see Zarger, Rebecca K.*

[121] *see Thompson, Victor D.*

Plunket, Patricia (Universidad de las Americas Puebla) [73] *First Chair*

Plunket, Patricia [73] *see Robles Salmerón, Amparo*
[73] *see Urnuela, Gabriela*

Pobiner, Briana (NMNH, Smithsonian Institution) and Kris Kovarovic (Durham University)

[96] *A modern taphonomic and ecological landscape bone study in Laikipia, Kenya*

Neotaphonomic studies have great potential to further our understanding of the patterns and processes responsible for the Plio-Pleistocene fossil record of East Africa. Here we report the preliminary results of a longitudinal study of modern bone occurrences in Ol Pejeta Conservancy, Kenya. We are investigating the distribution and abundance of mammalian skeletal remains across the landscape, and the ability of these skeletal remains to track changes in living species abundances. We consider the role of habitat (e.g., open vs. closed habitats) and carnivore predation in the accumulation of bone scatters and how these factors may bias potential paleohabitat reconstructions.

Poeppel, Emily (Indiana University of Pennsylvania), Marion Smeltzer (Indiana University of Pennsylvania) and Brandon Foster (Indiana University of Pennsylvania)

[170] *Using Magnetic Susceptibility Surveys to Map Late Prehistoric Sites in Western Pennsylvania*

Late Prehistoric villages are the largest and most complicated prehistoric sites in Western Pennsylvania. Magnetic susceptibility has been used as a first step in the investigation of sites to better define the site boundaries and areas of intense occupation. Using a methodology described by Burks (Pecora and Burks 2007), a Bartington MS2 magnetic susceptibility meter with the MS2D field loop, site areas can be quickly surveyed to locate site boundaries. This initial step was then followed by more intensive surveys to define occupation areas. This poster presents the results of this investigation.

Pohl, John (ucla)

[118] *The Sorcerer's Cosmos: Reconstructing Codex Aubin 20*

Codex Aubin 20 preserved in the Bibliothèque Nationale, Paris fuses elements of both Mixtec and Nahuatl codices and probably originates from the intermediate region lying between northern Oaxaca and southern Puebla where social and religious ideologies were intentionally blended in ritual, art, language, and culture to satisfy differing social agendas. The single sheet of painted deer hide portrays five couples composed of the Maquiltonaleque and the Cihuateteo, the supernatural patrons of the diviners, healers, and midwives who used the deer hide sheet to invoke the spirit forces of the four cardinal directions and the sacred center.

[21] *Discussant [118]* *Second Organizer*

Pohl, Mary (Florida State University), Christopher von Nagy, Shannon Weatherby (Florida Department of Transportation) and Maria Tway (University of Texas-Austin)

[242] *Olmec Ceramic Figurines from the La Venta Polity*

This study seeks to understand the context of Middle Formative Gulf Coast Olmec use of ceramic figurines. The presentation examines the relationship between ceramic figurines from the paramount site of La Venta in the Smithsonian Institution collection and its client site San Andrés located 6 km away from the mother center. We analyze the figurine styles and themes and focus particularly on the disposition of the figurines and their fragmentary condition. We compare treatment of the ceramic figurines to figurines made from precious materials such as greenstone.

Pohl, Mary D. [167] *see von Nagy, Christopher L.*

Politis, Gustavo (CONICET- UNCPBA- ARGENTINA) and Emily Lindsey (University of California - Berkeley)

[158] *Humans and Pleistocene megamammals in the Pampean Region*

One hundred years ago Florentino Ameghino and Ales Hrdlicka debated the chronological overlap between humans and Pleistocene megamammals in the Pampean region. In the past 20 years, abundant archaeological and radioisotopic data have demonstrated that humans and megafauna coexisted in this region for several millennia. Here we present new AMS results from purportedly young megamammal remains and some of the human bones used in Ameghino's original studies. These new results allow us to better estimate the time of

overlap between humans and Pleistocene fauna and to re-evaluate hypotheses about their interaction in the Pampean region.

Politis, Gustavo [8] *see* González, Mariela E.

Polk, Michael (Sagebrush Consultants, L.L.C.) [48]
Discussant

Pollack, David (Kentucky Archaeological Survey) and Gwynn Henderson (Kentucky Archaeological Survey)

[239] *One or Two? Picking Apart Fox Farm's Middle Fort Ancient Occupational History*

Fox Farm is an intensively occupied, 15 ha site situated on an upland ridgetop in northern Kentucky. It contains at least three Middle Fort Ancient (A.D. 1200-1400) circular midden stains. These stains may represent one community's cycle of village establishment/abandonment at this locality or a series of short-distance moves. It is also possible that by the end of the middle Fort Ancient, the community consisted of two circular villages, each with its own plaza. This paper explores the possibility that population aggregation at Fox Farm led to new leadership roles and set the stage for the post-A.D. 1400 Madisonville Horizon.

Pollack, David [192] *see* Munson, Cheryl Ann **[2]** *see* Loughlin, Michael L. **[124]** *see* Sharp, William E.

Pollard, Helen (Michigan State University)

[19] *Ruling 'Purépecha Chichimeca' in a Tarascan World*

The royal dynasty of the Tarascan State was similar to many other ruling lineages of the Central Mexican Postclassic in crafting their founding culture hero, here named Tariacuri, as a product of a local purépecha elite and an in migrating northern Chichimec chief. The legendary history presented in the Relación de Michoacán (1538-40) then justifies the dynasty's legitimacy to rule by appealing to their 'foreignness' or their 'purépecha-ness' depending on circumstances. This paper will consider the archaeological and ethnohistoric evidence for this dual-heritage and the political strategies used by the Tarascan elites to both distinguish themselves from the commoners they rule and at the same time be seen as supporting them politically, economically, spiritually, and as 'true' purépecha.

Polom, Ulrich [93] *see* Lang, Joerg

Polyak, Victor [208] *see* Aquino, Valorie V.

Pontin, Rute de Lima [277] *see* Silva, Rosicler T.

Pool, Christopher (University of Kentucky)

[201] *Clay, Kiln, Pot, and Potter: Factors in the Evolution of Ceramic Production and Distribution in Southern Veracruz.*

From Ceramic Ecology and Cultural Process through Social Change and the Evolution of Ceramic Production and Distribution in a Maya Community, Dean Arnold's work has profoundly influenced interpretations of ancient craft production systems in general, and pottery production in particular. This paper highlights Arnold's past and continuing contributions through an examination of changes in the ecology, technology, and organization

of pottery production and distribution in southern Veracruz, Mexico.

[54] *Discussant*

Pool, Michael (Austin Community College)

[36] *How Far Is Too Far? An Examination of the Early Mogollon Settlement System*

Over the last 40 years, Mogollon researchers have questioned whether the combination of cultigens, pottery, and architecture necessarily implies sedentism. If the settlement system was non-sedentary, then what form would it take? Would it exploit local variations in the spatial and temporal distribution of resources or would it extend over longer distances? This poster examines this issue by using an energetic model and GIS to determine the distance of the point of no return in utilization of resources (energy expended in transport equals energy supplied by the food resource) for agave and acorns (the predominant staples for the Western Apache).

Pop, Cornel (University of British Columbia)

[84] *A flexible image-based method for lithic analysis*

A fast and simple method for automatically performing a series of measurements on multiple lithic artifacts at once is proposed. The method relies on image analysis and is shown to produce metric data that is accurate when applied to a random sample of archaeological material. It requires a simple setup consisting of a high-megapixel DSLR camera, a tripod, graph paper, and freely available software. The main advantages are speed (several hundred artifacts may be processed in a single day), the reusability of the raw data for different purposes, and the ability to simultaneously produce, with proper lighting, high-quality visual documentation.

Pope, Kevin

[167] *Bruce Dahlin's Legacy in the Study of Climate and Ancient Maya Cultural Change*

Bruce Dahlin was a pioneer in integrating studies of climate change and Maya archaeology and developing research methods to better mesh environmental and cultural records. Despite Bruce's monumental achievements, full integration of climate and ancient Maya cultural change remains elusive. This unfulfilled legacy is in part due to insufficient appreciation of the spatial and temporal complexities inherent in both environmental and cultural systems. A better understanding of these complexities and the interplay of climate change and cultural adaptation is crucial to understanding the rise and fall of the Classic Maya and future impacts of climate change resulting from global warming.

Pope, Kevin O. [167] *see* von Nagy, Christopher L.

Pope, Melody and Anson Kritsch (The University of Iowa, Office of the State Archaeologist)

[271] *Situating Chipped Stone Tool Use at the Koster Site: A Beginning*

Research on plant manipulation in the Eastern Woodlands Archaic is best accessed using complimentary data including plant residues, processing technologies, and spatial associations. Yet little is known about the role of chipped stone in plant processing in North America, presumably due to an emphasis on hunting technology. Our paper presents results of a study

that analyzed chipped stone tools from the Koster Site to see how they bear on questions of plant processing and its relation to subsistence and manufacturing tasks, and the socio-spatial contexts of these activities.

Popenoe de Hatch, Marion [87] *see Davies, Gavin R.*

Popenoe Hatch, Marion (Univ. del Valle, Guate.)

[30] *Using Ceramics to Interpret the History of Takalik Abaj*

As is well known, much of the information from archaeological excavations depends on the analysis of the ceramics. Determining the culture history of the site of Takalik Abaj has been based on the identification of ceramic traditions in Guatemala and the changes in these that can be observed through time. The talk presents a detailed discussion of this method and how it was applied to help understand the sequential developments at this important center and its relationships to other regions.

Popescu, Gabriel (SHESC, Arizona State University)

[84] *Assemblages size, composition and mobility patterns in the Romanian Carpathians Paleolithic sites.*

In this poster I will explore the variability in artifact assemblages at a series of caves and open-air sites in the area of Romanian Carpathians Basin. Assemblage variability through time and space will be explored and explain in terms of assemblage size and changing group mobility. Most of these assemblages are dominated by informal components. I demonstrate in my poster that theoretical models generally used to explore change through formal assemblage components can be applied to informal components, and allow inferences to be extracted in respect with changing settlement systems. The results I provide challenge area's culture-history view.

Popova, Laura (Arizona State University) [103]

Discussant

Porter, Anne

[59] *Uniquely Typical: Mounds, Mausolea and Merchandise in Middle Euphrates Mortuary Practices*

The third millennium B.C.E. burial remains recovered from the Middle Euphrates of Syria and Turkey defy classification into the patterns that Near Eastern archaeology traditionally reads as evidence for chronological disposition, social hierarchy, or beliefs in the afterlife. This region is notable for a series of unique mortuary monuments that point to the individual character of each settlement. Nevertheless a common substrate of practice in evidence that reveals a dense network of inter- and intra-site social and political interactions.

Porth, Eric [123] *see Blitz, John H.*

Ports, Kyle (Humboldt State University)

[70] *Jungle Surveying: Field Methodology*

Settlement studies are essential in archaeology as these investigations provide a vast amount of data. The Dos Hombres to Gran Cacao Archaeology Project seeks to investigate settlement patterns between two Maya sites: Dos Hombres and Gran Cacao, by analyzing the structure density between them. One of the challenges of

carrying out research in a tropical rain forest is the type of equipment used and how to post-process the data. We have utilized a variety of equipment in the field and this poster will illustrate the advantages and disadvantages of each method based on the type of feature and environment recorded.

Postl, Walter [127] *see Brandl, Michael J.*

Potter, James (PaleoWest Archaeology), Terry G. Knight (Ute Mountain Ute Tribal Historic Preservation Office) and Lynn W Hartman (Ute Mountain Ute Tribal Historic Preservation Office)

[31] *Wetis Orapugat Navachukwak ("Reconnecting Our Past"): Current Challenges of the Ute Mountain Ute Tribal Historic Preservation Office*

Abstract: In 2009, the first Tribal Historic Preservation Office in the state of Colorado was established in one of the world's most important archaeological areas. The Ute Mountain Ute Indian nation is adjacent to Mesa Verde National Park (MVNP) in southwestern Colorado and northwestern New Mexico. Portions of the reservation contain the same high density of archaeological sites and the same remarkably preserved cliff dwellings as MVNP. This paper addresses some of the challenges faced by the Ute Mountain Ute THPO in managing these and other important cultural resources on tribal lands.

Pouncett, John (Institute of Archaeology, University of Oxford) and Christine Markussen (EnviroSystems Management, Inc.)

[9] *Analysis, Integration and Visualization of Surface and Subsurface Data from Moel-y-Gaer, Bodfari*

Moel-y-Gaer Bodfari, one of a series of Iron Age hillforts on the Clwydian Range in north Wales, was the subject of intensive surface and subsurface surveys in August 2011. Data collection comprised two elements, namely: 1) analysis of LIDAR data and topographic survey of the hillfort and its immediate hillslope, 2) multi-sensor survey of the interior of the hillfort and multi-depth survey of the ramparts and associated features. Integrative approaches were employed in the analysis and visualization of the resultant datasets and will guide both the interpretation of the site and future excavation strategies.

Pouncett, John [173] *see Markussen, Christine J.*

Powell, Doss [105] *see Roth, Barbara J.*

Powell, Gina (Missouri State University, Springfield, Missouri) and Neal Lopinot (Missouri State University)

[76] *Late Mississippian Human-Plant Relations in the Lower Mississippi Valley: Archaeobotany of the Rolling Fork Mounds Site*

Analysis has been undertaken on 29 flotation samples from 6 excavation units and 15 features at the Rolling Fork Mounds site. Most of the remains were charred, but some are uncharred and indicative of excellent preservation conditions. As might be expected for a late Mississippian site, maize and persimmon remains are common. Small and large seeds recovered from the samples also represent a variety of domesticated and wild species, with grass seeds, grass bracts, and taxa with possible medicinal qualities concentrated in several

loci, indicating spatially and functionally discrete activities.

Powell, Gina [223] *see* Adair, Mary J.

Powell, John [206] *see* Small, David B.

Powis, Terry (Kennesaw State University) and Paul Healy (Trent University)

[15] *Defining Preclassic Space in the Main Plaza at Pacbitun, Belize*

Archaeological investigations conducted at the Maya center of Pacbitun, Belize, have revealed a long stratigraphic sequence of occupation extending from Cunal times to the Late Classic. Fieldwork undertaken since the 1980s has focused on gaining a more comprehensive understanding of the Formative period occupation at the site. Excavations of sub-plaza deposits in Plaza A of the central precinct have revealed considerable architectural and artifactual remains dating to this early time. This paper reports on the investigations of Plaza A and provides new information that may be compared with other areas in the region to identify general patterns in Preclassic period development.

[15] *First Chair*

Powis, Terry G. [15] *see* Rich, Kelley W.

Pozorski, Shelia [178] *see* Pozorski, Thomas

Pozorski, Thomas (University of Texas-Pan American) and Shelia Pozorski (University of Texas-Pan American)

[178] *Exploring Multiphase Construction within the Monumental Architecture at the Initial Period Site of Huerequeque within the Casma Valley of Peru*
Recent excavations at the Initial Period (2100-1000 B.C.) site of Huerequeque revealed it likely served as a major administrative outpost within the larger Sechin Alto Polity which dominated the Casma Valley area for at least five centuries. Monumental architecture there contains square-room-unit modules, a unique architectural form closely correlated with polity administration. Huerequeque is strategically located well inland along a major route into the highlands as well as near an unusually large arable zone. Furthermore, evidence of renovation, amplification, and possible ritual interment of the Huerequeque's monumental architecture suggest that the site's importance as a regional outpost was increasing through time.

[178] *First Chair*

Prasciunas, Mary (WestLand Resources, Inc.), Fred Nials (Desert Archaeology, Inc.), C.Vance Haynes (University of Arizona), William Scoggin and Lance McNeas (Cardno ENTRIX)

[20] *The UP Mammoth Site, Wyoming: What's UP?*

Excavations at the UP Mammoth Site near Rawlins, Wyoming, during the early 1960s unearthed the remains of a Columbian mammoth along with stone and bone tools interpreted as butchering and processing implements. The site was described as a mammoth kill site, and a summary of the project appeared in a 1962 issue of National Geographic. However, the results of the excavations were never fully reported, and the association of the artifacts with the mammoth skeleton

was subsequently questioned. This paper describes recent field investigations and analyses conducted to help resolve the mammoth's status as an archaeological or paleontological locality.

Pratt, Darrin (University Press of Colorado) [149]
Discussant [3] Discussant

Prentiss, Anna (University of Montana), Lisa Smith (University of Montana), Kristen Barnett (University of Montana), Matthew Walsh (University of Montana) and Eric Carlson (Historical Research Associates, Inc.)

[132] *Assessing Variability in Salmon Processing, Storage, and Consumption at Bridge River, British Columbia*

Salmon were the keystone food resource for complex hunter-gatherers of the Middle Fraser Canyon, British Columbia. Ethnographies suggest that the fish were differentially processed, stored and consumed depending upon a host of factors including season, species, labor pool, and access to fishing sites. While fish processing was an essential socio-economic activity in the Mid-Fraser villages, it has rarely been studied in any detail by archaeologists. In this paper we develop new research designed to enhance our ability to reconstruct and interpret variability in the use of salmon by ancient people in the Bridge River Valley.

Prescott, Catherine (Hamilton College), Nathan Goodale (Hamilton College), Alissa Nauman (Hamilton College) and David G. Bailey (Hamilton College)

[114] *Prehistoric Mobility and Territory in the Upper Columbia River Drainage*

Archaeological research indicates people inhabited areas of the Upper Columbia River Drainage from as early as 6000 BP through contact (250-200 BP). Upon contact, ethnographers recorded seasonal migration of the Arrow Lakes/Sinixt from the northern reaches of the Columbia River system south to Kettle Falls. Using portable X-Ray Fluorescence (pXRF) and mineralogical characteristics of several hundred lithic artifacts from regional pre-contact sites, we seek to determine if raw materials were acquired within the territory defined ethnographically as Arrow Lakes/Sinixt. The significance of this research lies in the ability to potentially define a territory, illuminate resource use, and inter-community dynamics.

Presenza, Paul [9] *see* Hargrave, Michael L.

Preston, Tim (Maya Research Program)

[203] *Ritual Sacrifice and the Maya Cosmos*

In the past two decades of excavation at the Maya site of Blue Creek, Belize, over 60 burials have been recovered from a variety of contexts. The majority of these burials follow a set mortuary pattern, yet several burials stand out in their relationship to recorded Maya cosmology. This paper will discuss four burials, those located at Tomb 5, Structure 4 in the site core, a bench style burial at structure U5, and a recently excavated burial from the Remple Group. Each of these interments highlights a specific aspect of the Maya Cosmos and gives insight into Maya ritual life.

Preucel, Robert (University of Pennsylvania),

Matthew Liebmann (Harvard University) and Woody Aguilar (University of Pennsylvania)

[25] *The Pueblo World Transformed: Alliances, Animosities, and Factionalism in the Northern Rio Grande, 1680-1700*

The Pueblo Revolt of 1680 radically altered relationships among the communities of the northern Rio Grande. While the changes in Pueblo-Spanish relations are apparent, less well-known are the changes that occurred among and within Pueblo communities between 1680-1700. Archaeological evidence suggests that new alliances, trading partnerships, and ethnic identities were forged during this era. But this tumultuous period also pulled some Pueblo communities apart, resulting in new animosities and factionalism. This paper reviews the evidence for the changes in Pueblo relations that occurred during this period, based primarily upon ceramic evidence and lithic (obsidian) exchange.

[205] *Discussant*

Price, Max (Harvard University)

[57] *Questioning the Feast: Inherent Ambiguities in Detecting Feasts*

Accurately identifying feasting activity in the archaeological record remains problematic, and requires identifying reasonable material correlates for feasting remains, understanding the taphonomic variables, and an acute chronological resolution. It is the concern of this paper that, eager to fit their data into a ready-made body of theory, analysts risk over-interpreting their evidence. If we are to view feasts as situated within networks of meaning and practice, it is important to know not only the specifics of the social milieu in which feasts occurred, but also the material correlates of such activities to determine if feasting occurred at all.

Price, T. Douglas (University of Aarhus)

[263] *Vikings, Colonization and Isotopes*

New methods employing isotopes in human tooth enamel provide significant new insight on the Viking colonization of the North Atlantic. Focus will be on Iceland and Greenland where samples from numerous burial have been analyzed. Comparison with baseline data from the likely homelands of these individuals offers evidence of place of origin and the dimensions of mobility in terms of age, sex, and chronology. Isotopes of strontium, oxygen, carbon, and lead are employed in this study to examine migration to these far-off places, between these places, and interaction between place of origin and destinations.

[58] *Discussant*

Price, T. Douglas [58] *see* Burton, James H.

Prieto, Oscar

[233] *Exploring fishing communities through household dimensions: The Pampas Gramalote Case*

I will present the study case of household configuration at Pampas Gramalote, an early Initial Period (B.C. 2000/1800 - 1400) fishing village of the North Coast of Peru to understand the social dynamics of this site. The value of household studies is important as a locus of social action related to social identity, memory, power, position and complexity. I will present the study through this fishing village perspective, the household inter and intra relationships as a way to explore how early complex societies operated and interacted.

Priewe, Sascha (The British Museum)

[163] *Late Neolithic exchange networks and social transformations in the Middle Yangzi region*

During the late Neolithic, sites across the Middle Yangzi region were connected to each other and to sites in northern and eastern China. Instead of focusing on local dynamics, I will look at the role of interaction in Middle Yangzi societies. Although the exact nature of these connections remains obscure, it can be demonstrated that these led to the construction of enclosures first along the Middle Yangzi and possibly further downstream later on. The abandonment and partial re-settlement of some enclosures along the Middle Yangzi toward the end of the third millennium will also be discussed in their regional contexts.

Pring, Duncan [236] *see* Kosakowsky, Laura J.

Pritchard, Erin

[107] *Making Section 106 Work*

This paper presents an example of how the Section 106 consultation process can have successful results. Chicago Bridge & Iron, Inc. came to TVA for a permit to cross public land for water access to construct an industrial site. The undertaking included adverse effects to eligible archaeological deposits associated with site 40MI70. Through the consultation process, TVA worked with the applicant, the State Historic Preservation Officer, and six federally recognized Indian tribes to navigate their way through the

Pritchard, James C. [37] *see* Aiuvalasit, Michael J.

Proebsting, Eric (Thomas Jefferson's Poplar Forest)

[133] *Seasons of Change: Community Life and Landscape at the Foot of the Blue Ridge Mountains, 1740-1860*

Perspectives provided by historical ecology frame this discussion of the Poplar Forest plantation, which is placed within its broader environmental and cultural landscape by examining the people who came to this portion of the Virginia piedmont starting in the mid-eighteenth century and the plants, animals, soils, and slopes with which these and later individuals interacted over time. By placing the environmental history of Poplar Forest within a broader community context, we begin to understand this plantation's role in the larger social, economic, and ecological changes taking place in the region from colonial settlement to the eve of the Civil War.

Prufer, Keith M. [70] *see* Thompson, Amy Elizabeth **[70]** *see* Ebert, Claire E. **[208]** *see* Kieffer, C. L.

Pruitt, Tera (University of Cambridge)

[56] *The Politics and Performance of Pseudo-Pyramids*

Cases of pseudoarchaeology are social processes within larger socio-historical contexts and they need to be recognized as such. This paper presents the results of my doctoral research on The Bosnian Pyramids, a pseudoarchaeological project that has caused great stir in the international archaeological community since 2005. While it has been dismissed as a cut-and-dry case of pseudoarchaeology by many professional archaeologists, it is in fact a complex project that holds

great authority in Bosnia. This paper highlights the importance of socio-politics, authoritative institutions, and performative behavior in the way pseudo/archaeological authority is constructed and maintained over time.

Ptacek, Crystal (University of Tennessee, Knoxville)

[133] *Reconstructing Mr. Eppes' Neighborhood: A GIS Analysis of the Dynamics of Power*

While neighborhoods are dynamic entities, their past interactions may be partially reconstructed through documentary analysis. Historical research relating to the Indian Camp property in modern Powhatan County, Virginia, has enabled archaeologists to track social and economic relationships from the area from 1730 to 1825. Plotting these relationships spatially in ArcGIS 10 has clarified historical dynamics of power and inequality through land and slave ownership and kinship networks. By examining a landscape over a 100-year span using ArcGIS, names and people become part of a dynamic social and economic network, spaces become places, and a diachronic history of a neighborhood emerges.

Ptacek, Crystal [133] *see Wilkins, Andrew P.*

Pugh, Timothy (Queens College and The Graduate Center) and Romulo Sanchez Polo (CUDEP)

[137] *The San Bernabé Mission at Tayasal, Petén, Guatemala*

Recent excavations at Tayasal, Petén, Guatemala encountered the mission settlement of San Bernabé occupied from the early to late 18th century. Among the missions settled after the conquest of Petén in AD 1697, San Bernabé contains evidence of colonial practices as well as daily life. Excavations in the mission church revealed evidence of mortuary practices as well as syncretism. Work in the surrounding community indicated that pre-conquest ceramics were used much longer than previously thought, though tin enameled wares were present as well. We also found evidence of Spanish vessel forms composed with indigenous pastes.

[137] *First Chair*

Pugh, Timothy [87] *see Shiratori, Yuko*

Pullen, Daniel [270] *see Burke Davies, Clare T.*

Pulliam, Chris (U.S. Army Corps of Engineers) [48] *Discussant*

Purcell, Gabrielle (The University of Tennessee)

[232] *Changes in Maize Agriculture Before and After European Contact at Smokemont (31SW393)*
Smokemont (31SW393), located in the Smoky Mountains in western North Carolina, is a multicomponent site consisting of deposits from Woodland, Mississippian, Cherokee, and Euro-American occupations. Two structures have been identified at Smokemont, one as a Mississippian (Pisgah) house, and the other a Cherokee (Qualla) house. Floral analysis of Early and Middle Woodland features have indicated some horticultural activity, with wild plants remaining important but supplementary to maize agriculture during the Mississippian (Pisgah) and Cherokee (Qualla) occupations. Archaeobotanical remains from 31SW393 will be examined for temporal changes in maize agriculture prior to and after European contact.

Purdy, Barbara (University of Florida)

[55] *The Mammoth Engraving from Vero Beach, Florida: Ancient or Recent?*

In 2009, a collector noticed a mammoth image on a mineralized bone he found near the Old Vero Site. The bone and engraving were analyzed at the University of Florida and the Smithsonian. No evidence of forgery emerged. Still, concern lingers about its antiquity. Its significance, if it was created >13,000 years old when Ice Age artists could personally observe these animals, cannot be overstated. In this paper, I discuss the possibility that the mammoth engraving from the Old Vero site is a recent replica of an already existing design.

Pursell, Corin C. O. [239] *see Butler, Brian M.*

Puseman, Kathryn (PaleoResearch Institute, Inc.) and Alison E. Rautman (Michigan State University, East Lansing, Michigan)

[113] *Macrofloral Remains and Radiocarbon Dates from Frank's Pueblo, Site LA 9032, New Mexico*

Frank's Pueblo, site LA 9032, is a small, Glaze A pueblo on the Chupadera Mesa in central New Mexico. This pueblo contained two areas of roomblocks with an intervening plaza or entry. The West Pueblo consisted of four adobe room blocks surrounding a central plaza. A masonry wall was later placed around the adobe walls of the pueblo and additional masonry rooms added. Radiocarbon dates suggest at least two episodes of catastrophic burning in the West Pueblo. Burning of the West Pueblo helped to preserve large amounts of macrofloral material in storage rooms and intact roof and floor assemblages.

Putsavage, Kathryn [111] *see Pazmino, Audrey*

Putt, Shelby (University of Iowa), Alexander Woods (University of Iowa), Robert Franciscus (University of Iowa) and Russell Ciochon (University of Iowa)

[83] *Acheulian handaxe production in verbal and non-verbal experimental learning environments*

To test whether spoken language may have been necessary for Homo erectus to transmit the skill of making a bifacial tool to novices, college students were taught how to recreate Acheulian handaxes in two different communication environments, one with and one without spoken language. All handaxes were ranked by skill via an independent assessor. It was expected that the verbal group would produce qualitatively better handaxes than the nonverbal group, implying that spoken language increases the ease of transmission from teacher to novice in this task, but this was not the result. Implications for these findings will be discussed.

Pyburn, K. (Indiana University) and Richard Wilk (Indiana University)

[236] *Finding a House*

Norman Hammond inspired a generation of archaeologists to rethink the archaeology of Maya civilization. Almost any aspect of ancient Maya life came under the scrutiny of Hammond's projects and his students and innumerable discoveries about the Maya past were the result. In this paper we recount the importance of Hammond's influence on our interest in

finding ancient Maya houses and reconstructing households, and gratefully acknowledged his contribution to the founding of our own house.

[253] Discussant

Pye, Jeremy (University of Florida)

[67] *Lice, Lice Combs, and Human History*

Lice are ectoparasites and have likely parasitized man for millions of years. To manage an infestation, people often picked lice and eggs from the hair of others, or used fine tooth combs for removal. The earliest known lice combs date to around 1,500 B. C. in the Old World and their general form has changed very little since that time. Lice were once routine companions of people of all races and socio-economic classes until the mid-20th century when pesticides and improvements in sanitation and personal hygiene made lice infestations relatively rare in modernized countries.

Pyper, Laura [128] see Horlacher, Jacob M.

Pyszka, Kimberly (University of Tennessee)

[240] *unto Seynte Paules: Anglican Landscapes and Colonialism in South Carolina*

With the passing of the 1706 Church Act, the Church of England became the established religion in South Carolina. Ten parishes were created at the time, including St. Paul's Parish whose church and parsonage sites have been identified through archaeological investigations. Using St. Paul's as a case study, this paper focuses on the Church's role in the development of the colony. Through the landscape it helped construct and the social functions of St. Paul's Church and parsonage house, the Anglican Church helped transform South Carolina from a struggling frontier colony to one of the wealthiest colonies in the New World.

Qin, Zhen (Washington University in St. Louis) and Tristram Kidder (Washington University in St. Louis)

[6] *Geoarchaeological Investigations at Sanyangzhuang, Henan Province, China*

Research at Sanyangzhuang, including excavation of two 12-m deep profiles, shows that the Yellow River floodplain was marked by episodes of stability indicated by six well-developed paleosols, alternated with episodes of large-scale flooding. We explore environmental and archaeological evidence from these paleosols, the oldest of which dates to the Early Holocene. Flood events provide exceptional preservation during the later Holocene, revealing buried fields, architectural details, and remains of daily life. We reconstruct the flood that buried the site in late Western Han times and discuss how this event altered the political and demographic history of China.

Quates, Duane (U.S. Army, Fort Drum, NY) and Michael Sprowles (ORISE / U.S. Army Installation, Fort Drum, NY)

[99] *The Magic Box and the Gravestones of the Displaced: Using Remote Sensing for the Enhancement, Inventory, and Public Investment of the Historic Fort Drum Cemeteries*

With over 500 families displaced by the 1940s DoD expansion of Fort Drum, NY, the 13 known historic cemeteries are the most poignant reminders of the thriving communities that once lived there. In 2011, the

Fort Drum Cultural Resources Program embarked upon several projects aimed at strengthening community relations. These projects were initiated to further define and identify these significant resources through remote sensing, create an inventory for genealogical research and resource management, and enhance the cemeteries for public use. This paper discusses what these projects entail.

Quave, Kylie (Southern Methodist University), Gabriela C. Bertone (Universidad Nacional Mayor de San Marcos), Li Jing Na (Universidad Nacional Mayor de San Marcos) and Paula Espósito (Universidad Nacional Mayor de San Marcos)

[166] *Royal Maize, Common Cuy? Authority and Identity on the Inka Royal Estate (Cuzco, Peru)*

Studies of Inka diet and cuisine often turn to ethnohistorical modeling and analysis of pottery as culinary equipment. Systematic analyses of macrobotanical and faunal remains are demonstrating the variability and complicated relationships between authority, identity, and status. At Cheqoq, a royal estate settlement near Cuzco, we address household-by-household access to food in comparison with production and distribution regimes. We ask how elite and state cuisine emerges in daily practice or not. What are the implications for forming an imperial identity and how is power exercised over subaltern groups attached to the nobility, as at Cheqoq?

Quave, Kylie [141] see Kennedy, Sarah

Quick, Russell (Cultural Resource Analysts, Inc.), Randall Cooper (Cultural Resource Analysts, Inc.), Paul Bundy (Cultural Resource Analysts, Inc.), Andrew Bradbury (Cultural Resource Analysts, Inc.) and Jason Anderson (Cultural Resource Analysts, Inc.)

[90] *New Solutions to the Oldest Problem: Doing more with less in the New Economy*

Over the last thirty years, excavation budgets have decreased alarmingly. During the same period, computers have become increasingly compact and powerful. For CRM and research archaeologists, use of digital data recorders and electronic databases allows researchers to streamline data recovery and improve work flow by decreasing errors and avoiding replicated data entry. CRA's evolving tool kit integrates GPSs and digital data collectors with flexible relational databases into a system that efficiently uses resources by increasing data consistency, providing timely data updates to multiple analysts, improving excavation strategies, allowing more time for analysis, and resulting in a better end product.

Quick, Russell [127] see Martin, Andrew V.

Quilter, Jeffrey (Peabody Museum, Harvard University) and Daniel Sandweiss (University of Maine)

[86] *Prehistoric Sustainability on the Peruvian Coast*

As a tropical desert with at least 13,000 years of human occupation ranging from hunter-gatherer-fishers to complex states and empires, the coast of Peru is a good setting to study prehistoric sustainability. At a millennial to centennial scale, data indicate that recognizable social

formations rose and fell. Nevertheless, these data raise questions about sustainability: what is the effect of time-averaging on the archaeological perception of sustainability? What should be the scale limits (temporal, spatial, demographic) of variability--that is, how much flux is still considered sustainable? We address these questions in the Peruvian context.

Quimby, Claire (Indiana University)

[125] *Alternative Approaches to Writing Indigenous Archaeology*

In recent years indigenous archaeology has increasingly embraced multiple viewpoints and alternative ways of interpreting the past, while maintaining its academic rigor. The conventions of traditional academic writing, however, can encumber attempts to take a multivocal approach within a single text. Alternative forms of writing offer a potential solution to this problem for the writer who is willing to experiment with technology, format, and style. In this paper I will explore some of these alternatives, their benefits, and their potential obstacles or weaknesses.

Quinn, Allen [84] *see Pedler, David*

Quinn, Colin (University of Michigan) and Horia Ciugudean (Muzeulul National al Unirii - Alba Iulia)

[83] *The Bronze Age Landscape of Southwest Transylvania: Regional Patterning and Dynamics*
Metal production played a significant role in changing technological, economic, ritual, and social systems in Bronze Age Europe. During this period, the ore producing region of Southwest Transylvania (Alba, Romania) likely was a key locale within larger macro-regional systems. This poster synthesizes the current data on regional land use and applies spatial analytical techniques to explore landscape dynamics in Southwest Transylvania during the Early and Middle Bronze Age. This diachronic regional perspective can elucidate social, economic, and ritual organization in Southwest Transylvania during a period of dynamic changes in social complexity, metal production, and use of metal throughout Europe.

Quirk, Laura (Conestoga College)

[230] *The Ghosts in their Closets: Revisiting the Catholic Cemetery at Indiana, Ontario*

The question of what a community remembers and what it tries to forget is a topic that is well illustrated by the town of Indiana, Ontario. It was a rural industrial town of the 19th century and amongst the many buildings in the town, there stood a Catholic Church and cemetery. Today all that remains of the town is one house, the Catholic cemetery and a few scattered archaeological traces. My paper will focus on those who sought to remember the history at Indiana and consider why there were political and cultural barriers in bringing that history to light.

Raczek, Teresa (Kennesaw State University) and Namita Sugandhi (Indiana University NW, Gary)

[211] *Mitigating Impact and Maximizing Research: Creative Excavation at Chatrikhera, Rajasthan, India*
Conducting archaeological fieldwork in the midst of currently occupied areas poses a number of logistical, methodological, and ethical challenges. Many methods

developed to address these challenges have been generated for urban settings. Such methods include collaborating and consulting, selecting excavation areas carefully, and modifying excavation techniques appropriately. However, archaeological research in rural settings poses its own unique set of issues. This poster will present the excavation strategies employed by the Chatrikhera Research Project (CHARP) to maximize excavation efforts while minimizing impact during its initial excavation season at Chatrikhera, a vibrant village community in Rajasthan, India.

Rademaker, Kurt (University of Maine) and Dan Sandweiss (University of Maine)

[231] *Functional Variability in Early Lithic Technologies of Southern Peru*

Southern Peru contains a robust early archaeological record, with well-dated Terminal Pleistocene and Early Holocene sites on the Pacific Coast and in various eco-zones in the adjacent Andean interior. Early coastal and highland sites have starkly contrasting lithic technologies, with predominantly unifacial and expedient industries at the coast and bifacial projectile-based assemblages in the Andes Mountains. Does early technological variability in Peru signify cultural diversity during colonization? We examine connections between lithic technology, subsistence remains, and environmental data from early sites and suggest that variability in early lithic technologies may be determined by site function.

[231] *Second Chair*

Raes, Amy [166] *see Springate, Megan*

Rafferty, Janet (Mississippi State University) [241]
First Chair

Rafferty, Janet [241] *see Peacock, Evan*

Rafferty, Sean (University At Albany, SUNY)

[121] *Prehistoric Intoxicants of the Americas*
The use of intoxicants was widespread in prehistoric North and South America. In this paper I briefly summarize archaeological evidence for the use of a variety of intoxicating substances in a variety of prehistoric Native American contexts. Data includes botanical, artifactual and chemical evidence. In my conclusions I suggest some promising avenues of future research.

Rafuse, Daniel [96] *see Gutierrez, Maria A.*

Ragsdale, Randi [150] *see Leventhal, Richard M.*

Railey, Jim (SWCA - Albuquerque)

[183] *Lithics and Mobility: A Case Study from the Albuquerque Basin Late Archaic*

The Late Archaic in the Southwest was a mosaic in which the beginnings of intensive farming occurred alongside continued, highly mobile hunter-gatherer economies. This includes the Albuquerque Basin, where early farming became established along the river valleys, while some groups may have continued to follow a more mobile, hunter-gatherer lifeway. To explore this potential diversity, lithic assemblages from several Late Archaic components in the Albuquerque Basin are compared along multiple dimensions, including lithic-category

representation, specific tool types, raw material usage, and debitage-assemblage characteristics. The patterning suggests both residually mobile and more logistical strategies were pursued by local Late Archaic groups.

Rainey, Katharine (Archaeobotanical Consultant), Karen Adams (Archaeobotanical Consultant) and Rein Vanderpot (Statistical Research, Inc.)

[35] *Archaeobotanical Remains from the Mescal Wash Site, Southeastern Arizona*

The Mescal Wash Site in southeastern Arizona, occupied from about 1200 B.C. to A.D. 1450, is a good example of a persistent place. Flotation and macrobotanical remains from the site along Cienega Creek were examined to discern temporal changes in plant use, plant availability, occupational seasonality, and spatial variation of plant use. The Mescal Wash inhabitants consistently supported themselves with a variety of wild plants and maize, and utilized a variety of woody plants. As a place used by different groups over a long timespan, Mescal Wash appears to have been used in a sustainable manner over its entire lifespan.

Rakita, Gordon (University of North Florida)

[116] *Casas Grandes Mortuary Practices: Patterns, Perspectives, & Processes*

In this paper, I describe the mortuary practices for the Casas Grandes region of Chihuahua, Mexico using a long-term, temporal perspective. Doing so allows me to draw attention to mortuary practices with deep tradition and those which are more idiosyncratic to places and periods. I focus on both modal burial patterns and the diversity in mortuary practices for the region. Additionally, I highlight those aspects of ancient Casas Grandes mortuary ritual that are amenable to comparison with similar rituals throughout the American Southwest.
[59] *First Chair*

Ramenofsky, Ann (University of New Mexico)

[241] *Reassessing Native Population Change and Introduced Diseases*

Anthropology at UW was the crucible for the investigation of native demographic change from disease introduction. Prior to the 1980s, the issue had not been widely investigated archaeologically even though we knew that population size or density was a significant variable in any explanation of cultural change. Over the past 25 years this issue has been extensively researched, and positions range from no disease effect to massive disease sweeps. Here the issue is revisited: Native population change varies temporally and spatially, affected by factors of geography, native settlement strategies, invader population composition, and the elusive nature of microbes.

Ramírez, Felipe [73] see Pastrana, Alejandro

Ramírez Barrera, Sandra Liliana [210] see Matadamas Díaz, Raúl

Ramirez Valencia, Víctor Manuel [58] see Martín Medina, Geiser G.

Ramon Celis, Pedro (Pedro Guillermo Ramon Celis) [210] *El palacio de los seis patios, nuevas exploraciones y datos relevantes de Yagul en la cronología del*

Posclásico Tardío

Yagul es un sitio con una ocupación muy importante en el periodo Posclásico, este momento de la historia prehispánica ha sido definido con el transcurso de los años a través de investigaciones que generaron diversas cronologías para explicar el desarrollo social del Valle de Oaxaca. Durante el año 2011 fueron realizadas exploraciones en la Plataforma del Palacio de los Seis Patios en Yagul, en las cuales fueron localizadas diversas etapas constructivas de su edificación. Los resultados de los análisis del material localizado ayudarán con el conocimiento de un momento clave dentro de la dinámica social del Valle de Oaxaca.

Randall, Asa (University of Oklahoma) and Kenneth E. Sassaman (University of Florida)

[199] *Assembling the Past Now for the Future: Florida's Archaic Mounds and History Making*

Archaic (ca. 7300-4000 cal BP) mounds of Florida's St. Johns River basin were composed variously of substances (earth, shellfish and animal remains), objects, ancestors, and other places by diverse communities. Far from refuse disposal, the ongoing acquisition and depositional assembly of these elements—each embedded within networks of meaning and significance—generated and remixed associations between historical narratives, present experience, and potential futures. In this paper we consider how these Past-Futures were alternatively gathered together in the course of ongoing social reproduction and mobilized as new histories in the context of culture contact and environmental change.

Ranere, Anthony (Temple University) and Patricia Hansell (Temple University)

[167] *Causes and consequences of Panama's first environmental crisis*

Small-scale societies living in Central Panama during the third millennium BP faced an environmental crisis of their own making; a deforested and eroded landscape that could no longer support the number of people living in the region under prevailing subsistence practices. This presentation documents the actions that took place in the preceding six millennia that led to this crisis and the cultural response that led to a solution and, ultimately, to the development of the complex societies described by chroniclers in the early 16th century.

[167] *Discussant*

Ranere, Anthony [128] see Magnoni, Aline

Rankin, Adrienne [222] see Doyel, David E.

Rasic, Jeff [112] see Speakman, Robert J. [110] see Buvit, Ian

Rasic, Jeffrey (National Park Service), Joshua D. Reuther (Northern Land Use Research, Inc./University of Arizona) and Robert J. Speakman (Smithsonian Institution, Museum Conservation Institute)

[153] *Was Beringia a crossroads or turnstile? A look at long term patterns of human interactions through obsidian provenance data*

Beringia is often described as an important migration route and hub of human contacts between Siberia and

the Americas, but the history, intensity and nature of human movements and interaction across this key region is poorly known. Direct evidence is now available through geochemical sourcing of more than 9000 obsidian artifacts from 1000 Alaskan archaeological sites. Data show that since the late Pleistocene Siberian obsidian was transported to Alaska, but only infrequently, intermittently, and late in prehistory. We discuss ecological, demographic and economic reasons for this pattern and broader implications relevant to understanding the early colonization of the Americas.

Raslich, Frank (Michigan State University)

[64] *Testing Applications of LA-ICP-MS in Lithic Analysis*
Chemical characterization of regional raw material is valuable in understanding systems of resource procurement and exchange. The 1971 Historic Sites Survey resulted in an array of chert samples from the Central Illinois River Valley, providing an exceptional sample for geochemical analysis with the goal of creating a synthetic and comprehensive map of lithic outcrops and their chemical signatures. The repository collections were analyzed using Laser Ablation Inductively Coupled Plasma Mass Spectrometry (LA-ICP-MS) to evaluate whether specific lithic outcrops displayed unique chemical signatures. This study tests the regional efficacy of this method while also addressing problems of intra-outcrop chemical variation.

Raslich, Frank [143] *see Johnson, William J.*

Raslich, Nicole (Michigan State University)

[143] *Artifact Analysis of Stone Street Burial Ground*
Temporally situating the Stone Street Burial Ground (20GS136) employing analysis using stylistic comparisons of associated funerary objects with known mortuary traditions throughout Michigan and the Great Lakes is the focus of this paper. Numerous ceramic, shell and lithic associated funerary objects were recovered over three field seasons, and were digitally imaged and then reburied. This analysis suggests that the burials are those of a (early?) Late Woodland population along the Flint River, contributing additional knowledge about Flint's pre-contact inhabitants and is also an example of the positive outcomes that result from collaboration with local indigenous communities.

Rautman, Alison E. [113] *see Puseman, Kathryn*

Raviele, Maria (Smithsonian Institution)

[184] *Winter, Spring, Summer, or Fall?: Palynological Evidence for Seasonal Mound Construction of Angel Mound A*

Recent work by Monaghan and Peebles (2010) at Angel Mounds (12VG1) revealed that construction of Mound A was rapid and likely planned. Pollen samples taken from small bore earth cores of Mound A provide greater context for both the local site environment and evidence related to the construction of Mound A. Results from the palynological analysis are discussed in the context of rapid mound construction.

Ravn, Mads [176] *see Denham, Sean Dexter*

Ray, Jack (Missouri State University)

[68] *Chert Hill: A Previously Undocumented High-Quality*

Chert Source in the Central Range of Trinidad

Chert Hill in the Central Range of Trinidad represents an important toolstone source for prehistoric Amerindians that is not well known in the archaeological community. A preliminary investigation in the vicinity of this chert source revealed sizable redeposited cobbles up to 10 cm in diameter, which is considerably larger than chert cobbles previously thought to exist in Trinidad. Analyses of raw material collected from the vicinity of Chert Hill and chert artifacts from an Amerindian component at the La Reconnaissance site in the Northern Range indicates that Chert Hill was an important lithic source for prehistoric Amerindians

Raymer, C. Martin (Kentucky Archaeological Survey)

[185] *Fort Ancient Settlement Dynamics: Village Establishment, Abandonment and Relocation*

Fort Ancient sites commonly exhibit more than one Fort Ancient component and village clusters reflect long-term repeated use of some localities. This poster examines regional spatial patterns of periodic abandonment and reoccupation of village sites and localities in the middle Ohio River Valley. Through an investigation of Fort Ancient settlement dynamics, we can gain a better understanding of the ecological, economic, social, and political factors that led to village abandonment and infer territorial boundaries, contested areas and buffer zones.

Razeto, Anna (University of Copenhagen)

[206] *Beyond Practical: Infrastructure in the Capitals of the Roman and Han Empires*

This contribution compares elements of the urban infrastructure of Rome and Chang'an. The provisioning of infrastructural facilities represents the most practical stage in the process of planning and construction of a city. However, these facilities did not only have practical functions, but could be imbued with sacred and ritual significance; be used as instruments of social control, political propaganda, or as markers of civic status. This paper focuses on wall circuits and gates, and on intra-mural road networks, concentrating on their material remains in Chang'an and Rome, their practical purposes, symbolism, and the reasons behind their existence.

Ready, Elspeth (Stanford University) and Eugène Morin (Trent University)

[144] *A reanalysis of ungulate indices*

Binford's utility indices, which apply the concept of diminishing returns to the analysis of skeletal patterning, are frequently used to interpret faunal assemblages. In this paper, we review criticisms of Binford's indices and identify some discrepancies in the calculations of many well-known indices developed by various authors. We used published anatomical data to correct for these discrepancies. The data also led us to develop new indices for bison, horse, and more particularly, sheep. Finally, we reanalyze some of Binford's Nunamiut data using these indices. The analysis suggests that "rider-averaged" indices may obscure rather than shed light on foraging behaviours.

Reber, Eleanora (UNC Wilmington)

[145] *Background Residues: Pottery Firing and Lipid Persistence*

Modern absorbed pottery residue analysis depends in part on the assumption that original soil lipids are burned

out of ceramic vessels to produce a blank slate in terms of residue analysis. Using this assumption, all lipids in a potsherd must derive from either vessel use or postdepositional interaction with soil lipids. In some cases, it appears that soil lipids from the original clay of a pot can persist throughout vessel firing and remain in the ceramic vessel, blurring the distinction between natural and anthropogenic lipids in an absorbed residue. Experimental production of pottery allows the investigation of this phenomenon.

[145] First Chair

Reber, Eleanora [64] see Kerr, Matthew T.

Rebnegger, Karin (Michigan State University)

[98] *Obsidian Sources used by the Tarascan Empire Elites and Commoners in the Pátzcuaro Basin, Michoacán, Mexico.*

Prehistoric Mesoamerica societies used obsidian for many tasks from the Formative Period to the Colonial Period. The obsidian was acquired from a variety of volcanic activity areas. The Tarascan civilization produced obsidian tools from a few sources both in and outside the Tarascan Empire. This study focuses on the Pátzcuaro Lake Basin and the obsidian sources used at the Tarascan capital of Tzintzuntzan and 2 other sites within the basin. The research conducted illustrates control of obsidian sources by the Tarascan state and those that may have been brought into the basin through a market system.

[98] Second Chair [98] Second Organizer

Redman, Erin [119] see Ward, Timothy J.

Redmond, Brian (Cleveland Museum of Natural History)

[239] *On the Edge But Still Connected: Long-Distance Interaction and the Emergence of Late Prehistoric Societies in Northern Ohio*

By AD 1300, societies in northern Ohio developed settled, maize agricultural lifeways marked by a limited selection of Upper Mississippian cultural attributes. Previous studies of the associated Sandusky and Whittlesey archaeological complexes attributed these developments to cultural "influences" from Fort Ancient polities in the middle Ohio Valley. New data indicate that interactions with the south were established by AD 1000 and featured the movement of marine shell from the Gulf Coast and cotton (*Gossypium* spp.) fiber from the Southwest or northern Mexico. Thus, contacts both near and far must be considered in the development of these northern sedentary societies.

Reece, Robert (Kennesaw State University) and Jon Spenard (University of California, Riverside)

[15] *High in the Sky: Excavations During the 2011 Field Season at Sak Pol Pak*

The ancient Maya site of Sak Pol Pak is located approximately 3 km southwest of Pacbitun, a medium-sized ancient Maya ceremonial center on the outskirts of the contemporary town of San Antonio, Belize. It is situated atop the highest mountain within Pacbitun's periphery suggesting a likely affiliation between the two sites. The goals of our 2011 investigations of this hilltop center were to establish a chronology for the site, its occupational history, and to search for evidence that

would directly link it with Pacbitun. We focused this work on the area in front of an 11 m tall pyramid in the main plaza, the dominant building at the site, and a midden behind the main residential complex. This paper presents the results of these investigations and offers an initial interpretation of the site and its role in the greater Pacbitun region.

Reed, David (University of Michigan) and W. Scott Zeleznik (University of Michigan)

[102] *The Maya in the Middle: An Analysis of Sub-Royal Archaeology*

Our previous mortuary and social complexity analysis of Classic period Copán and other polities found that ancient Maya social organization was continuous and highly variable without clearly defined class structure. Our evaluation raised questions of how sub-royal elites emerged and functioned in such societies. Webster has noted that the paucity of cultural specifics allows the imposition of preconceived organizational models on the ancient Maya. Nowhere is this more apparent than with the ambiguous sub-royal elite. We show that Webster's works on labor expenditure, settlement patterns, demography, and household archaeology give us a framework to better understand this ambiguity.

Reed, Denne (University of Texas at Austin) and W. Andrew Barr (University of Texas at Austin)

[117] *Taphonomy and temporal variability in micromammals from Pleistocene Levels at La Grotte des Contrebandiers (Smuggler's Cave) Morocco.*

Changing paleoenvironment is an explanation for the Mousterian-Aterian socio-technological transition, and micromammals provide one line of evidence for discerning paleoenvironmental change. This paper presents a systematic, taphonomic and paleoenvironmental analysis of the micromammals. Taphonomically, the surface modifications and low density of specimens suggests a taphonomic regime other than an avian predator, such as a mammalian predator. The assemblage also has low taxonomic diversity, and stable taxonomic abundances through time. The latter finding does not support the hypothesis of local environmental change at the site. Implications of local paleoenvironmental stability through the Mousterian-Aterian transition are discussed.

Reed, Kaye [117] see Hallett-Desguez, Emily Y.

Reed, Lori (Aztec Ruins National Monument), Jeffrey Ferguson (University of Missouri Research Reactor) and Andrea Carpenter (Independant Petrography Consultant)

[216] *Crushing Cobbles: A Study of Local Resources and Pottery Production at Aztec Ruins, New Mexico*

Most of the pottery produced at Aztec Ruins and other sites in the Middle San Juan region are typed within the Northern San Juan or Mesa Verde crushed rock tradition. Establishing an Aztec production signature and differentiating vessels produced at Aztec from nonlocal pots produced in the central Mesa Verde region are important for examining changes in production strategies and interregional interaction between the Chacoan and post-Chacoan periods. In this study, we use neutron activation analysis (NAA), petrography, and refiring to examine temper and clay selection at Aztec.

Reed, Paul (Center for Desert Arch.)**[123]** *Sedentism, Social Change, and the Bow in the Ancient Pueblo Southwest*

In the American Southwest, the bow developed relatively rapidly among Pueblo people in the sixth century AD. This new technology replaced the millennia-old atlatl and dart weaponry system. Roughly 100 years later in the AD 600s, Pueblo socioeconomic organization began to evolve rapidly, as groups adopted a more sedentary lifestyle. Many factors converged to allow this pattern to emerge but the role of the bow has not been fully explored. In this paper, I trace the development of the bow and discuss its role as sedentism emerged and profound social changes occurred in ancient Puebloan society in the seventh century.

Reeder-Myers, Leslie (Southern Methodist University), Torben Rick (National Museum of Natural History, Smithsonian Institution), Jon Erlandson (University of Oregon), Nicholas Jew (University of Oregon) and Lauren Willis (University of Oregon)**[126]** *CA-SRI-666: An Early Holocene Village on Santa Rosa Island, California?*

California's Channel Islands contain numerous archaeological sites dated to the Terminal Pleistocene/Early Holocene. Early Channel Island peoples appear to have been highly mobile, targeting a variety of aquatic and terrestrial resources. Questions remain about the antiquity of sedentism and village formation, with some suggesting an Early-Middle Holocene development and others not until the Late Holocene. Stable isotope, faunal, and artifact analysis at CA-SRI-666 on Santa Rosa Island suggest that this site may have been an early village dated to ~8000 cal BP. We discuss the implications of CA-SRI-666 for understanding broader settlement and land use along North America's Pacific Coast.

Reedy, Chandra (University of Delaware) and Yimeng Liu (University of Delaware)**[270]** *Calibration of Image Analysis Protocols for Quantitative Ceramic Petrography*

Digital image analysis has great potential for quantitative ceramic petrography. However, fundamental experimental work is needed with laboratory-prepared standards of known parameters. There are many choices in image analysis work, all of which can affect results. This paper reports on research with prepared standards used to calibrate protocols for analysis of digital images of thin sections under a polarizing microscope, scanned whole thin sections, and digital images of sherds under a stereo microscope. The most accurate and reproducible protocols for measuring size, shape, and quantity of non-plastic particles and for porosity and macrotexture studies will be presented.

Reents-Budet, Dorie (Smithsonian Institution)**[152]** *Art, Archaeology, and American Intellectualism*

Dr. Virginia Fields brought a renewed focus on the intellectual divide and interface between academia and public museums. This talk explores Dr. Fields' scholastic bases and professional approaches to investigating and presenting the art and culture history of the ancient Americas in the academic and public arenas, addressing particularly the illogical and unproductive chasm between

the two.

Reents-Budet, Dorie [242] *see Werness-Rude, Maline D.***Reese, Kelsey (Washington State University), R. Kyle Bocinsky (Washington State University), Kay E. Barnett (Mesa Verde National Park), Stefani Crabtree (Washington State University) and Elise Alonzi (University of Notre Dame)**

[85] *Large, Aggregated Villages in Little Soda Canyon*
The Mesa Verde Community Center Survey—a component of the Village Ecodynamics Project—seeks to expand our understanding of the distribution and organization of large, aggregated villages within MVNP from AD 600-1290. We used existing documentation to produce composite maps of three large villages in Little Soda Canyon: 1) the 34-plex; 2) the Juniper Flats Village; and 3) the Battleship Rock Village. We ground-truthed these maps while focusing on the relationships between sites and analyzed pottery to improve chronological resolution. As indicated by the histories of these villages, the focus of communities in the Little Soda Canyon changed over time.

[257] *Discussant***Reese-Taylor, Kathryn (University of Calgary)****[152]** *The Origins of Maya Kingship during the Middle Preclassic*

In her dissertation, Virginia Fields argued for the development of Maya kingship during the Late Preclassic period based on the presence of a suite of traits among the lowland Maya. These included the construction of massive public architecture adorned with mask programs, the presence of elite goods in burials and caches, and specific iconographic motifs such as jaguarian imagery, seated rulers, and the maize headband. However, recent investigations reveal that these traits appear much earlier. This paper discusses the formation of centralized rule during the Middle Preclassic and the relationship of Maya kingship to other coeval political organizations in Mesoamerica.

[4] *Discussant***Rego, Justin [155]** *see Cegielski, Wendy***Reid, J. Jefferson [120]** *see Whittlesey, Stephanie M.***Reilly, Frank (Texas State University)****[266]** *Cognitive Approaches To the Analysis of Mississippian Shell Gorgets*

Stacking a group of Craig Style gorgets provides such cosmological information as the specific levels of the beneath and celestial worlds. Robert Williams further suggests that the braided hair or "HORN" worn by the Morning Star image might serve a similar function as the swirls of smoke in certain Craig Style gorgets. This twisting observation could explain why sweet grass is always presented as a twist. Thus, some Mississippian artist used a two-dimensional medium, to describe a three dimensional model of the four or more dimensional enfolding of time and space or the transitioning amongst the cosmic worlds.

[152] *First Chair*

Reilly, Kent [97] *see Walker, Chester P.*

Reindel, Markus (German Archaeological Institute, Bonn, Germany)

[175] *Settlement Dynamics on the Western Slope of the Andes in the South of Peru*

Coast-highland relationships on the western slope of the Andes in South Peru played a major role in the development of civilization. The "Andean Transect" project of the German Archaeological Institute investigates the settlement dynamics between the Palpa and the Lucanas regions from the Early Archaic to the Inca period (8000 BC – 1532 AD). More than 1500 sites have been recorded and excavated. Influenced by climate and landscape variations, important population shifts occurred in early periods (Paracas) from the highlands to the coast, while in later periods (Nasca, Middle Horizon) people moved again to the highlands.

Reinhardt, Eduard (McMaster University), Peter van Hengstum (Woods Hole Oceanographic Institution) and Jeremy Gabriel (McMaster University)

[41] *Reconstructing groundwater salinity (potability?) using foraminifera and thecamobians in the Ox Bel Ha and Aktun Ha cave systems, Quintana Roo, Mexico*
Foraminifera and thecamobians have recently been applied to anchialine cave sediments and show great promise as a paleohydrological indicator of groundwater properties and their relationship with sea-level and climate change. Recent microfossil data from Ox Bel Ha and Aktun Ha cave systems spanning the last 3500 yrs shows changes in the salinity of the meteoric lens with fresher conditions commencing in the Terminal Classic and continuing into the Post-Classic period with drier conditions. Density stratification and turbulent flow in the water masses is thought to be driving the salinity changes.

Reinhart, Katrinka (Stanford University)

[57] *Feasts and Ancestral Offerings: Social Networking in Early China*

Feasting was a prominent form of social networking and political maneuvering in early China that left indelible traces in the archaeological and historic record. Ceramic analysis at the early Shang dynasty town of Yanshi suggests that the practice of offering food to ancestors is not restricted to the elite domain. Networking between the living and the dead occurred across the social hierarchy. This paper examines the role of feasting in augmenting social networks and political power in early China drawing from contextual pottery analysis, historical sources, and starch analysis of pottery and teeth from the Neolithic through the Zhou dynasty.

Reitze, William (University of Arizona)

[180] *Once a Pre-Clovis, Only a Pre-Clovis?*

Investigation of the Lucy Site, Central New Mexico
The Lucy Site (LA4974) has persisted as an archaeological enigma since its discovery in 1954. Materials recovered at Lucy originally corroborated the antiquity of Sandia and contributed to interpretations of the early settlement of North America. Issues soon arose with the legitimacy of the Sandia concept and thus brought the validity of Lucy into question. This paper presents a reinterpretation of materials from Lucy focusing on the spatial distribution of artifacts,

geoarchaeological interpretations, and analysis of the lithic and bone assemblages to better interpret the archaeology of the often overlooked Clovis, Folsom, and later assemblages in addition to the controversial Sandia occupation.

Renn, James [245] *see Smith, James B.*

Reuther, Joshua D. [153] *see Rasic, Jeffrey T.*

Reyes, Eric [58] *see Domínguez, María del Rosario*

Reynolds, Cerisa (University of Iowa)

[141] *Faunal Use and Resource Pressure at the Origins of Agriculture in the Northern U.S. Southwest*

This poster will examine faunal use patterns during the Basketmaker II period in attempts to determine whether or not instances of resource stress occurred during the first two millennia of farming in the Northern U.S. Southwest. Patterns to be evaluated include the use of high- versus low-value faunal resources, the procurement of animals that are difficult to capture or expensive to process, and the processing of faunal remains for grease and other nutrients. These patterns will be evaluated as they relate to population densities, environmental changes, site location, site type, duration of site occupation, and a number of other factors.

Rezek, Zeljko (University of Pennsylvania) and Harold Dibble (University of Pennsylvania)

[117] *Middle Paleolithic Lithic Assemblages from Contrebandiers Cave, Morocco; A North African Perspective*

New excavations of the Contrebandiers Cave in Morocco have contributed new Middle Paleolithic assemblages that have been regarded traditionally as (Moroccan) Mousterian and Aterian. Using standard typological and technological indices, this paper examines the variability of lithic material within each, as well as between the two industries from this site. In addition, a regional comparison between the lithic material from Contrebandiers Cave and published material from other Mousterian and Aterian sites across North Africa will be discussed, along with the implications for the study of technology and behavior of early modern humans in North Africa.

Rhode, David (Desert Research Institute)

[211] *Archaeological Wood Charcoal in Qinghai Lake Basin, western China: Implications for Environmental Change, Human Settlement Patterns, and Anthropogenic Development of Tibetan Pastures*

Archaeological sites in the Qinghai Lake Basin, northeast Tibetan Plateau, western China, commonly contain wood that show significant changes in the distribution of local shrubland and woodland development through the last 15,000 years. These vegetation trends correspond with major changes in regional hunter-gatherer settlement strategies. Coupled with other regional evidence of vegetation change, this charcoal-based record is useful for addressing the current debate about the timing and importance of anthropogenic vs. climatic factors in the development of the typical unforested pasturelands that prevail in the northeast Tibetan Plateau.

Rhodes, Jill and Joseph Mountjoy (Universidad de

Guadalajara, Centro Universitario de la Costa)

[98] *Lessons from the grave: status, inequality and health in the Late Formative Period of West Mexico*
Skeletal analysis enriches our knowledge of past societies. Human remains from two Late Formative cemeteries (200BC – 200AD) in the Los Reyes Valley, West Mexico were examined. Dental caries and enamel hypoplasia prevalence were examined as markers for diet and health. Grave goods and skeletal markers of status were examined to provide insight on societal structure of the Shaft-and-Chamber Tomb archaeological culture. Osteological and archaeological evidence for diet identified the presence of maize agriculture, although other markers indicate considerable breadth of resource acquisition. Comparative analysis indicates a socio-economically stable, egalitarian society without the burden of nutritional deficiencies impacting overall health.

Ribeiro, Loredana (Universidade Federal de Pelotas, RS, Brazil) and Lucas Bueno (Universidade Federal de Santa Catarina)

[158] *Diversification and regionalization in the peopling of Central Brazilian Plateau in the Early Holocene*
The main purpose of this paper is to discuss the hypothesis that the peopling process of Central Brazilian Plateau (CBP) is marked since the end of the Pleistocene by a process of increased diversity of adaptive strategies implemented by human groups resulting in a scenario of cultural regionalization in Mid-Holocene. We argue that both diversity and regionalization are associated with different times of CBP occupation and possibly related to paleoenvironmental changes that have affected the composition and distribution of major ecosystems of this macro-region. This process can be divided into three periods that represent different moments of occupation, with specific characteristics regarding the composition of lithic assemblages, rock art, settlement patterns, environmental and climate conditions.

Rice, Don and Prudence Rice (Southern Illinois University Carbondale)

[102] *40 Years in Petén, Guatemala: Development of an "Invisible College"*

In 1972 Don and Pru Rice entered the doctoral program of the Department of Anthropology at The Pennsylvania State University. Prior to our arrival, however, a number of individuals were interacting and setting agendas that would define our careers. In 1972 their various perspectives spawned a project to correlate Maya social and natural histories for the paired lake basins of Yaxha and Sacnab, Petén, Guatemala, through paleolimnology and settlement pattern surveys. This historical ecology program began a 40-year history of collaborative archaeological, ethnohistorical, and paleoecological research for the Rices. Our paper reviews the genealogy and topics of that history.

Rice, Prudence (Southern Illinois University)

[269] *The "Las Bocas 'Mirror'" and Mesoamerican Calendars: "Calculator" or Hoax?*

The "Las Bocas 'Mirror'," a pyrite mosaic plaque of unknown provenience, is purportedly from the Formative site of Las Bocas, Mexico. Its mosaic pieces are arranged in three triptych-like panels, the left and center holding 128 tesserae in groupings of four, but the right

panel lacks such regular arrangement. Originally thought to have some possible lunar tallying function, this plaque can be used to compute the days of the Mesoamerican 260-day, 365-day, and Venus calendars, as well as other significant calendrical intervals. The plaque is either an elaborate hoax or a sophisticated "calculator"-like device for calendrical computations.

Rice, Prudence [102] see Rice, Don S.

Rice, Prudence M. [201] see Cecil, Leslie G.

Rich, Kelley (University of Alabama) and Terry G. Powis (Kennesaw State University)

[15] *Stable Oxygen Isotope Analysis of the Freshwater Gastropod *Pachychilus* sp. and Its Use for Seasonality Studies at Pacbitun, Belize*

The freshwater gastropod *Pachychilus* sp. (jute) is commonly found in lowland Maya archaeological sites and may be a source of information pertaining to human subsistence behavior. In the Maya lowlands, $\delta^{18}\text{O}$ variation observed in the shell carbonate of jute shells may reflect seasonal fluctuations in rainfall and evaporation. This paper will present a study of modern jute and their aqueous environments from the Cayo District of Belize to test the capability of this species to be used in seasonality studies. A seasonality study of Middle Preclassic jute from Plaza B in the site core of Pacbitun will also be discussed.

Rich, Michelle [151] see Eppich, Keith

Richard, Francois (University of Chicago) [92] *Discussant*

Richards, Colin [229] see Hamilton, Sue D.

Richards, John (University of Wisconsin - Milwaukee), Thomas J. Zych (University of Wisconsin-Milwaukee) and Katie Z. Rudolph (Indiana University)

[187] *Introduction to Recent Archaeological Investigations at the Aztalan Site (47JE0001)*

The 2011 UWM archaeological investigations at Aztalan targeted six locations adjacent to the west bank of the Crawfish River within the formerly palisaded portion of the site. Results confirmed the presence of intact midden deposits in four of the six areas tested. LIDAR images of the site suggested the presence of a linear berm parallel to the riverbank. Testing of this feature confirmed the presence of intact midden deposits in four of the six areas tested. Related excavations documented massive aboriginal filling that may have been an attempt to enclose a portion of the Crawfish River within the palisade.

Richards, John [187] see Kolb, Michael F.

Richards, Julian (University of York Archaeology Data Service), Adam Brin (Digital Antiquity, Arizona State University), W Fred Limp (University of Arkansas) and Judith Winters (Internet Archaeology, University of York)

[129] *Developing a 3D digital heritage ecosystem*

This paper will discuss a linked electronic publication and digital archive, published as part of the award-winning

LEAP project (<http://ads.ahds.ac.uk/project/leap>). This describes the use of close-range laser scanning to create digital surrogates of archaeological artefacts (http://intarch.ac.uk/journal/issue30/limp_index.html). The paper is supported by two digital archives: held by ADS in the UK, and by tDAR in the USA. The project demonstrates the potential of close range laser scanning for research and public display, and the importance of metadata for recording the information processing workflow derived from close range laser scanning, and for archiving digital data in the long term.

[81] *Discussant*

Richards, Katie (Brigham Young University)

[161] *Exploring Fremont Potting Communities: A Design Analysis of Fremont Painted Bowls*

Archaeologists have been studying the Fremont culture for nearly a century; unfortunately, during that time the study of Fremont ceramic designs has been grossly neglected. The Fremont produced two types of ceramic painted bowls: Ivie Creek Black-on-White and Snake Valley Black-on-Gray. This paper compares and contrasts the structure, symmetry, and design elements of the two Fremont painted bowl types in order to explore the relationship between the two communities of potters and address issues of identity.

Richards, Michael [139] *see* Grier, Colin

Richards, Michael P. [176] *see* Mannino, Marcello A.

Richards, Mike [145] *see* Salazar-García, Domingo Carlos

Richards, Patricia (Univ of Wisconsin-Milwaukee)

[187] *Excavating the Excavations: Unravelling the Palimpsest of a Century of Archaeological Work at the Aztalan Site*

Excavations in a portion of the riverbank midden at Aztalan encountered evidence of two previous archaeological excavations. Maps of Samuel Barrett's 1919-1920 fieldwork at the site suggest that one of the previous disturbances is part of a large, irregular excavation dug by Barrett in this area. The second disturbance appears to relate to the Wisconsin Historical Society investigations conducted by William Hurley during the early 1960s. Although digging in the Barrett-Hurley backdirt proved uninformative, the exercise highlighted the difficulty in working at an archaeological site that has been episodically excavated for over 100 years.

[187] *First Chair*

Richter, Kim (Getty Research Institute)

[195] *Constructing Huastec Social and Gender Identity through Sculpture*

Little is known about Huastec social structures or gender relations during the Postclassic period because there are no written records providing insight. Yet, Huastec figural sculptures representing men and women, often with magnificent headdresses, evidence how the ancient Huastec constructed gender and manifested power through these costume elements. Identifying Huastec headdress types indicates distinct levels of stratification in which men and women appear to be equally ranked. Moreover, a close analysis of headdress iconography

reveals a clear similarity to the Postclassic international symbol set, demonstrating that the Huastec signaled their membership in the Postclassic international network through their costumes.

Richter, Tobias (University of Copenhagen) and Lisa A. Maher (University of Cambridge)

[228] *Unpacking the Neolithic in southwest Asia*

Archaeologists have long defined the beginnings of archaeology through the appearance of the 'Neolithic package'. We argue that a similar 'Epipalaeolithic package' defines the foragers of Final Pleistocene southwest Asia, although this is less clearly defined. It revolves around mobility, social organization, technology, group size, resources, and symbolism. The Epipalaeolithic is therefore defined through reference to the Neolithic, as an opposite extreme and 'other'. Looking at the historiography of the Epipalaeolithic and two decades worth of new research, we argue that this picture lags behind the Neolithic, leading us to challenge the dichotomy between Final Pleistocene foragers versus Holocene farmers.

Rick, John (Stanford University)

[26] *Evidence for Ritual Practice at Chavín de Huántar, Peru*

Chavín de Huántar, spanning the Formative Period of the central Andes, has long been recognized as an ornate, highly planned, and prominent ceremonial center. Recent extensive investigations at Chavín have begun to give details about specific ritual activities carried out in different contexts at the site. Emphasis seems to have been placed on architecturally-structured procession, water-based ritual, multiple simultaneous sensory stimulæ, and extensive, customary sacrifice of both objects and organisms. Although still speculation to some degree, the role of different classes of participants is becoming clearer.

[26] *First Chair*

Rick, Torben [126] *see* Reeder-Myers, Leslie A. [157] *see* West, Catherine F.

Rick, Torben C. [164] *see* Braje, Todd J.

Ridenhour, Benjamin [244] *see* Lettieri, Philip R.

Riebe, Danielle (University of Illinois at Chicago)

[63] *Prehistoric Interactions: Identifying Regional Variation in Late Neolithic Ceramics from the Great Hungarian Plain*

In part, social development and cultural diversity result from interactions between people. During the Late Neolithic (ca. 5000-4500 BC), multiple groups inhabited the Great Hungarian Plain and interactions between these peoples can be identified through traded goods, specifically ceramics. Previous research in proveniencing ceramic material was met with little success due to the homogeneity of the clay from around the Plain. However, reanalysis of materials using LA-ICP-MS facilities at The Field Museum in Chicago, Illinois has identified more variation, thereby allowing for a greater understanding of prehistoric interactions and their impact on societies.

Riel-Salvatore, Julien (University of Colorado Denver) and Fabio Negrino (University of Pisa)

[11] *Variability in the Italian proto-Aurignacian: New data from Riparo Bombrini (Balzi Rossi, Liguria)*

The proto-Aurignacian is a distinctive lamellar industries of the earliest Upper Paleolithic argued to represent a qualitative shift from earlier Mousterian industries. Often thought to be homogeneous, the increasing number of proto-Aurignacian assemblages found in the Italian peninsula reveals it displays considerable internal variability. Recent excavations at Riparo Bombrini (2002-2005) using modern recovery, positioning and analytical methods permit an empirically grounded discussion of this realization. We contrast the lithic technology and spatial organization of Bombrini's two proto-Aurignacian levels, and integrate from the rest of the peninsula to provide a critical assessment of this technocomplex.

Rieth, Christina (New York State Museum)

[24] *In the Public Trust: Outreach and Education in the Protection of State-Owned Resources in New York*

The management of archaeological resources on state lands is dependent upon a public that has interest in such cultural resources and see their preservation as being worthwhile. Public outreach and education surrounding such resources often results in positive collaborations between constituencies who act as advocates for the protection of such remains. This paper discusses two case studies from New York in which collaborative outreach efforts between agency managers and the public resulted in the preservation of fragile resources on state land.

Riggs, John [252] see Green, Thomas J.

Riley, Tim E. [37] see Aiuvalasit, Michael J.

Ringle, William (Davidson College) and Gabriel Tun Ayora (Universidad Autónoma de Yucatán)

[128] *First Season's Reconnaissance at Yaxhom, Yucatan, Mexico*

Bruce Dahlin's survey of the enormous site of El Mirador, Guatemala, demonstrated the complexity of Late Preclassic Maya urbanism in northern Guatemala. An initial season of work at the site of Yaxhom is a further indication that urbanism in the Puuc Hills of Yucatan was also a Preclassic development. Preliminary results suggest it covered at least 6 km² and possessed monumental buildings of impressive size. Also noteworthy is its reliance on man-made reservoirs, rather than the later household cisterns of the Classic period. Preliminary survey of one such reservoir date it to the Middle Formative period.

Rink, W. Jack [124] see Pluckhahn, Thomas J.

Rios, Jorge (Centro INAH Oaxaca)

[210] *La presencia cerámica en Lambityeco-Yegüih: Consideraciones Integrales.*

La Zona Arqueológica de Lambityeco, en Tlacolula de Matamoros, Oaxaca, comprende un área donde pueden observarse vestigios arqueológicos de diferentes épocas, donde podemos sugerir la presencia de dos momentos de expansión. El primero y menos estudiado, Brawbehl-Yegüih, uno de los primeros asentamientos urbanos del Valle de Tlacolula. El segundo momento, Lambityeco, posee una riqueza extraordinaria para comprender la reintegración de la región, después de los

tiempos de Monte Albán como centro rector. En este trabajo se presentarán los avances en el conocimiento de la presencia cerámica para las diferentes épocas de la arqueología de los Valles Centrales para el sitio.

[210] *First Chair*

Rissolo, Dominique (Waitt Institute), Pilar Luna Erreguerena (Instituto Nacional de Antropología e Historia), Alberto Nava Blank (Bay Area Underwater Explorers), James C. Chatters (Applied Paleoscience) and Fabio Esteban Amador (National Geographic Society)

[41] *The Hoyo Negro Project: Recent Investigations of a Submerged Late Pleistocene Cave Site in Quintana Roo, Mexico*

The cenotes of the Yucatan Peninsula represent a unique and promising frontier for Paleoindian research. In 2007, a team of underwater cave explorers discovered the skeletal remains of a human and a gomphothere, among other faunal materials, in a deep pit within the Aktun Hu Cave System. Subsequent investigations, involving detailed mapping and recording, have revealed a range of associated features including submerged fire pits and rope marks. Ongoing systematic, interdisciplinary, and minimally-invasive research efforts under INAH's Underwater Archaeology Sub-directorate are facilitating the reconstruction of the natural and cultural processes that have formed and transformed the site over millennia.

[227] *Second Organizer*

Rissolo, Dominique [227] see Glover, Jeffrey B. [227] see Goodman Tchernov, Beverly N.

Ristvet, Lauren (University Of Pennsylvania)

[130] *Confronting Urartu: Local Identities, Integration and Resistance in the Iron Age Caucasus*

Archaeological reconstructions of Urartu, Assyria's great rival, emphasize the uniformity of the material culture of its fortresses, which has been correlated with a this empire's distinctive political strategy. The recent discovery and excavation of fortresses contemporary with Urartu in Armenia and Azerbaijan, located at or just beyond this polity's borders, provide new insight into Urartu's imperial practices. These fortresses never became typical Urartian imperial centers. Instead, some of them maintained their independence, while translating elements of the Urartian state assemblage into their own political traditions. Other fortresses were incorporated into the empire, but their inhabitants eschewed Urartian material culture.

Rivera I., Arturo F. [243] see Skidmore, Maeve

Rivera-Collazo, Isabel (Institute of Archaeology, UCL)

[193] *Angostura: a case study on coupling landscape change with multiscale human ecodynamics in the Caribbean*

Understanding change in past landscapes and seascapes helps contextualize past human behaviour and address sociocultural flexibility or vulnerability to change. In this presentation I use Angostura, the earliest site identified on Puerto Rico to this date, as a case study to exemplify the coupling of multiscale, interdisciplinary data to address human ecodynamics in the Caribbean. Detailed geoarchaeological and paleoecological analyses

show that the landscape surrounding Angostura has changed drastically since the Mid-Holocene. Habitat diversity for resource exploitation, coupled with active membership to maritime trading networks and exploitation of inland resources, supported permanent long term occupation on a richly domesticated seascape.

Rizzo, Florencia [101] *see Scheinsohn, Vivian G.*

Robb, John (Cambridge University)

[267] *What do things want? Object design as a middle range theory of material culture*

Theories of material culture have tended towards philosophical abstraction, with little concrete application to everyday things. Yet paradoxically, until we understand routine human-thing interactions in concrete detail, we cannot really understand them philosophically either. This paper outlines steps towards a middle range theory of material culture based upon the idea of design. The starting point is the question of how things incorporate anticipated responses into their design; tracing the implications of this differentiates a wide range of human-thing interactions and authorises formal methods for understanding why archaeological things are the way they are.

[23] *Second Chair [23]* *Second Organizer*

Robb, John [23] *see Kohring, Sheila E.*

Robbins Schug, Gwen (Appalachian State University)

[60] *Peaceful for whom? Bioarchaeological perspectives on violence and subjectivity in the Indus Civilization*

The Indus Civilization was a South Asian state-level society (2600-1900 B.C.) with thousands of cities integrated by trade networks, technologies, symbols, standard weights and measure, and socio-political complexity. It is considered an enigmatically peaceful realm, without evidence for violence or social suffering. This paper reports prevalence and patterns of trauma in the skeletal population from Harappa. Results demonstrate interpersonal violence existed at Harappa and suggest that the Indus civilization can be understood using theories of structural violence—unequal power, uneven access to resources, systematic oppression, and exploitation that kills through the denial of basic needs and outright violence.

Roberts, Richard [117] *see Jacobs, Zenobia*

Robertshaw, Peter [159] *see Fenn, Thomas*

Robin, Cynthia (Northwestern University)

[236] *The Belize Valley and Community Scale Research: Celebrating the Legacy of Norman Hammond*

Norman Hammond was a pioneer of research into regional scale interaction in the Maya area. He sought to reach inside the black box of the Maya polity and inside the operation of Maya communities. This paper discusses recent research in the Belize Valley region of Belize where archaeologists have conducted detailed settlement surveys and community studies that allow a broad regional synthesis of Maya society in this region. Although Norman Hammond never worked in the Belize Valley, the legacy of his research approaches has had a clear influence on research agendas and interpretations.

[267] *Second Organizer*

Robin, Cynthia [267] *see Meierhoff, James W.*

Robinson, Brian [268] *see Ort, Jennifer*

Robinson, David (University of Central Lancashire, UK)

[23] *Legitimizing Space: Art and the Politics of Place* Rock-art, graffiti, and other emplaced works of art bring people together at specific places. Art allows for encounters between people in their absence, and thus presents a range of possibilities for making statements about specific places and those who occupy or visit. This opens the possibility for issues of legitimization to become implicitly or explicitly expressed. However, the legitimate use of space, and the legitimate employment of art, can vary drastically across different contexts. Here, I discuss a range of different strategies of art and legitimization in three case studies from India, California, and Spain.

Robinson, Eugenia (Montgomery College)

[30] *The Late Postclassic Settlements Surrounding Iximché in the Guatemalan Highlands*

Iximché, the Late Postclassic capital of the Kaq'chik'el Maya has a defensive location in the Highlands of Guatemala. Survey at a distance of 2 km from the site has yielded data about the archaeology and local interpretations about the sites contemporary with Iximché. The presence of a hierarchy of sites at both defensive and non-defensive locations supports the hypothesis that there was a distribution of settlements around the central site and provides data by which to assess the historical map of Fuentes and Guzman, created more than a century after the abandonment of the site.

Robinson, Francis (UVM & University at Albany (SUNY))

[268] *Paleoindians and the Inland Sea: An Exploration of the Champlain Sea and Paleoindian Land Use in the Eastern Champlain Basin*

Recent research demonstrates that the Champlain Sea, an inland arm of the North Atlantic Ocean, was coeval with most or all of the Paleoindian period in the far Northeast. As part of a larger program of research, the author analyzed Paleoindian occupations relative to Champlain Sea margins in the eastern Champlain Basin. The results of these findings and what they suggest about traditional and emerging settlement and subsistence models will be briefly discussed.

Robinson, Lindsay (University of Wisconsin-Milwaukee) and Laura Villamil (University of Wisconsin-Milwaukee)

[70] *Investigation of Ceramic Deposits in Relation to Architectural Features at Margarita, Quintana Roo, Mexico*

Margarita is a Classic period Maya center located in south-central Quintana Roo, Mexico. Excavations in 2000 exposed a pattern of dense ceramic deposits in patios and plazas that appear to be contemporaneous with the architectural remains of a widespread reoccupation of the site during the Terminal Classic period. With the utilization of Geographical Information Systems (GIS), the geostatistical relationships between

these ceramic deposits and architectural features are examined. This analysis contributes to the understanding of the primary use of these ceramic deposits and further illuminates the ways in which the built environment was manipulated during the reoccupation of the site.

Robinson, Mark (Louisiana State University) and Heather McKillop (Louisiana State University)

[172] *Wood Selection Strategies and Resource Exploitation at Two Ancient Maya Salt Works, Paynes Creek National Park, Belize*

The preservation of wooden architecture at salt works in Paynes Creek National Park, Belize, provides a rare opportunity to document human-environment interactions in terms of how the ancient Maya selected timber resources. In this presentation we discuss wood from buildings at an Early Classic (A.D. 300-600) and Late Classic (A.D. 600-900) salt work, allowing a comparison and discussion of resource exploitation through time. Wood identifications reveal a change in dominant species selection from the mangrove species, *Avicennia germinans*, to the broadleaf species *Symplocos* sp., documenting a change in species selection and a change in ecosystem exploitation, suggesting anthropogenic deforestation.

Robinson, IV, Francis [268] *see Crock, John G.*

Robles Carrasco, Sonia [32] *see García Sanjuán, Leonardo*

Robles Garcia, Nelly (Instituto Nacional de Antropología e Historia)

[210] *La Cerámica ARQUEOLÓGICA De Oaxaca: Recobrando La Diversidad*

Los tipos y cronología de la cerámica arqueológica de los Valles Centrales de Oaxaca fueron establecidos por Caso, Bernal y Acosta en 1967, y por Flannery y Marcus en 1994, tanto como los de la Mixteca Alta lo fueron por Spores en 1972. A partir de esos estudios, una gran variedad de proyectos arqueológicos han contribuido a integrar en torno a esas tipologías, detalles finos de cerámicas regionales, y en otros casos, a proponer tipologías regionales pioneras. A la fecha, y mediante una larga lista de ejemplos que escudriñan sus condiciones, ha quedado demostrada la vigencia de esas propuestas.

[210] *Second Organizer*

Robles Salmerón, Amparo (Universidad de las Américas Puebla), Gabriela Uruñuela (Universidad de las Américas Puebla) and Patricia Plunket (Universidad de las Américas Puebla)

[73] *The Cost of Power: Investing in Monumental Architecture at Early Cholula*

One enormous differential between Teotihuacan and Cholula is the size of their pyramids. We analyze the human and material investment required to construct the Edificio de los Chapulines, the first monumental version of Cholula's Great Pyramid, as a measure of the young city's political power during the Formative/Classic transition.

Rock Sr, Duncan Standing [250] *see O'Boyle, Robert C.*

Rockwell, Heather (University of Wyoming)

[268] *The Feasibility of Microwear Analyses of Debitage: A Case Study from New Hampshire's Great North Woods*

Over the past 60 years the development of microwear analysis has allowed archaeologists to empirically determine tool functions. These studies have provided a wealth of information on the use of formal tools, but little attention is paid to the use of debitage. In this paper I will discuss the utility of performing microwear analyses on debitage using the Potter Site, a Paleoindian site in New Hampshire, as a case study. The results of these analyses suggest that not only are microwear studies of debitage a fruitful avenue of inquiry, but may be necessary in order to accurately reconstruct primary site activities.

Rodell, Roland (University of Wisconsin Rock County) and Norman C. Sullivan (Marquette University)

[139] *Trophy Taking and Warfare in the Northern Mississippi Valley*

The Diamond Bluff village is one of several sites with Oneota – Mississippian related components in the Red Wing – Pepin locality in northern Mississippi Valley. Among the human remains in the Diamond Bluff assemblage there is evidence of peri- and post-mortem trauma as indicated by cranial fragments and mandibles with tool cut-marks, and by teeth with notched roots. These modifications are indicative of trophy taking and display associated with warfare, which we hypothesize emerged as competition for resources and participation in an interregional exchange network intensified during the period of circa A.D. 1000 - 1300.

Rodning, Christopher (Tulane University) [50] *Discussant*

Rodríguez López, Isabel [233] *see Lesure, Richard*

Roe, Lori (Murray State University) and Lara K. Homsey (Murray State University)

[124] *Patterns of Site Use at Raffman, a Coles Creek Period (AD 700 -1200) Mound Center in Louisiana*

Competing hypotheses about Coles Creek period mound centers state that 1) mound centers were chiefly compounds where small groups of elites lived, and/or 2) mound centers were vacant ceremonial centers where people periodically gathered for social and ritual events. Research at the Coles Creek period Raffman site appears to support the second hypothesis. Visual inspection of stratigraphy suggests mounds were constructed rapidly and some middens accumulated during large-scale, short-term events. We use micromorphological analyses of sediments to provide details about the timing and pace of mound construction and midden deposition and better evaluate patterns of site use.

Rogers, Alexander [100] *see Gorrie, Bryan F.*

Rogers, J. (Smithsonian Institution), Claudio Cioffi-Revilla (George Mason University), Sarah Wise (George Mason University) and Joseph Harrison (George Mason University)

[103] *From Households to Confederations: A Long-Range Agent Model of Inner Asia*

The evolution of Inner Asian polities on a long time-scale, sufficiently long to include climate change, presents multi-disciplinary puzzles that can be investigated through spatial agent-based modeling and related geospatial methodologies. How have pastoralist societies and politico-military hierarchies interacted with ecosystems over the millennia? Which new insights can be gained through simulation of these data-referenced complex adaptive systems? This paper describes HunnuLand, a coupled socio-natural agent-based model of Inner Asia built using the MASON simulation library. The main results of the model show correspondence between historical and simulated patterns, including population movements and formation and dissolution of alliances.

Rojas, Andrea [30] *see* Paiz Aragon, Lorena

Roksandic, Mirjana [202] *see* Alex, Bridget A.

Rolland, Vicki [136] *see* Ashley, Keith

Roman, Edwin [66] *see* Houston, Stephen

Román, Edwin [66] *see* Garrison, Thomas G.

Romandini, Matteo [202] *see* Peresani, Marco

Romano, David Gilman [274] *see* Mentzer, Susan M.

Roman-Ramirez, Edwin (The University Of Texas at Austin), Stephen Houston (Brown University) and Thomas Garrison (Brown University)

[66] *Ruling from a defensive landscape: The rise of an Early Classic dynasty at El Zotz and its vicinity.* The Early Classic Period in El Valle de Buena Vista is characterized by the emergence of a lineage who built their ceremonial centers of El Bejucal and El Zotz on top of hills. Evidence collected over three field seasons by the El Zotz Archaeological Project established that these first inhabitants of the region settled in such locations after the abrupt ending of the Preclassic period, and chose to construct their cities in defensive locations, presumably to protect elites and their main politico-religious centers. This paper focuses on the emergence of the ruling lineages of El Zotz and its neighbors. Monumental buildings decorated with stucco masks, funerary architecture, tombs, and archaeological materials reveal a rich and complex local development. These developments are presented within a regional context, taking into account the possible relationships between these settlements during the Early Classic and the transition to the Late Classic.

Romero, Martha [235] *see* Cordero, Maria-Auxiliadora

Roney, John (Colinas Cultural Resource Consulting), Charles Smith (University of Texas at San Antonio), Robert Hard (University of Texas at San Antonio) and A.C. MacWilliams (Statistical Research)

[183] *Archaic Use of Playas in Southwestern New Mexico*

We recently surveyed areas adjacent to the Lordsburg playa in order to evaluate reports of a high frequency of Middle and Late Archaic projectile points found in

association with the ancient lake. In this paper, we consider paleoecological studies, previous investigations, and our survey data in order to offer some possible roles that ancient playas may have played in the human past in the region.

Roney, John [183] *see* Hard, Robert J.

Roos, Christopher (Southern Methodist University) and Scott Van Keuren (University of Vermont)

[274] *Singularized abandonment and closure of a plaza kiva at Fourmile Ruin, Arizona*

New religious practices were vital for integrating migrant and non-migrant communities in fourteenth-century Arizona but cultural diversity may also have resulted in factionalism. In this case-study, integrated geoarchaeological and assemblage analysis of abandonment and post-abandonment deposits from a plaza kiva built during the final expansion of Fourmile Ruin show that the structure was dismantled and purposefully buried at least two times while the surrounding village was still occupied. This singularized treatment of a structure that was associated with one portion of the community suggests that factionalism may have played a role in the fissioning and ultimate depopulation of the village.

[274] *First Chair*

Roosevelt, Anna (Univ. Illinois, Chicago)

[150] *Interpreting long term human landscape development in Amazonia*

In the mid 20th century approaches, Amazonian environment was a limitation and human adaptation was the unitary tropical forest culture. "New" archaeological research later revealed evidence of chronologically and regionally distinct prehistoric human cultures that had significant lasting effects on the habitat, even until today. Native Amazonians, as informants and as assistants, have had observations and interpretive insights on both ancient and modern human-environment, and nowadays Amazonian communities can contribute as project directors and contractors and have given holistic and nuanced views of human landscapes through time and space.

Roper, Donna (Kansas State University)

[223] *An Overview of Some Neglected Aspects of Steed-Kisker Pottery Analysis*

The Steed-Kisker phase dominant pottery is shell-tempered and is broadly attributable to Holmes' Middle Mississippi ceramic group. This, however, does not per se make Steed-Kisker a Mississippian culture, nor bring to an interpretation of Steed-Kisker society all the implications associated with that term. Steed-Kisker needs concerted, theoretically-informed and unbiased empirical analysis to better understand what it does represent. This includes previously neglected forms ceramic analyses that would yield considerable information for current research problems. I discuss recent work with compositional analysis, stylistic analysis, form/function analysis, and chronology and consider how they help lead to alternatives to worn-out culture-history scenarios.

Rorabaugh, Adam (Washington State University)

[160] *Impacts of Population Bottlenecks on the Cultural*

Transmission of a Neutral Continuous Trait: An Agent Based Model

Although there is increasing interest in the connections between copying error and the generation of variation of continuous cultural traits, the complex interplay between forces of evolutionary drift and copying error in continuous traits remains under-examined. Here, an agent based model is provided that examines the effects of population bottlenecks on the production of variation in a selectively neutral metric attribute under vertical, unbiased, and prestige biased modes of transmission. The provided model has implications for empirically assessing the presence of demographic change or restricted forms of knowledge in the production of technologies.

Rorabaugh, Adam [37] see Bettencourt, Nichole S.

Rosado, Roberto [172] see Harrison, Jessica

Roscoe, Paul (University of Maine)

[89] *The Bow and Arrow as a Weapon of War in New Guinea*

The bow and arrow were widely, though not universally, used as weapons of war in New Guinea. This paper reviews the general properties of these weapons, providing data on the materials used, manufacture, functionality, and range. Particular attention is paid to the four distinct types of arrow used in war and to the different contexts in which they were deployed. Overlaps with the use of the bow and arrow for hunting are also identified.

Rose, John (Salmon-Challis National Forest) [31]
Discussant

Rosen, Arlene (Institute of Archaeology (University College London))

[86] *Wetlands, Adaptive Cycles, and Sustainability among Foragers in the Late Pleistocene/Early Holocene Levant*

The Younger Dryas (~12.9–11.6ky BP) was a climatic event that impacted foraging societies world-wide. Much can be learned from adaptive strategies employed to overcome this stress on food resources. In the Southern Levant, phytolith evidence shows that one important strategy used by Late Natufians was intensive exploitation of wetland plants. Throughout the Epipaleolithic, an increase in the use of sedges, reeds and grass-seeds was employed for long-term sustainability whenever forest resources declined in the wake of climate change. This economic restructuring combining innovation and social memory was one element of an adaptive cycle that increased resilience over 15,000 years.

Rosenberg, Danny (Zinman Institute of Archaeology, University of Haifa), Ron Shimelmitz (Tel Aviv University) and Tatjana, M. Gluhak (Johannes Gutenberg University Mainz)

[63] *Basalt Bifacial Production and distribution in the southern Levant – Giv'at Kipod, Israel as a Case Study*
Giv'at Kipod in north-central Israel contains one of the most important records of groundstone tools manufacture in the Levant. The site, a Neolithic/Chalcolithic quarry and workshop for the manufacture of basalt bifacial tools,

reveals an intensive and complex history of bifacial tools production, suggesting it had a primary role in the region for the production of these items, bearing profound socio-economic meanings. The paper describes and discusses the site, the technological aspects of bifacial production and the first results of the geo-chemical analyses conducted, aimed at provenancing basalt bifacials found in habitation sites and source them back to Giv'at Kipod.

Rosenberg, Danny [63] see Gluhak, Tatjana M.

Rosenfeld, Silvana (University of South Dakota)

[26] *Ritual and Foodways during the Wari Empire (AD 600-900): a zooarchaeology perspective*

Food intersects the realms of nature and culture, as it is a vital requirement of human life but also an important element of social life. For the Wari (Peru, A.D. 600 - 900), meat feasts and animal offerings played different roles consolidating the empire in the provinces and the heartland. This paper compares faunal remains from the sites of Conchopata, Cotocotuyoc, and Chokepukyo. Expectations are developed to distinguish quotidian trash, feasting remains, and animal offerings deposits. The results show how different faunal indicators and associated settings can be used to interpret practices that served a variety of sociopolitical purposes.

[26] *Second Organizer*

Rosenstein, Dana (University of Arizona), Ronald H. Towner (University of Arizona), Gregory W.L. Hodgins (University of Arizona), Steven Baker (Centuries Research, Inc.) and Jeffrey Dean (University of Arizona)

[183] *Jutten Lodges: A Case Study Radiocarbon Dating Ute Sites*

The Jutten Lodges site is a Ute settlement located in southwestern Colorado and dated to the late Contact period by historic artifacts. It is within the study area of a broader research project assessing variability in firewood age across the northern Colorado Plateau. Two Ute teepee sheltered households were excavated at the site. In one, a pile of firewood survives approximately one meter from a hearth pit. This allows us to make chronometric comparisons between radiocarbon results obtained on charcoal from the hearth context and results obtained on deadwood that presumably was intended for burning in that same hearth.

Rosenstein, Dana [183] see Towner, Ronald

Rosenswig, Robert (University at Albany), Ricardo López-Torrijos (CasaAlba Consulting llc), Caroline Antoneli (University at Albany) and Rebecca Mendelsohn (University at Albany)

[62] *LiDAR and Surface Survey of Izapa, Mexico*

Recent LiDAR and pedestrian surveys have remapped the well-known Mesoamerican site of Izapa and the surrounding Soconusco piedmont. These data reveal: 1) new architectural features from the monumental site core, 2) significantly larger estimates of the site's size during both the Formative and Classic periods as well as 3) demographic estimates from the surrounding 40 sq km. Methodological issues are outlined for combining high precision LiDAR mapping with ground-truthing and traditional pedestrian settlement survey that focuses on surface collection of temporally diagnostic artifacts.

Preliminary results are presented for the more than 400 new mounds documented during the 2011 field season.

Rosenswig, Robert [233] *see Mendelsohn, Rebecca R.*

Rosenthal, Jeffrey [112] *see Whelan, Carly S.*

Rosenzweig, Melissa (University of Chicago)

[134] *Agriculture and Empire at Ziyaret Tepe: A Case of Late Assyrian Land-Use in Southeastern Turkey*

This presentation will review the latest findings from archaeobotanical studies being conducted with material from Ziyaret Tepe, a multi-period occupation in the Upper Tigris River Valley in southeastern Turkey. In the early first millennium BCE, this site rose to become a critical provincial center for Late Assyrian operations into Anatolia. The archaeobotanical data will be reviewed as a means of assessing the environmental and political impact of these activities within and around Ziyaret Tepe.

Rossen, Jack (Ithaca College)

[40] *Myers Farm and the Early Cayuga Landscape of Central New York*

A long-term research effort to understand the early Cayuga cultural landscape in central New York led to the Myers Farm site in Cayuga County. Our first field season (2011) revealed the site to be an isolated, unfortified homestead dating to the 13th century. This site type is previously undocumented in a time and place known for nucleated villages. The entire assemblage probably represents the seasonal materials of one family. Preliminary analysis is presented and implications for broader questions are explored regarding the history and settlement patterns of the Cayuga people and the Haundeonsaunee (Iroquois) Confederacy.

[40] *First Chair*

Roth, Barbara (UNLV), Kathryn Baustian (UNLV) and Doss Powell (Paradise Valley Community College)

[105] *Women, Kin Groups, and Social Power at the Harris Site, Southwestern New Mexico*

The Late Pithouse period in the Mimbres Mogollon region was a dynamic time during which many social changes occurred. One significant change appears to be related to the role of land-holding kin groups at some of the larger pithouse sites. We present bioarchaeological data from excavations at the Harris Site in the Mimbres River Valley to illustrate that women associated with these kin groups were gaining social power. We discuss the reasons for the power differentials and the implications they have for understanding the myriad of other social changes occurring valley-wide at the end of the Pithouse period.

Rothenberg, Kara A. [203] *see Mixter, David W*

Rothman, Mitchell (Widener University)

[130] *Changing Organization of Kura Araxes Culture*

The Kura Araxes cultural horizon encompassed the time from 3500 BC to after 2500 BC. Its homeland was the Transcaucasus. The culture was not limited to that area, however. Migrant groups from there settled in highland Turkey, Iran, and in the north Jordan Valley. Early researchers argued that the Kura Araxes culture was one of simple villagers and pastoral nomads. This paper will

argue from a broader regional level and a local level in the area of the Ararat Plain that a change to what Areshian calls incipient polities occurred during this period.

Rothschild, Nan (Columbia University) [188]
Discussant

Rots, Veerle [93] *see Hardy, Bruce L.*

Rouse, Lynne (Wash U in St. Louis)

[103] *Unearthing The Impact Zone: New Data on Bronze Age Mobile Pastoralists in the Murghab Delta, Turkmenistan, and Their Role in Local Socio-Production Systems*

Ancient pastoralist groups in the Murghab Delta of Turkmenistan are discussed as intrusive and disruptive to the 'local' Bronze Age system of sedentary agricultural communities. Given circumstantial evidence gathered from archaeological excavations at large agricultural villages this view is understandable, but incredibly biased. I offer new archaeological evidence to balance these assumptions in the form of data specifically related to the mobility, subsistence, and production technology of 'intrusive' pastoralists. Based on recent excavation of a multi-function pastoralist campsite in the northeastern Murghab, I argue that pastoral groups were a stable and productive part of the local socio-cultural and ecologic system.

Roussin, Lucille

[230] *Remembering What I never knew*

What happens when you grow up in a home where memories are deliberately repressed? Such is the case with many people in the 'Second Generation of the Holocaust,' the children of survivors whose parents never discussed what their families had lost during the Holocaust. In legal terms, the restitution of artworks looted by the Nazis concerns 'Cultural Property.' For Jewish families, the restitution of looted property is an intense experience, especially when the revelation of such property comes as a surprise to the potential claimants. As I discuss, these objects serve as a reification of family identity and lost memories.

Rowe, Matthew (William R Adams Zooarchaeology, Indiana University) and Jillian L. Kleiner (Indiana University,)

[36] *Revealing the path: using least-cost surface analysis to explore connections between the Black Mountain sheep trap and Late Prehistoric camp sites in northwestern Wyoming*

The Black Mountain sheep trap is a high-elevation communal hunting structure associated with terminal Late Prehistoric or Contact Period Mountain Shoshone occupations in northwestern Wyoming. Recent surveys identified a large, Late Prehistoric camp on an isolated butte adjacent to the trap. The camp has large distributions of chipped stone artifacts including obsidian arrow points, tools, and debitage indicating a wide range of activities that may have been associated with communal sheep hunting. Here we present the results of a cost surface analysis that explores the relationship between the camp site and sheep trap and indicates possible pathways between them.

Rowe, Sarah (University of Illinois) [235] *First Chair*

Royal, Jeffrey (RPM Nautical Foundation)

[119] *Maritime Archaeology off the Albanian Coast: a Report from the Illyrian Coastal Exploration Program*
Long closed to maritime archaeology, the Albanian coast has remained a mystery. A systematic archaeological survey began in 2007 with a goal of documenting this submerged cultural material. The program has completed the stretch of coastline from the Greek border to Vlore. Nine ancient wreck sites have been documented thus far with dates spanning the 6th century BCE through the 4th century CE. The growing data set indicates significant Corinthian/Corcyran trade activity in the 4th – 3rd centuries BCE, the various commodities moving along specific routes in the Roman era, and a shifting trend in overseas trade during Late Antiquity.

Rozo, Jennifer (University of Chicago)

[92] *Transforming Landscapes and Peripheral Places: The People, Plants, and Pueblos of Spanish Colonial New Mexico*

Southwest colonial archaeology often focuses on sites where Spanish colonists worked and lived, particularly missions. There is a growing appreciation, however, of the need to also investigate 'peripheral' indigenous communities. This project focuses on one such ancestral Pueblo site, Paa-ko, and its surrounding agricultural fields and pastures. By examining the ecological impact, both intentional and unintentional, of changing land use practices, I explore the dynamic interrelationships of human, plant, and animal communities, and their effects on local landscapes. This exploration provides important context for looking at the daily experiences, economies, power dynamics, and aesthetics of a transformed Spanish colonial world.

Rubenstein, Meghan (University of Texas, Austin)

[191] *Reassessing the Study of Preclassic Architecture in the Maya Lowlands*

This presentation will explore the ways buildings have been analyzed in the past and the problems currently encountered when looking at ornamentation, building history and construction processes. This paper considers the previous approaches used in different regions in the Maya Lowlands. It will evaluate the methodologies implemented to "decode" building function and meaning based on chronology, iconography, and composition. Through this analysis and problem identification, we can move beyond the pervasive assumptions that so often constrain the study of Preclassic architecture.

Rubin de Rubin, Julio Cezar [277] *see Silva, Rosicler T.*

Rubino, Sara (Indiana University of Pennsylvania)

[170] *A Closer Look at the Lower Liebhart Site*

The Susquehannocks traded with the Swedish the most during the Swedish peak followed by the English and the Dutch. Eventually, however, the Swedes were defeated in 1655 and the Dutch in 1664 (Ward 1938, 130 and DeJong 1974, 27). The defeat of the Swedes and the Dutch were close enough in time to the occupation of the Lower Liebhart site where there should still be some items from trade with those countries. The Susquehannock were not trading much at this time due

to an economic and political decline (Kent 1993, 379) hence the artifacts should be the most necessary/important items assuming they could not get resources in other ways.

Rubinson, Karen (Institute for the Ancient World, NYU) [130] *Discussant*

Rubio, Efraín [58] *see Domínguez, María del Rosario*

Ruby, Bret [124] *see Lynott, Mark J.*

Ruby, Tara (University of Cambridge)

[202] *Middle Paleolithic pigment use: results of the use-wear analysis of Pech de l'Azé I pigments and its implications for the behavior of Neanderthals and early modern humans*

The Eurocentric paradigm on the origin of 'modern behavior' has been challenged in recent years by alternative models (africanist and social intelligence models and mediated symbolic contexts). An issue central to this debate is whether 'modern behavior' is species-specific and originated during the Middle-Upper Paleolithic boundary. Results of use-wear analysis on Pech de l'Azé I pigments indicate that Middle Paleolithic hominins from southwestern France used these pigments as proxies for a non-verbal communication. This non-verbal communication was becoming increasingly sophisticated and associated with simple graphic signs and images of the sort that would become fully symbolic, representational and anthropomorphic during the Upper Paleolithic.

Rucabado Yong, Julio [24] *see Billman, Brian R.*

Rucker, John [243] *see Cutright, Robyn E.*

Rudolph, Katie (Indiana University)

[94] *Found! Using photographs to sort out commingled museum collections*

Disarticulated human remains from the Aztalan site in southeast Wisconsin (AD 1000-1200) were recovered from refuse pits across the site. Since then, nearly 100 years of sporadic excavation and accession by various institutions has further commingled the remains. Moreover, no site notes from these projects have been located. Excavation photographs were used to reconstruct skeletal element organization within features, reestablish lost provenience of human remains, correct misinterpretation of osteological materials and rearticulate the "Aztalan Princess." Using Aztalan as a case study, this paper illustrates the value of using all available museum documentation in analysis of commingled human skeletal remains.

Rudolph, Katie Z. [187] *see Richards, John D.*

Rufolo, Scott [234] *see Zeder, Melinda A.*

Rühli, Frank [145] *see Warinner, Christina*

Ruiz, Christopher L. [161] *see Dexter, Jaime L.*

Ruiz, Joaquin [71] *see Thibodeau, Alyson M.*

Rusch, Bruce (NH SCRAP; Harvard University ext.)

[268] *Rush to Judgment: Preliminary modeling to infer behavioral settlement patterns at the Jefferson VI site of the Israel River complex.*

This paper uses the initial data derived from early investigations into the two loci at Jefferson VI site archaeological record from the 2010 and 2011 investigations. Quantitative and qualitative analytical models were applied to identify, classify, quantify and measure behavioral settlement pattern traits. Results inferred are classified into three broad categories: temporal aspects of site habitation including, locus occupation date ranges, length of locus occupation, and locus reoccupation; loci landscape activities conducted; and the technological organization of the site occupants.

Rush, Laurie (US Army, Fort Drum)

[99] *International Cooperation for Cultural Property Protection during Military Operations*

Cultural Property Protection is a critical component of successful and well planned military operations which include not just violent conflict, but also construction, infrastructure projects, and disaster response. Representatives of the United States military are finding that the most effective way to implement planning and education for protection of archaeological sites both at home and abroad is to work with international colleagues developing military education curricula, experiential learning opportunities, management guidelines, reference materials, and detailed mapping resources. This paper will summarize recent progress in international cooperation for cultural property protection with discussion of current regional challenges and accomplishments.

[99] *First Chair*

Russell, Kimberley

[109] *Advancements in Handheld XRF Technology for Archaeological Applications*

Portable XRF is used worldwide for research and discovery in a variety of academic disciplines. Handheld XRF has been shown to be particularly effective for field archaeological studies as these in-situ, nondestructive analyzers provide fast, simple, accurate and cost-effective elemental and compositional analysis. Recent advancements in Handheld XRF include optimization of beams, detectors, integrated cameras, and collimators. These technological advancements will be described in terms of how they pertain to archaeological applications. Examples of the use of these advancements for archaeological applications, including metals, ceramics, and soils, will be demonstrated.

Russell, Will [171] see Snow, Benjamin V.

Russo, Michael (National Park Service SE Archeological Center), Craig Dengel (Tyndall Air Force Base) and Jeffrey Shanks (National Park Service Southeast Archeological Center)

[97] *Public Plazas as Mediating Loci at Weeden Island Coastal Settlements*

We suggest that plazas of circular coastal Weeden Island (AD 600–800) villages in northwest Florida served double duty as loci for quotidian practices and memorial rites associated with kin-based burial mounds. Well known for their elaborate funerary pottery and exotic objects, the mounds have also commonly yielded everyday wares

and fauna typical of the village middens. Conversely, ritual objects have been identified in village contexts. The interchangeability of these materials between practical and ceremonial spheres suggests mediating purposes. Patterned processional path orientation between the villages and mounds suggests that mediating rituals between the spheres may have been formalized.

Russo, Michael [90] see Shanks, Jeffrey H.

Rutecki, Dawn (Indiana University Bloomington)

[125] *The Ethics of Iconography*

This paper addresses the concerns of how iconographic research must be critically aware of its impacts on living communities. Many times as scholars we are lost in the nuances of comparing symbols and their remnants left behind, all too often forgetting the people from whom these ethnographic parallels are drawn. This paper highlights the responsibility of researchers to not statically project the living into the past nor make overly-simplistic conclusions from dynamic living communities about past peoples. Furthermore, it calls for more inclusive forms of knowledge from which to think about and interpret the past.

Ruttle, April (Human Evolutionary Studies & Archaeology, SFU), Briggs Buchanan (Human Evolutionary Studies & Archaeology, Simon Fraser University) and Mark Collard (Human Evolutionary Studies & Archaeology, Simon Fraser University)

[84] *risk and technology: exploring the causes of toolkit variation among subsistence-level food producers*

Recent research suggests that risk of resource failure is a major determinant of toolkit structure among hunter-gatherers. Here, we report a study in which we examined the effect of risk on the toolkits of small-scale food producers. We collected toolkit and risk data for 45 ethnographically-documented, globally-distributed populations. Risk was represented by a series of environmental variables chosen for their expected influence on food-production. The relationship between toolkit structure and risk was investigated with simple linear regression analysis. The results of the study suggest that the toolkits of subsistence-level food-producers are subject to different influences than those of hunter-gatherers.

Ruuska, Alex (Northern Michigan University) and Ruth Ann Armitage

[101] *Whose Fault is it? The Rise and Fall of Spider Man Cave and Implications for Heritage Management in the Twenty First Century*

This paper explores the seemingly elusive question, 'Is it anyone's fault when a cultural site is destroyed?' To this end we interrogate the interdigitation of natural and cultural formation processes (sensu Schiffer 1983) underlying heritage management theory and praxis, and the critical role of cultural production (sensu Bourdieu 1993) in potentially catalyzing site preservation or destruction. Utilizing a case study of a pictograph site from the Upper Peninsula of Michigan, we chronicle the diachronic formation processes associated with a cultural site's physical degradation from the middle of the nineteenth century through the present (Skibo and Schiffer 2008:9).

Ryan, Jennifer (USACE) and Robert Lore (Richard Grubb and Associates)

[76] *Late Mississippian Adaptations in the Lower Delta: Faunal Analysis of the Rolling Fork Mounds Assemblage*

This paper presents the results of a faunal analysis performed on prehistoric material recovered from Rolling Fork Mounds (22SH506). This analysis examined eight samples from different contexts, containing over 11,000 bones and fragments, which provided evidence that site inhabitants acquired a significant portion of their diet from several fishes, mammals, and turtles. The low relative frequency of bird remains compared to fish and mammals suggests that birds did not play a substantial dietary role. Collectively, the assemblage provides information on the diversity of animals consumed, white-tailed deer procurement and processing techniques, and taphonomic factors related to the assemblage's composition.

Ryan, Karen (Canadian Museum of Civilization), Vanessa Oliver-Lloyd (Canadian Museum of Civilization), Matthew Betts (Canadian Museum of Civilization), Nicholas Clement (Idaho Museum of Natural History) and Robert Schlader (Idaho Museum of Natural History)

[129] *Determining the Cause of Trauma on a Pre-Contact Inuit Woman's Skeleton Using 3D Scanning Technology and a Comparative Virtual Zooarchaeological Reference Collection*

A pre-contact Inuit woman's skeletal remains were excavated from a site on Southampton Island, Nunavut, Canada in 1954. Damage to the cranium was at that time attributed to post-mortem site activities and the remains were not further examined until a request to repatriate Inuit human remains was recently initiated. This paper discusses how virtual technology, specifically 3D scanning and the comparative online reference collection known as the Virtual Zooarchaeology of the Arctic Project, were used to identify the true cause of the previously noted skeletal traumas, which were most probably the result of a fatal polar bear attack.

Ryan, Susan (Crow Canyon Arch. Center and University of Arizona) and Paul Ermigiotti (Crow Canyon Archaeological Center)

[216] *Reproducing Ancestral Pueblo Pottery Paint*
Ancestral Pueblo pottery production has been the focus of intensive research in the American Southwest for over a century. Pottery analyses have contributed to discussions of prehispanic social issues including migration, trade, identity, and resource acquisition. Despite this advance in knowledge, researchers have yet to thoroughly understand how mineral paint was produced, limiting our discussions and our overall understanding of pottery technology. This poster summarizes an experimental archaeology project in which mineral paints found on pottery vessels recovered from the central Mesa Verde region in southwest Colorado were reproduced. The methods, results, and findings of this experiment are presented.

Ryzewski, Krysta (Wayne State University), Hassina Bilheux (Oak Ridge National Laboratory), Lakeisha Walker (Oak Ridge National Laboratory) and Susan Herringer (Brown University)

[109] *Neutron Imaging of Archaeological Bronzes at Oak*

Ridge National Laboratory

This poster presents the initial results of 2-D and 3-D neutron imaging of bronze artifacts using the CG-1D prototype beamline at HFIR, Oak Ridge National Laboratory. In the United States neutron imaging is a new non-destructive technique capable of producing unprecedented 3-D information on archaeomaterials, including qualitative, quantitative, and visual data on impurities, contrast change, voids, and structure on micro- and nanoscales. The results of tests involving the CG-1D beamline in 2011 are presented. They highlight how information from neutron imaging can provide otherwise inaccessible details about the methods and materials that ancient craftspeople used in creating bronze objects.

Sablin, Mikhail [157] see Bazaliiskii, Vladimir I.

Sabo, George (Arkansas Archeological Survey)

[266] *Time and the Cosmos in Spiroan Art*

Among the splendid corpus of mythic scenes engraved on shell cups and gorgets from the Craig Mound at Spiro are several that depict specific characters distinguished by facial markings and regalia. This paper argues, first, that these artistic illustrations depict culture heroes whose actions bequeathed the living community with cosmological access. A following argument is made that the creation and dramatic utilization of these images provided a means for Spiroan communities to manipulate relationships between secular and eternal temporal registers and thus bring into the here and now powers associated with legendary ancestors.

[252] *First Chair*

Sabol, Donald [7] see Buck, Paul

Safi, Kristin (Washington State University)

[160] *Measuring Cultural Transmission: Implications and Applications*

Cultural transmission theory does not place concrete limitations on the mechanism of information exchange, the type information being transferred, the social relationship between entities involved in the transfer, the size of the parties involved (e.g., many to one), or even the time period in which the exchange must occur. As such, evaluating cultural transmission in the archaeological record is dependent on our ability to accurately measure instances of cultural transmission and formulate meaningful explanations about the archaeological record at the scale of time averaged populations. This paper reviews the issue of empirical sufficiency when evaluating cultural transmission within prehistoric populations.

[160] *First Chair*

Sagebiel, Kerry

[236] *Teasing Out Time: Ceramics and Stratigraphy at La Milpa, Belize*

During the La Milpa Project (LaMAP), few radiocarbon or hieroglyphic dates were produced. This necessitated a careful analysis of ceramics to prepare a relative sequence for cross-dating. This was particularly important for delineating the phases of the Late Classic. Before the LaMAP, it was thought that La Milpa lacked a Late Classic I phase, and the Late Classic II and III phases could not be differentiated. Dr. Hammond's

knowledge and appreciation of ceramic analysis, his masterful Harris matrices, and stratigraphic interpretations made it possible to tease out the phases of the Late Classic and expand our knowledge of that period.

Sakai, Sachiko (UC Santa Barbara)

[216] *Change in Clay Sources of Olivine-Tempered Ceramics in the Arizona Strip and Adjacent Areas in the American Southwest*

The ceramic assemblage in the Arizona Strip and adjacent areas is characterized by widely-distributed ceramics tempered with olivine between A.D. 100 and 1300. The ultimate goal for this study is to understand the evolution of production and distribution patterns of olivine-tempered ceramics among agricultural groups in the unstable environment. To investigate the source of olivine-tempered ceramics, LA-ICP-MS was used to analyze 1270 ceramics from both Mt. Trumbull and the lowland Virgin area, and 100 source clays. In his poster, I will particularly examine how many clay sources were involved and how the clay sources changed over time using luminescence dating.

Salavert, Aurelie [238] see Chevalier, Alexandre

Salazar, Lucy [156] see Burger, Richard L.

Salazar-García, Domingo Carlos (MPI-EVA Plant Foods Research Group), Joan Brenner-Coltrain (University of Utah), Mike Richards (University of British Columbia / Max-Planck Institute for Evolutionary Anthropology) and Amanda Henry (Plant Foods Research Group, Max-Planck Institute for Evolutionary Anthropology)

[145] *Stable isotopes from dental calculus*

Long-term dietary reconstructions rely heavily on stable isotope analyses of bones and teeth, though the collection of samples is destructive of the skeletal material. Previous work has shown that dental calculus may be an appropriate source for isotope analysis due to its composition, and that sampling the calculus does not damage teeth. We have tested dental calculus as a target for carbon and nitrogen stable isotope analyses, and compare the results from calculus to those from bone collagen and carbonate, from two Basketmaker II skeletal populations. Our results provide further insight into the role of dental calculus as dietary markers.

Saldana, Melanie (California State University Los Angeles)

[208] *Spatial Variation in Ritual Activity at Midnight Terror Cave*

California State University, Los Angeles conducted a three year survey of Midnight Terror Cave, Cayo District, Belize between 2008 and 2010 as part of the Western Belize Regional Cave Project directed by Dr. Jaime Awe. The project collected a sizable and varied artifact assemblage during the survey. Artifact distribution is a valuable reflection of activity within the cave context. This paper will examine the distribution of artifacts at Midnight Terror Cave and their relationship to ritual activities performed within to highlight different foci of activities.

Salgado, Silvia (Universidad de Costa Rica)

[259] *La Gran Nicoya: un concepto limitante para*

entender las dinámicas sociales de la historia antigua de América Central.

En 1964 Albert H. Norweb publicó su propuesta para una subárea denominada Gran Nicoya, que ha enmarcado la investigación arqueológica en el Pacífico de Nicaragua y el noroeste de Costa Rica. Entonces la investigación era escasa en esta zona y la definición se basó sobretudo en las descripciones históricas del siglo XVI. Luego de su reconsideración por varios investigadores en 1993, argumentamos que este constructo oscurece la complejidad y la diversidad de los procesos sociales del área. Las fuentes etnohistóricas del siglo XVI muestran su diversidad cultural y social, y la investigación arqueológica ha mostrado la variación en fronteras e interacciones a través de mas de tres mil años.

Salgado, Silvia [122] see Aguilar Bonilla, Mónica

Sampeck, Kathryn (Illinois State University)

[166] *How Chocolate Came to Be*

This paper brings together archaeological and documentary data to examine chocolate as a case study in commodity production and exchange. 'Chocolate' was most associated with southern Mesoamerica and was but one of many pre-Columbian cacao beverages. Cacao was one of the earliest economic "boom" crops in colonial Spanish America. How then, did 'chocolate' come to be the dominant term to describe cacao-based foods by the eighteenth century? The fate of chocolate will be placed within the context of the Izalcos region of today's western El Salvador, a premier producer of cacao in the colonial period.

Sanchez, Hazel [227] see Patterson, James W.

Sanchez, Luis

[259] *Re-interpretando el periodo Tempisque de la Gran Nicoya (500 a.C. a 500 d.C.): La secuencia ocupacional del sitio Manzanillo (G-430Mz), Bahía Culebra, Pacífico Norte de Costa Rica*

Se exponen datos recientes sobre excavaciones realizadas en el sitio costero de Manzanillo entre 2007 y 2009 donde desechos estratificados permitieron inferir una secuencia preliminar de cinco fases regionales y describir distintas actividades productivas y rituales. Se confronta esta evidencia con la cronología actual de la Gran Nicoya relacionada a los periodos Orosi y Tempisque y se discuten sus implicaciones históricas en relación al desarrollo socio-económico de estas poblaciones y su interacción temprana con Mesoamérica.

Sanchez Balderas, A. Fabiola [233] see Palka, Joel

Sanchez Miranda, Guadalupe (Museo de Sonora INAH) and John Carpenter (Instituto Nacional de Antropología e Historia Sonora)

[55] *Vance Haynes and his contributions to the study of the first Americans in Mexico*

Mexico is a natural funnel-shaped corridor that is considered to contain the answer of how and when the first Americans reached Central and South America. Vance Haynes' interest in the geoarchaeological record of Mexico began with the discovery of the mammoths at Santa Isabel Iztapan, in 1952, and continued with the discovery of Tlapacoya and Valsequillo sites. His

research interest at Murray Spring and in the San Pedro River Valley in Southern Arizona (1966-1971) directed his attention south to the state of Sonora. Haynes' interest in the Paleo-indian occupation of Sonora has been fundamental for the ongoing research in Sonora.

Sanchez Polo, Romulo [137] *see Pugh, Timothy W.*

Sandgathe, Dennis [274] *see Goldberg, Paul*

Sandweiss, Dan [231] *see Rademaker, Kurt M.*

Sandweiss, Daniel (University of Maine)

[158] *Terminal Pleistocene to Mid-Holocene Settlement and Subsistence on the Peruvian Coast*

Human settlement of the Peruvian coast began in the Terminal Pleistocene (ca. 13,000-11,400 cal bp) and continues to the present. Sea level change and expansion of the urban and agricultural frontiers have compromised the record, especially through the Mid-Holocene stabilization of sea level. However, sites survive from all periods and indicate: early, sophisticated use of marine resources; complementary use of terrestrial foods and materials; inter-regional interaction, both within the coastal zone and between coast and highlands; and increases in population and complexity through time. This paper briefly reviews our current understanding of these patterns.

Sandweiss, Daniel [86] *see Quilter, Jeffrey*

Sanft, Samantha [40] *see Allen, Kathleen M.*

Sanger, Matthew [2] *see Napolitano, Matthew F.*

Sanhueza, Lorena [153] *see Giesso, Martin [112]* *see Cortegoso, Valeria*

Santiago, Emilio (Columbia University), Caroline Frosch (Barnard College), Emma Gilheany (Columbia University), Heather Atherton (Columbia University) and Severin Fowles (Barnard College)
[85] *The Archaeology of Uncertainty in Colonial New Mexico*

Recent excavations of an early eighteenth century torreon in the northern Rio Grande village of Dixon, NM, have highlighted both the defensive stance of many early Spanish villages as well as the remarkable uncertainty of life on Spain's distant northern frontier. Far from the empire's bosom, Spanish colonists lived in a land that continued to be dominated by native peoples, both economically and, to a great extent, politically. Here, we report on the torreon excavations as well as recent survey work that collectively bring to light the archaeology of colonial uncertainty in one corner of the Spanish empire.

Santiago, Louis [167] *see Fedick, Scott L.*

Santini, Lauren (Harvard University) and Willem VanEssendelft (Harvard University)

[258] *What Archaeology needs from Technology: Adapting to and overcoming problems with GIS and Remote Sensing*

As remote sensing technology improves, we are finding

new and innovative ways of applying it to archaeological research. However, there are challenges associated with our progress that have remained largely unaddressed. The same standards are not always maintained for using, processing, or interpreting data between archaeologists and other fields where remotely sensed data has been used for some time. Additionally, there are inconsistencies of the same nature different archaeological studies. This paper calls for a critical evaluation of the methods and theory behind processing and using remotely sensed data, and consistent standards to better facilitate communication between the disciplines.

[258] *Second Chair*

Sarabia, Alejandro [73] *see Sugiyama, Nawa*

Sassaman, Kenneth (Univ of FL - Anthropology) [271]
Discussant

Sassaman, Kenneth E. [199] *see Randall, Asa R.*

Sauer, Jacob (Vanderbilt University) and Tom Dillehay (Vanderbilt University)

[52] *Frontiers On-the-Move: A Meaning for Inca Influence in the Southern Araucania*

It is believed that the southern extent of the Inca Empire was in central Chile and that the Araucanians of south-central Chile have some roots in Inca culture. The mechanisms responsible for these roots are not known. Yet, south-central Chile apparently was never occupied by the Inca. We employ literature on frontiers to explain Inca influence among southern Araucanians. We argue that the migration of northern Araucanians from central to south-central Chile, prompted by sequential contact with the Inca and Spanish, accounts for this influence. We examine three frontier phenomena: factionalism, resiliency, and resource exploitation.

Saul, Gwendolyn [65] *see Jolie, Ruth B.*

Savage, Sheila [185] *see Hammerstedt, Scott W.*

Sawyer, Jesse [67] *see Galle, Jillian E.*

Sayre, Matthew (University of South Dakota)

[121] *Was Vilca the most widespread pan-Andean psychoactive plant?*

The highland Andean region is known for the many hierarchical societies that produced iconography with recognizable depictions of psychoactive (hallucinogenic) plants. One site in particular, Chavin de Huantar, is justly recognized for its clear depictions of San Pedro cactus. However, vilca is a common toponym used throughout the region and there is clear scientific evidence for the use of vilca from a wide variety of sites, across time and space. Thus, this paper will re-analyze the broader evidence for the use of vilca across the Andes.

[238] *Second Organizer*

Sayre, Matthew [238] *see Whitehead, William T.*

Scaglione, Richard [235] *see Cordero, Maria-Auxiliadora*

Scarborough, Vernon (University of Cincinnati)

[91] *The Rate and Process of Landscape Alteration*

The rate and process of landscape alteration is one measure of a society's identity. Because of the "palimpsest effect" of humans on any living surface, care is necessary in preventing the unwarranted mixing of temporally discrete human actions. Two examples are provided: one spatially restricted but identified by high resolution—Tikal—and the other more landscape expansive but of lesser resolution—the Maya Lowlands. The rate and process of landscape construction and its sustainability are dictated by degrees of population density as well as historical precedent—and, of course, the biophysical environment itself. Cultural meanings are optimized and constrained herein.

Scarborough, Vernon [87] *see Tankersley, Kenneth B.*

Scarry, C. Margaret (Univ. of North Carolina-Chapel Hill)

[238] *Food Storage, Consumption and Urban Politics at Azaoria an Archaic City on Crete*
Azaoria (1200-500 B.C.E.) is a small city-state on the island of Crete. At the heart of the city is a massive civic complex with shrines, assembly halls, public dining rooms, and associated kitchens and storerooms. These buildings manifest the importance of food display and commensal dining in urban politics. Surrounding the civic complex are "townhouses" of important families: here too storage, preparation and consumption of foods were prominently displayed. This paper draws on archaeobotanical, ceramic and ground stone evidence to discuss issues about the control and flow of food into and within the urban center.

Schaafsma, Polly (Research Associate, MIAC\LOA)

[47] *Complexities of Color Usage in Pueblo Rock Art*
A review of colors in Pueblo rock paintings from the thirteenth to the early seventeenth centuries indicates that several factors determined color usage including the availability of pigments. Pigments were also chosen for their high visibility or the need for emphasis and contrast in complex figures. Of greatest interest is the choice of colors for their symbolic qualities, thereby increasing the meanings conveyed by the imagery. Color symbolism may involve colors used in tandem rather than a single hue. The degree of adherence to color codes appears to be indicative of varying social contexts in which paintings were made.

Schach, Emily (Arizona State University)

[104] *Ritual in Moquegua: An analysis of recently excavated offerings from Cerro Mejia.*

The use of construction and household offerings from recent excavations at the site of Cerro Mejia in the Moquegua Valley of Peru are discussed to assess the level of Wari control over and interaction with inhabitants. Offerings are contextualized through comparison with the neighboring site of Cerro Baúl, the center of imperial administration and settlement in the valley, as well as sites from other areas within the Wari Empire. Differences between the offerings on Cerro Mejia and those at other Wari sites make it possible to draw conclusions regarding which aspects of Wari rituals were deemed important by inhabitants.

Schachner, Gregson [85] *see Wilshusen, Richard H.*

Schaefer, Michael, Fernanda Neubauer (University of Wisconsin-Madison and CAPES Foundation) and Adriana Schmidt Dias (Universidade Federal do Rio Grande do Sul)

[99] *Guarani Land Repatriation in Southern Brazil: a multidisciplinary approach to identify archaeological sites and establish territorial reservation boundaries in collaboration with Guarani representatives*
Itapuã State Park was created in the 1960s and '70s through the forced removal of Guarani Indians. Land repatriation concerns led a multidisciplinary technical group to work with the Guarani tribes in Morro do Coco, Ponta da Formiga and Itapuã State Park in the southern Brazilian state of Rio Grande do Sul in 2008 and 2009. Guided by Guarani informants, these areas were surveyed and six new precolonial Guarani archaeological sites were registered. These data are being used in an application for land repatriation and to establish boundaries for a future reservation.

Schaefer, Michael J. [277] *see Neubauer, Fernanda*

Schaffer, William (Arizona State University)

[165] *A Reappraisal of Prehistoric Human Skeletal Remains from the Bahamas Housed at the Yale Peabody Museum of Natural History*

Researchers have delved into the Yale Peabody Museum of Natural History's collection of prehistoric human skeletal material from the Bahamas with great veracity. The present study is a reexamination of this assemblage in an attempt to provide a more robust interpretation of the material that includes taphonomic processes, non-specific infectious agents and degenerative disease changes. This paper will also provide a brief perspective of the concept of 'health' in the archaeological record and a review of the most current evidence for more specific diseases such as treponemal infection and tuberculosis from prehistoric contexts throughout the Caribbean.

Scham, Sandra (University of Maryland) [147]

Discussant

Scharf, Elizabeth (University of North Dakota)

[185] *Results of Pollen Work at the Poverty Point Site, Louisiana (USA)*

The Poverty Point site, in West Carroll Parish, Louisiana (USA), contains monumental earthen structures built by sedentary hunter-gatherers. Reconstructing the environment in which this unusual situation developed and the plants that the Poverty Point people may have used are important factors in understanding and explaining this site and the culture that built it. This poster reviews prior pollen work at Poverty Point and presents the results from new cores, taken in December 2010.

Schaub, Amelia (University of Florida), John Krigbaum (University of Florida), Scott Fitzpatrick (North Carolina State University) and Greg Nelson (University of Oregon)

[177] *Palau Paleodiet: New Insights From Stable Isotope Ratio Analysis of Human Bone*

Human skeletal remains recovered from three archaeological sites in Palau, Micronesia, dating between ca. 3000 – 1500 cal. BP, were tested for light stable isotope ratios to determine patterns of human paleodiet.

Bone collagen and apatite yields were good, with pooled results from bone collagen suggesting strong marine protein components with enriched nitrogen (avg. 11.1‰) and carbon (avg. -15.3‰) isotope values. Bone apatite carbon (avg. -8.5‰) isotope values suggest consumption of enriched dietary carbohydrates, which could potentially include sugar cane and/or seaweed. Results correspond well with complementary archaeological evidence demonstrating that early Palauans were heavily dependent on diverse marine food resources.

Scheder Black, Ash (The University of York)

[64] *Visualizing archaeological datasets in the context of past environments.*

The instantiation of a paleoclimate model within a multi-dimensional database and a temporally-sensitive rendering technique for radiocarbon dates has made possible the visualization of archaeological datasets in the context of past climatic and environmental changes. TemporalMapping.org is a pilot, non-commercial software application featuring a spatial-temporal data cube coupled with a Web-based visualization engine that allows any user to easily explore diachronic changes of spatially distributed data from a Web browser at a resolution of 30 arc seconds and 20 years. Specialists can readily import any data set featuring Lat/Lon coordinates, a valid radiocarbon date, and a thematic value.

Scheinsohn, Vivian (INAPL-CONICET/ University of Buenos Aires), Claudia Szumik (INSUE/CONICET), Sabrina Leonardt (INAPL/UBA) and Florencia Rizzo (INAPL/UBA)

[101] *Biogeography applied to rock art distributional patterns in Patagonia: considering SW Chubut*

In previous papers rock art distributional patterns from Patagonia were identified by means of cladistics and endemism analysis. Both techniques are usually employed in biogeographical studies to evaluate spatial distributional patterns. As cladistics was utilized in a series of archaeological works there is no previous record of endemism analysis applied to archaeological research until our first work. Here we will present advances in this research by the incorporation of a new area, not previously studied. Our results will contribute to identify the role of this area in terms of its connections with other Patagonian areas and past human circulation patterns.

Schepartz, Lynne A. [119] *see McIlvaine, Britney Kyle*

Scher, Sarahh (Upper Iowa University)

[195] *Who Wears the Pants? High-Ranking Women and Masculine Imagery in Moche Art and Burial Ensembles*

The focus on women in Moche iconography has mainly been on identifying them and defining their social position in terms of their gendered counterpoint to men. It should be noted, however, that high-ranking women all take on elements of costume and accoutrements that are otherwise part of the semiotics of masculinity. I will focus on the iconographic representation of the High Priestess, as well as the grave ensembles of the Priestesses of San José de Moro and Huaca Cao Viejo in order to explore the "semiotic masculinization" of women of power in Moche culture.

[195] *First Chair*

Scherer, Andrew (Brown University) and Charles Golden (Brandeis University)

[237] *Making the Kingdom, Breaking the Kingdom: Maya Border Lords and the Dynamics of Polity*

During the 7th and 8th centuries AD, kings of the Western Maya Lowlands grew increasingly concerned with territorial control, and dependent on subordinate lords to govern their expanding kingdoms. Some of these nobles rose through the ranks as local courtiers, and some were lesser kings whose realms were absorbed into the territory of their overlord. As military commanders and governors of border settlements these nobles were essential for building and maintaining the kingdom, yet their growing political prominence ultimately contributed to the disintegration of the body politic in the final years of the Classic period.

[237] *First Chair [237] Second Organizer*

Scherer, Andrew [237] *see Golden, Charles W.*

Scherer, Andrew K. [166] *see Sharpe, Ashley E.*

Schieber de Lavarreda, Christa (Ministerio de Cultura y Deportes Guatemala) and Miguel Orrego Corzo (Ministerio de Cultura y Deportes Guatemala)

[30] *The sacred axis at Tak'alik Ab'aj: the perennial return to the ancestor?*

Some of the highest achievements in the long history (800 B.C.-900 A.D.) of the ancient commercial center of Tak'alik Ab'aj, located on the Pacific piedmont zone of southwest Guatemala, appear to have occurred during Preclassic times. In this initial period of increasing social complexity, Tak'alik Ab'aj produced a sophisticated inventory of sculptural art which led from Olmec styles to those of the early Maya. This cultural continuity, evident in architecture as well as in the ceramics, probably reflects common ancestral origins. A consistent pattern was repeatedly expressed in "special" offerings, suggesting that a constant respect was maintained for what must have existed, in their perspective, an invisible sacred axis.

Schieppati, Frank [101] *see Hayward, Michele H.*

Schiffer, Michael (University of Arizona)

[241] *Material-Stimulated Invention as a Source of Technological Variants*

Robert C. Dunnell envisioned a scientific archaeology founded on the principles of Darwinian evolution. In his lifetime he and like-minded archaeologists, many of them his students, developed an evolutionary archaeology that has had an appreciable influence on the discipline. One element of evolutionary archaeology received little attention until recently: the source of variants.

Accordingly, this paper discusses and illustrates the process known as material-stimulated invention. This process is a major source of technological variants that comes into play in many contexts, especially culture-contact situations; material-stimulated invention is also prevalent in industrial societies. Directions are suggested for future research.

Schilling, Timothy (Washington University in St. Louis) and Timothy Baumann (Glenn Black Laboratory of Archaeology)

[239] *Interrogating the Adonis of Newburgh: Fluorite Crafting and Use at Angel*

The most dramatic and well-known discovery at the Angel site is the "Little Green Man," a kneeling figurine made of a single piece of carved fluorite. Although found in the early 1940s and ubiquitous in images since then, this object has received little systematic attention. At the same time, fluorite, in general, is an understudied component of the Mississippian material assemblage in the Midcontinent. This study addresses these deficiencies by characterizing the distribution and composition of fluorite objects at the Angel site, providing insight into the production and consumption of this colorful mineral.

Schilling, Timothy [184] *see* Krus, Anthony M.

Schindler, Bill (Washington College)

[174] *Location, Location, Location: The Archaeology of Prime Fishing Site Selection in the Delaware Valley*

The exploitation of the migratory fish resource has long been regarded as important to the prehistoric inhabitants of the Delaware Valley. What has received little attention, however, is the selection process for locations suitable from which to conduct fishing related activities. This paper presents a survey of the various factors that may have influenced the placement of prehistoric fishing sites in the Delaware Valley. The Abbott Farm National Historic Landmark is then evaluated for the suitability of its location for the exploitation of the migratory fish resource.

Schlader, Robert (Idaho State University), Nicholas Clement (Idaho State University) and Nicholas Holmer (Idaho State University)

[129] *Data Capture and Manipulation at the Idaho Virtualization Laboratory: Making the Physical Digital*
Before an object can be included in a digital repository or museum exhibit, that object needs to be "virtualized." The Idaho Virtualization Laboratory has established a process for laser scanning objects that produces archival quality digital surrogates while ensuring minimal disturbance to the original object. Utilizing a variety of technologies to capture a digital record in both 2-D and 3-D, we combine them to produce highly accurate and realistic reproductions, suitable for virtual displays and detailed metric analysis. In this presentation we will describe our process, from initial cataloguing, through data capture, editing, and production of the final model.

Schlader, Robert [129] *see* Ryan, Karen **[129]** *see* Betts, Matthew W.

Schlarb, Eric [124] *see* Sharp, William E.

Schleher, Kari (Crow Canyon Archaeological Center)

[47] *Colorful Glazewares: Use of Color on Northern Rio Grande Glaze Wares*

Within the north-central Rio Grande, major changes in pottery occur in the early A.D. 1300s, with one of the most notable changes reflected in the replacement of black-on-white types with more colorful bichrome and polychrome glazewares. Potters have more color options, with hues of red, yellow, and tan, available to create designs. Using a sample of vessels and sherds from over a dozen sites in the Galisteo Basin and

beyond, I evaluate the colors used to create geometric and iconographic motifs, variation of color use across the region, and implications for production practices as they relate to color choices.

Schleher, Kari [270] *see* Eckert, Suzanne L.

Schmader, Matthew (City of Albuquerque)

[25] *"The Peace that was Granted had not been Kept:" Coronado in the Tiguex Province, 1540-1542*

The 1540-1542 expedition led by Francisco Vazquez de Coronado was the first major contact by non-native peoples in the western United States and was the largest land-based enterprise launched by the Spanish crown in the sixteenth century. The expedition spent both winters in the Rio Grande valley near Albuquerque, NM. Recent investigations there have uncovered evidence of several skirmishes at a large pueblo village. Expeditionary tactics and assemblages, and native response to this first contact, are described. These events set the stage for the next 60 years of Spanish exploration, colonization of la Nueva México, and ultimately, the Pueblo Revolt.

Schmader, Matthew [132] *see* Graham, Martha

Schmalle, Kayla A. [169] *see* Tune, Jesse W.

Schmaus, Tekla (Indiana University)

[199] *Tangling the Networks: Elaborating on Processes of Culture Change in Central Eurasia*

Culture change in Bronze and Iron Age Semirech'ye (eastern Kazakhstan) is currently explained in terms of seasonal interactions between groups of mobile pastoralists. It is assumed that people's decisions to move are based on social factors and environmental constraints. This theory makes good sense, but does not take into account what we may consider non-rational actions. Non-human agents in the landscape, such as cosmological events or newly meaningful resources in the ground, can also influence people to alter their mobility patterns. These alterations would in turn bring groups into contact with new people and places and ultimately effect culture change.

Schmich, Steven (Arizona State University), Barry Wilkens (LeRoy Eyring Center for Solid State Science, Arizona State University) and Eduard Faus Terol (Centre d'Estudis Contestans, Cocentaina, Alicante, Spain)

[6] *Using Proton Induced X-ray Emission (PIXE) Analysis to Source Chert in Les Valls de la Marina Alt – Alicante, Spain*

PIXE is a non-destructive method of determining geochemical composition that can be used directly on artifacts. It can also be used more than once on any given sample as a cross-check. This project presents the results of PIXE analysis on 572 chert samples and includes data from 946 acquisition points. The samples are artifacts – primarily small retouch/resharpening pressure flakes from radiocarbon-dated levels in cave and rock shelter sites – and raw material gathered from chert sources in Les Valls de la Marina Alt, a region of natural corridors linking Spain's Mediterranean Coast with its interior plateau (La Meseta).

Schmidt, Caroline [185] *see* Nichols, Caitlin E.

Schmidt, Christopher and Lindsay Frazer (University of Indianapolis)

[184] *Were Mississippians the apex of maize consumption: Evidence from the teeth*

A study of 93 of human dentitions from Angel and Ray sites in Indiana and Wickliffe in Kentucky has confirmed Mississippian maize consumption. Caries data indicate 81.3 % of adults had at least one lesion. Analysis of dental macrowear, SEM-based dental microwear, and dental microwear texture analysis indicate a soft (processed) diet. But, when compared to the non-Mississippian late prehistoric (i.e., the Oliver Tradition), they have fewer people with caries; just over 94 % of Oliver people had caries and a similarly soft diet. Maize was very important to Mississippian people but no more so than other Late Prehistoric groups.

Schmidt, Erin (New Mexico State University)

[137] *An Examination of Hacienda Architecture in Yucatán, Mexico*

This paper presents the results of archaeological and historical research on haciendas in three regions of the Yucatán peninsula. Haciendas are agricultural estates that are maintained by a wealthy land-owner and a lower-class labor force to supply small-scale markets with goods and enhance the prestige and status of the owner. I compare the variation in the architecture of the haciendas before and after the Caste War (1847), in the areas around Campeche Yaxcabá, and Ebtun. Architectural variation reveals new details about labor organization and production during the volatile 19th century.

Schmidt, Isabell

[135] *Archaeological Evidence and Culture-Environment Models – A look at the Solutrean of Southern Iberia*

The archaeological evidence of the Solutrean from Southern Iberia is extremely heterogeneous. This is especially true for the quality and size of the sites and assemblages; but also for the internal chronological resolution. This situation demands a critical reading of the sources. It is argued that the specific appearance of the evidence has implications for modeling ecological and cultural dynamics. By concentrating on defining tools, associated material we test the spatial and temporal scenarios. Adjusting the models to the specific setting and evidence of Southern Iberia will hopefully enlarge their explanatory value.

Schmidt, Isabell [135] see *Weniger, Gerd-Christian*

Schmidt, Peter (University of Florida)

[91] *Reflections on Place and Meaning as Changing Directions in Historical Ecology*

A case study in Historical Ecology (1994) explored the interface between belief systems and the way that the environment was venerated, managed, and exploited in East Africa. Sacred places played a key role in how physical environments were configured, conserved, made instrumental in everyday lives, and managed. Because of the ravages of HIV/AIDs, senses of place have been brutally erased. Sacred places are now meaningless, totally unknown to those less than 30 years of age. The implications are profound for historical ecology, demanding new ways of accounting for and

understanding change in today's globalized world.

Schmidt Dias, Adriana [99] see *Schaefer, Michael J.*

Schmitt, Dave (Desert Research Institute) and Karen Lupo (Washington State University)

[157] *Beyond Canid Taphonomy: the influence of hunting dogs and different dog deployment strategies on zooarchaeological assemblages*

The taphonomic impacts of dogs and related canids on the zooarchaeological record are well known. However, the impacts of dogs on compositional characteristics of faunal assemblages are less widely appreciated and often go unrecognized. In this paper, we use ethnoarchaeological, ethnographic and zoological data to explore how the use of dogs and different dog deployment strategies (i.e., single animal versus packs) influence subtle compositional characteristics of zooarchaeological assemblages, such as age-structure and animal body-size. These data can be used to interpret zooarchaeological changes and have implications for understanding the spread and use of domesticated dogs in the prehistoric past.

Schmitt, Dave [89] see *Lupo, Karen D. [38]* see *Kiahtipes, Christopher A.*

Schneider, Anna (Colorado College), Kirsten Delay (Vanderbilt University) and Danielle Kurin (Vanderbilt University)

[5] *Mummy Dearest: Post-Mortem Mortuary Alteration in Andahuaylas, Peru (AD 1000-1400)*

This poster provides a general overview of mummified human remains from the Andahuaylas region of Apurímac, Peru. The sample consists of 16 individuals in various states of completeness. These remains are likely associated with the Chanka people who populated the region ca. AD 1000-1400. In our research, we examine unique aspects of Chanka mummification--such as body positioning, binding, bundling, and associated artifacts--as well as all visible skeletal pathology, trauma, and modification. This research identifies mortuary practices which indicate culturally mediated ways of interacting with the dead in the ancient Andes.

Schneider, Joan (Retired)

[159] *Texture and the Selection of Stone for Milling Tools: Testing the Hypothesis*

Milling tools: lower milling stones (metates or querns) and handstones (manos or rubbers) made of coquina (analogous to beachrock) have been found, in quantity, at major late prehistoric settlements around large springs in the Colorado Desert, USA greater Southwest. The stone source is a fossil shoreline at some distance from those sites. In the past, I have hypothesized that stone texture directly influences the choice of stone for milling tools, and therefore enhances their economic value. I seek to test that hypothesis for this situation and to discuss the implications of superior function, as well as economic and social values.

Schneider, Seth (University of Wisconsin-Milwaukee) and Jessica R. Miller (Illinois State University)

[64] *Cultural Interaction in the Western Great Lakes: A Compositional Analysis of Oneota Pottery in Wisconsin*

and Michigan

Pottery dating between A.D. 1200-1400 from 12 Oneota sites in Wisconsin and Michigan are compared to detect cultural interaction among Oneota localities in the Western Great Lakes Region. A model of interaction proposes that Oneota groups living in Illinois and Wisconsin influenced the shift in pottery production of groups living Southwestern Michigan. Ceramic petrography and chemical compositional analysis using energy dispersive X-ray fluorescence (ED-XRF) techniques are used to demonstrate variations in paste composition between sites. The movement of people, pottery, and ideas between two regions in the Western Great Lakes separated by approximately 600 km is clarified.

Schollmeyer, Karen (Simon Fraser University & Arizona State University) and Jonathan C. Driver (Simon Fraser University)

[272] *Hunting, Sustainability, and the Scale of Zooarchaeological Analysis in the Mesa Verde Region*
Archaeological data from the Mesa Verde region provide a long-term record of human hunting. We investigate temporal patterns in fauna from well-dated sites to identify aspects of prehistoric hunting that appear to have been more and less sustainable over different time scales. Some taxa (including artiodactyls and carnivores) were substantially impacted by humans at a local scale early in the sequence, but were more resilient at a regional scale. Wild fauna from most sites is characteristic of a highly anthropogenic landscape; the majority of assemblages consist of taxa relatively resilient to both human hunting and environmental changes related to farming.

Scholnick, Jonathan (Simon Fraser University)

[160] *Rapid stylistic change in historic New England gravestone style: Using the neutral model of artifact style to interpret decorative variation*

This study uses the neutral model of artifact variation to evaluate historic New England gravestone diversity and inter-assemblage distance. In this case, low stylistic diversity and convergence between the cemetery assemblages suggest periods of conformity among both carvers and consumers. Surprisingly, the gravestone motif diversity expected by the neutral model occurs during a transitional period between the dominance of two different motifs. Locally produced and distributed motifs increase diversity and inter-assemblage distance during the mid-eighteenth century, before the widespread adoption of an innovative style.

Schon, Robert (University of Arizona)

[206] *The Archaeology of Cooperation: A New Interpretation of Archaic States*

Archaeologists have traditionally viewed state formation and state dynamics as the results of coercive and exploitative practices by elites. In this paper, I argue that such top-down approaches provide inadequate explanations of how ancient complex societies were maintained. I adopt the perspective that the state is an arena in which groups and individuals vie for social positions and model the interaction of these agents as a set of iterated prisoner's dilemmas. Using the Late Bronze Age polity of Pylos in Greece as a case-study, I propose that a cooperative framework offers a more

complete explanation of archaic state dynamics.

Schott, Amy (University of Arizona)

[71] *Depositional Environment and Site Formation Processes at La Playa, an Early Agricultural Site in Sonora, Mexico*

The site of La Playa in Northwest Mexico is an Early Agricultural site located on a floodplain of the Rio Boquillas. This study uses geoarchaeological methods to reconstruct the formation processes and the depositional environment of the site before, during, and after occupation. This paper focuses on the area of Los Montículos, whose stratigraphic history appears different from the rest of the site, and tests the hypothesis that the stratigraphy of this area reflects a more varied and energetic geomorphic and depositional history due to its location closer to the river. Implications for occupation and agriculture are explored.

Schou, Corey (IRI/Idaho State University), Jon Holmes (Informatics Research Institute), Michale (Informatics Research Institute), Herbert Maschner (Idaho Museum of Natural History - VZAP) and Matthew Betts (Canadian Museum of Civilization)

[129] *Flexible Visual Data Systems for Data Democratization and Sharing*

Growth of scientific research requires data sharing. However, frequently these data are constrained by discipline boundaries or are lost due to technology changes and limited tools for sharing. Democratization of research requires data availability and integrity as well as confidentiality. We have implemented an extensible secure repository storing archaeological collections digitally. The plasticity/flexibility of the system allows researchers to share/aggregate data across discipline and geographic boundaries. It supports VZAP data in addition to other types of Arctic research. It currently supports GIS, survey, cultural, economic, lithic, and botanical data. It provides data visualization tools in 2D/3D.

[129] *Third Organizer*

Schou, Corey [129] see Betts, Matthew W.

Schoville, Benjamin (Arizona State University) and Kyle Brown (University of Cape Town.)

[142] *Formation of Impact Fractures on Heat-treated Silcrete Backed Blades from Western Cape, South Africa*

The presence of fractures considered "diagnostic" of use as projectile armatures are frequently cited as hunting evidence in archaeological contexts. However, their occurrence on heat-treated silcrete has not been experimentally demonstrated. The frequency and distribution of fractures on heat-treated silcrete backed blades are compared between three samples: 1) unused, 2) trampled, and 3) hafted and shot with a calibrated crossbow. Impact fractures form frequently on hafted and shot replicates, and are present on unused and trampled replicates. Due to equifinality of individual fracture morphologies, a comparison of assemblage level distributions provides a more effective means of inferring function.

Schreyer, Sandra (California State University, Fullerton), Brenda Bowser (California State

University, Fullerton) and Hector Neff (California State University, Long Beach)

[235] *Economic Aspects of Inka Empire Consolidation from Pambamarca, Ecuador*

The northern Ecuadorian highlands experienced Inka occupation and indigenous resistance around 1500 AD. This research investigates economic changes that occurred when the rebellious Pambamarca region was consolidated into the Inka Empire. Obsidian acquisition is examined using new obsidian source samples, GIS trade route analysis, and p-XRF chemical sourcing. The elemental data separates the Mullumica and Callejones obsidian sources into several chemically distinct geographical regions, with differing accessibility from inside and outside the Inka frontier. The results are used to characterize economic patterns at multi-component residential sites and fortresses in the Pambamarca region during Pre-Inka and Inka Periods.

Schroeder, Sissel (University of Wisconsin-Madison)

[197] *From the Domestic to the Ceremonial: Reinterpreting New Deal Collections*

As the New Deal era came to a close, archaeologists began investigating domestic contexts at Mississippian sites. Jonathan Creek, in the lower Tennessee Valley, was the first of these excavations conducted with the explicit goal of exposing and mapping an entire village. Interpretive frameworks at the time sought to identify regional and temporal patterns in artifacts, features, and architecture. Today, Jonathan Creek and other old collections are being reinterpreted from new theoretical perspectives that eschew trait-list approaches to the definition of culture and rely on practice theory to build inferences about the origins of variation in material culture.

Schroedl, Gerald (University of Tennessee), Stephen J. Yerka (University of Tennessee,) and Nicholas P. Herrmann (Mississippi State University, and Middle Eastern Cultures)

[90] *The Application of Digital Information Systems to Archaeological Investigations at Cherokee Farm, Tennessee*

Archaeological studies, including surface reconnaissance, geophysical survey, shovel test pits, Geoprobe® soil coring, deep testing, and excavations were conducted at Cherokee Farm (80 ha) without a traditional archaeological grid. Instead all field work was directly recorded using established projected coordinate systems, such UTM. This approach eliminated intermediate data transformations and permitted direct imaging of archaeological occurrences in a GIS format. This gave archaeologists and land managers simultaneous real time research results. The implication for archaeological studies in the Tennessee River valley is that small, widely dispersed contexts traditionally ignored in most research designs are given research priority.

Schuldenrein, Joseph [37] see Aiuvalasit, Michael J.

Schulting, Rick [75] see Tresset, Anne

Schultz, John [36] see Walter, Brittany S.

Schurr, Mark (University of Notre Dame)

[239] *Human and Faunal Isotopic Ecology in the Late Prehistoric Ohio Valley*

Human stable carbon-isotopes have been extensively employed to study dietary variation between and amongst Late Prehistoric humans of the Ohio Valley. Such studies have been extremely useful in helping us understand prehistoric maize consumption, but they have not reached their full potential because they have not considered the isotopic variation of the plants and animals consumed. Intra- and inter-site variations in human and faunal isotope ratios provide valuable clues about subsistence practices, inter-community interactions, and climate. Human and faunal isotopes from Late Prehistoric sites are used to illustrate the importance of currently neglected faunal isotope ecologies for understanding human ones.

Schurr, Mark R. [67] see Webster, Andrew J.

Schwake, Sonja (Franklin and Marshall College), Gyles Iannone (Trent University), Kendall Hills (Trent University) and Esther Beauregard (Trent University)

[61] *Preliminary Investigations at the Minor Center of Martinez, Cayo District, Belize.*

Minor centers demonstrate great variability in architectural form and function, reflecting a complex relationship between the occupants of the minor center and those of the other centers in the settlement continuum. This paper discusses the results of the first year of investigations at the minor center of Martinez, located in the periphery of the larger center of Minanha, Belize. The focus of this research is the E-Group shrine, the dominant architectural feature in the Martinez epicenter and the primary ritual locus at the site. The investigations are contextualized in terms of the primacy of ritual behavior for interaction between sites.

[61] First Chair [61] Second Organizer

Schwartz, Christopher, Robin Cleland (School of Human Evolution and Social Change, Arizona State University) and Ben A. Nelson (School of Human Evolution and Social Change, Arizona State University)

[71] *Fauna as Ideology: Exploring Ritual Practices through Faunal Analysis at La Quemada, Zacatecas*

This project uses ethnographic analogy and patterning in the zooarchaeological record to understand ritual use of carnivores at La Quemada (AD 400-900), an important ceremonial center on the northern Mesoamerican frontier. Analyses of expansion of the frontier illustrate two-way flow of cultural practices. Mythology and utilization of carnivores amongst the Huichol people of northern Mexico and faunal analyses from the American Southwest and Teotihuacan are used to test for similarity of beliefs and practices amongst these locations. Deviations from expected frequency of canids in the American Southwest are more consistent with non-consumptive, ritual use of bone similar to Teotihuacan.

Schwartz, Douglas

[197] *W.S. Webb and the Leadership of TVA Archaeology*

To initiate the Depression-motivated TVA archaeology program a strong leader of this vast enterprise was required. After a search of available talent the

government officials chose W.S. Webb, a professor of physics at the University of Kentucky who had done some archaeology survey. The choice of Webb for this important position said a great deal about the status of Southeastern archaeology at the time and of Webb's unusual professional development. This paper traces Webb's personal, leadership and archaeological development and his contribution to the formulation and execution of the TVA archaeological programs.

Schwarz, Kevin [94] *see Duncan, William N.*

Schwindt, Dylan [272] *see Varien, Mark D*

Schwartz, Steve (UC Davis), Alex Mackay (School of Archaeology and Anthropology, Australian National University), Jayson Orton (Archaeology Contracts Office, , University of Cape Town and School of Archaeology & St Hugh's College, University of Oxford) and Teresa Steele (University of California, Davis)

[83] *Initial Results from survey for open-air Middle Stone Age sites along the Varsche River, southern Namaqualand, South Africa*

We present the initial results from survey for Middle Stone Age archaeology in open-air surface sites along the Varsche River, in southern Namaqualand, South Africa. This area has excellent preservation, high visibility, easy foot travel, limited recent human occupations, and limited annual rainfall. Initial work has identified several highly concentrated surface sites preserving dense accumulations of stone artifacts representing both earlier and later MSA technologies. Several locations have produced bifacial points, prepared core technologies, laminar flake production, and a wide range of raw materials. The area shows great promise for investigating spatial and environmental variability in the MSA.

Scoggin, William [20] *see Prasciunas, Mary M.*

Scott, Ann M. [208] *see Mirro, Vanessa A.*

Scott, Elizabeth (Illinois State University) [166] *Discussant*

Scott, Randi (Forensic Archaeology Recovery (FAR)) [14] *First Chair [14] Second Organizer*

Scott, Robert J. [220] *see Collins, Joe D.*

Scott Cummings, Linda [113] *see Logan, Melissa K. [113]* *see Varney, R. A.*

Scott-Ireton, Della (Florida Public Archaeology Network)

[24] *Sailing the SSEAS: A New Program for Public Engagement in Underwater Archaeology*
Sport divers generally are interested in the work of underwater archaeologists, and often want to help with research. Programs enabling divers to volunteer on projects have proven effective in promoting the goals of archaeology while empowering the diving public to participate. Often, however, no projects are available for them to work on. Divers may lose interest, become disillusioned with archaeology, or join commercial

salvage projects. Florida Public Archaeology Network is embarking on a new program to address this need. Submerged Sites Education & Archaeological Stewardship is intended to train sport divers in non-disturbance recording and then give them a mission.

Scullin, Dianne (Columbia University)

[262] *Exploring an Empirical Phenomenology: Acoustic Mapping of Archaeological Sites on the North Coast of Peru*

In order to understand the actions of the past that created the archaeological record, one must understand the experiences that afforded and effected those actions. Utilizing both phenomenology and acoustic measurement techniques, this paper explores the intersection between experiential and empirical data concerning sound and its interaction with the spaces of archaeological sites. This paper presents analysis of acoustic maps of archaeological sites in order to illustrate the interaction between material and performance, architecture and sound and how these interactions manifest themselves in the architecture and organization of Moche sites on the north coast of Peru.

Searcy, Michael (Brigham Young University)

[88] *Astronomical Implications for the Mound of the Cross at Paquimé, Chihuahua, Mexico*

The fourteenth-century site of Paquimé represents the apogee of the Casas Grandes cultural tradition. Monumental architecture such as effigy mounds and ball courts contrast sharply with other sites in the U.S. Southwest/Northwest Mexico. In particular, the Mound of the Cross, a cardinal aligned mound structure, suggests that those at Paquimé were aware of and may have tracked celestial bodies as part of a seasonal round. Findings also suggest that the alignment of the cross can be attributed to solar patterns that are different than today's due to earth's precessional cycle.

Sedig, Jakob (University of Colorado)

[85] *Woodrow Ruin on the Upper Gila: Preliminary Research at a Large, Multicomponent Mimbres Site*
Woodrow Ruin, located on the Upper Gila in Southwest New Mexico, is one of the most important sites in the Mimbres region. Like most Mimbres sites Woodrow Ruin has not been spared from looting, however a 7' tall chain-link fence constructed around the site has protected it for forty years. Because it has been protected, archaeologists can examine numerous questions about Mimbres society that have otherwise been obscured by the destruction of sites. This poster presents the results of analysis of surface ceramics and high-precision GPS mapping conducted at Woodrow Ruin during June 2011.

Seeman, Mark (Kent State University), Aaron Comstock (Ohio State University) and Garry Summers

[261] *A morphometric analysis of end scrapers at Nobles Pond (33ST257), an early Paleoindian site in Stark County, Ohio.*

Our paper comparatively examines key variables associated with the production and depletion of end scrapers at Nobles Pond, an early Paleoindian site in northeastern Ohio. For this study, we make use of a large sample of complete tools (N=113) selected from two different spatial concentrations at the site. Results

show that while statistical routines can identify formal attribute patterning or "types" within the data, our sample is best interpreted as a single class of depleted tools. Much of the variability within this class is attributed to the multiple and creative flint working tactics employed to minimize time-stress.

[261] First Chair

Seeman, Mark [261] see *Loebel, Thomas [100]* see *Mullett, Amanda N.*

Seibert, Michael (NPS- Southeast Archeological Center)

[34] *Fields of Conflict: Battle and military objects from the Fort Rosalie excavations and their implications*

In 1729, the French soldiers and civilians living at Fort Rosalie were massacred by the local Natchez Indians, who were angry over their mistreatment by the French. This attack retarded French settlement coming from the Mississippi Gulf Coast and facilitated the opening of this region to other military powers. During the seven years of excavations numerous artifacts relating to the occupation of the fort and possibly the battle have been recovered. This paper presents these artifacts in context of the greater regional and world events.

Seidemann, Ryan (Louisiana Department of Justice)

[148] *What Happens When the River Dries Up? The Law of Shipwreck Protection on Dry Land in Louisiana*

Although strides have been made towards the legal protection of shipwrecks from salvage and looting in the United States, gaps in the laws persist. The passage of the Abandoned Shipwrecks Act of 1987 was a watershed event in the protection of maritime heritage. Still, the protection that exists is a patchwork of federal and state laws that even at its best is not spectacular. A review of the relevant law with examples from Louisiana is here undertaken, specifically focusing problems such as the protection of wrecks when a watercourse shifts.

Seidemann, Ryan M. [14] see *Hawkins, William T.*

Seinfeld, Daniel (Florida State University)

[121] *Intoxication Rituals and Gender among the Ancient Maya*

Analysis of vase paintings highlights how the ancient Maya depicted gender identities during intoxication rituals. These paintings generally show males using inebriating enemas and drinking. Females are typically depicted abstaining from intoxicant use and assisting males. Some scenes suggest that females may have acted as ritual specialists preparing and administering drug-filled enemas. These vase paintings demonstrate idealized complementarity and hierarchy in gender roles during ancient Maya rituals. This work highlights the significance of intoxicant use in constructing social identities in the ancient world, a phenomenon that continues to the present day.

Sekedat, Bradley (Brown University)

[200] *Making more sense: Survey archaeology, small quarries and integrated landscapes*

Survey archaeology has always successfully located sites and added texture to regional landscapes. Recently, however, survey has been asked to do more by exploring not just the location of sites, but the sites themselves.

This paper combines an introduction to the session with a case study of research undertaken in and around marble quarries in western Turkey as part of the Central Lydia Archaeological Survey. By applying a flexible set of methodological approaches, the project has made strides in turning seldom explored industrial features into fully integrated parts of the Lydian – Roman social landscape. **[200] Second Chair [200] Third Organizer**

Selden, Robert (Texas A&M University), Leigh Cominiello (University of New Mexico), Joel Lennen (New Mexico State University) and Richard Gatewood (Burned Area Emergency Response, National Park Service)

[245] *Burned Area Emergency Response (BAER): Fire and Archaeology at Carlsbad Caverns National Park*
On June 13-15, 2011, the Loop Fire burned 8,261 acres within the boundaries of Carlsbad Caverns National Park, and was subsequently found to be human-caused. This survey was conducted in compliance with the Burned Area Emergency Response (BAER) team led by Richard Gatewood from June 27 – July 22, 2011. Within the fire boundary, 45 archaeological sites were found to have the potential for damage from this event. This project focused upon those sites within the Walnut Canyon drainage and atop the southern ridgeline, and addresses stabilization and dating concerns.

Seldin, Abigail (University of Oxford)

[56] *Archaeology and the Religious Sphere: New Heritage Issues at the Los Lunas Mystery Stone in New Mexico*

Located 35 miles outside of Albuquerque, the Los Lunas Stone displays a Paleo-Hebrew carving of the Ten Commandments. Today, some in New Mexico contend that the carvers of the stone were "Solomon's Jews," ancient Hebrew explorers dispatched by the biblical king. The popularity of this theory signifies the primacy of contemporary local religious leaders over the academy and other secular sources of knowledge. Using the lens of pseudo-archaeology, this paper highlights key issues for bridging the gulf between the academy and the religious sphere.

Sellet, Frederic (University of Kansas)

[100] *Folsom Weaponry Manufacture at the Lindenmeier Site, CO*

This paper summarizes the results of a re-analysis of the Folsom points, preforms, and channel flakes of the Lindenmeier collection from the Smithsonian Institution. The Lindenmeier site was excavated by F. Roberts in the early 1930s. It was, however, never fully studied until E. Wilmsen published a summary report on the site's stratigraphy and excavated material in 1974. Over the years, the points and preforms have received considerable attention from scholars, but their efforts have mostly focused on the Folsom fluting process. This study takes a different stance and investigates organizational and behavioral aspects of weaponry production at the site.

Semken, Holmes [38] see *Milideo, Lauren*

Semon, Anna (University of North Carolina), Lindsay Bloch (UNC-Chapel Hill) and Mary Elizabeth Fitts (UNC-Chapel Hill)

[214] Ceramic Chemical Characterization Studies in the Southeastern, US

Ceramic chemical characterization studies allow archaeologists to investigate the microstructure and composition of ceramics and clays. These studies enhance general ceramic analysis by identifying potential local and non-local clay sources. This poster presents the results of a compositional characterization pilot study on clays and diagnostic sherds recovered from several protohistoric and historic sites in Georgia, North Carolina, and South Carolina. In this study, we tested the sensitivity, precision, and accuracy of ICP-MS, XRD, XRF, and PXRF techniques in an effort to compare methods and identify analytic differences between indigenous and euro-american pottery sourcing.

Seramur, Keith (Appalachian State University) and Ellen Cowan (Appalachian State University)

[107] Geoarchaeology Investigation at Site 40MI70: Geochemistry, Magnetic Susceptibility and Stratigraphy of Buried Woodland and Archaic Occupation Surfaces
Geoarchaeology is used contributes significant data sets to aid in interpretation of archaeology sites and the lifeways of indigenous cultures. Particle size distribution is used to delineate stratigraphic horizons. Soil micromorphology provides evidence of pedogenesis, site occupation and bioturbation. Magnetic susceptibility of soil samples can be used to interpret human induced elevated magnetic susceptibility associated with deposition of organics, hearths and fires. Soil chemistry analysis identifies buried occupation surfaces and A-horizons. Horizontal grids assess activity areas across the buried sites. Vertical sampling identifies buried surfaces and distinguishes the magnetic and chemical signatures between Archaic and Woodland occupations.

Serangeli, Jordi (University of Tübingen) and Nicholas J. Conard (University of Tübingen)

[93] New results from large-scale excavations in Schöningen

Archaeological finds including spears and other wooden artefacts, lithic artefacts, broken bones, cut-marked bones, etc. document the repeated presence of hominins on the shore of a ca. 300,000 year old lake near Schöningen in northern Germany. Ongoing excavations have exposed multiple large surfaces with well preserved organic materials dating to the Middle Pleistocene. These finds document past environmental conditions in great detail, and the contextual analysis of archaeological materials provides a wealth of new information into the subsistence economy and settlement dynamics of the inhabitants of these brief lakeside occupations.

[93] Third Organizer

Serangeli, Jordi [93] see Julien, Marie-Anne [93] see Hardy, Bruce L. [93] see Conard, Nicholas J. [93] see Lang, Joerg [93] see Kuitens, Margot

Serech, Emanuel [30] see Paiz Aragon, Lorena

Serra Puche, Mari Carmen (IIA-UNAM)

[73] The Xochitecatl Ceremonial Center an example of power strategy of the Rulers, in the Late Formative period

A ceremonial center is a sample of power of the rulers, and in this case, Xochitecatl provides evidence of their

ideological strategies. In the construction of the main buildings, this power is symbolized, so, in the Pyramid the Flowers two monolithic basins were set at the base of the stairs, surely to worship the rain water and in the Building of the Spiral, built in the shape of a volcano, rituals to avoid eruptions were carried out. These actions manifest the ideological control of the population through the rulers' power over natural phenomena.

Seymour, Deni (Independent Research Archaeologist)

[120] Hospitality Theory and Socially Prescribed Mobile-Group Visiting Behavior

Hospitality theory is a way to understand mobile-group visitation at the Eastern-Frontier Pueblos. Guest-host relationships involve mutual obligations and common understandings. Visiting behavior involves a systematic set of rules for inter-group encounters that are especially practical when mistakes have costly or deadly consequences. Stable inter-cultural relations presuppose structured interaction. Visiting protocol establishes a safe, predictable basis for groups, including enemies, to interact for specific purposes, while shielding other aspects of society. Hospitality rules were widely shared in the historic Southwest and were spatially expressed. The archaeological parameters of mobile group-Puebloan landscape use are examined in the context of hospitality theory.

Sgarlata, Cosimo (Western Connecticut State University) and Bethany Morrison (Western Connecticut State University)

[280] All methods, Great or Small: Analytical Techniques Used in the Study of a Revolutionary War Winter Encampment.

Investigations by WCSU archaeologists of the "Middle Encampment" site in Redding, CT have incorporated modern as well as traditional methods. In addition to pedestrian survey, compass and tape mapping, and excavation, the project has incorporated geographic information systems (GIS), analysis of formation processes through micromorphology, ground penetrating radar (GPR), and residue analysis by Fourier transform infrared spectroscopy (FTIR). This paper will review these techniques, including their potential contributions to archaeological research and the limitations or difficulties involved in their field application. Finally, we will present the ways in which these techniques have furthered our understanding of the "Middle Encampment" site.

Sgarlata, Cosimo [280] see Morrison, Bethany A.

Shackley, M. (UC, Berkeley)

[112] The Secondary Distribution of Archaeological Obsidian in Rio Grande Quaternary Sediments, Jemez Mountains to San Antonio, New Mexico: Inferences for Prehistoric Procurement and the Age of Sediments

The secondary distribution of sources of archaeological obsidian through long term erosion is an extremely important factor in the understanding of procurement in the prehistory of the North American Southwest. In the New Mexico/Chihuahua region of the Southwest at least seven sources and chemical groups are present in different proportions along the Rio Grande from El Rechuelos in northern New Mexico to Chihuahua. This poster presents a summary the analytical results of more

than a thousand samples at primary obsidian sources at Mount Taylor, the Jemez Mountains, and secondary sources along the Rio Grande River from Española to San Antonio.

Shackley, M. Steven [260] *see Clark, Jeffery J. [161]*
see Harper, Nathan K.

Shafer, Harry (Texas A&M University Professor Emeritus)

[17] *The Legacy of Dee Ann Story: Highlights and Caddo Archaeology at the George C. Davis Site*

Dee Ann Story (1931-2010) taught two generations of professional archaeologists and made lasting contributions in central Texas and Caddo archaeology. She teamed with Alex D. Krieger and Edward B. Jelks in producing the classic volume *An Introductory Handbook of Texas Archeology*. Much of her early work was in central Texas, and she later added the Caddo area as a major research focus. Her most important archaeological contributions were the excavations at the George C. Davis and Deshazo sites. Her lasting legacy is the number of professional archaeologists she trained and mentored and opening the door for women in Texas archaeology.

Shaffer Foster, Jennifer (University at Buffalo)

[155] *Poverty, Prosperity and Power in Early Medieval Ireland*

The lines between poverty and prosperity, power and powerlessness, were once starkly-drawn. Over the past ten years, many archaeologists have argued that socioeconomic status cannot be categorized in such simple terms. Likewise, conceptions of power exercised from the "top-down" and directed by elites, has been tempered with recognition that power held by ordinary people at the "bottom" of society is both legitimate and highly effective. This paper examines both the archaeological record and textual sources to arrive at new understandings of poverty, prosperity and power in Early Medieval (400-1200 AD) Ireland.

Shajan, Paul [173] *see Kotarba Morley, Anna M.*

Shakour, Katherine (CLIC), Casey McNeill (Boston University), Meagan Conway (University of Massachusetts Boston) and Ian Kuijt (University of Notre Dame)

[244] *Stories Shared Over Tea: Public Archaeology in an 18-20th Century Irish Fishing Village*

Public archaeology requires community collaboration, local partnerships, and the collection of personal life histories. This poster outlines our interactions with the islanders of Inishark and Inishbofin, Ireland, and addresses how their collective memory complements and expands upon 18-20th century archaeological and historical data. Our project has several community archaeology-based goals; to draw upon islander expertise to understand land use, landscape, and materials uncovered in excavation, to learn via oral history about changing social and economic ways of life, and to provide a forum for sharing new knowledge and research with islanders about the heritage and archaeology of their islands.

[244] *First Chair*

Shanks, Jeffrey (National Park Service), Craig Dengel (Tyndall Air Force Base) and Michael Russo (National Park Service)

[90] *Combining Low and High Technologies to Overcome Phased Survey Limitations*

Five CRM archaeological surveys conducted over 30 years failed to identify ring-shaped villages with central plazas and their associated burial mounds in NW Florida. Why? Not because archaeologists were unschooled in finding such sites, but because current CRM methodology required determining only the presence of artifacts. Combining traditional technologies of soil probes and shovel tests with new technologies including LIDAR, GPS, laser transit, and mapping software, we present case studies that overcame the limitations of "phased" survey requirements designed to only find artifacts in the first phase. We suggest initial survey can be designed to cost-effectively identify large settlement features in great detail.

Shanks, Jeffrey [97] *see Russo, Michael A.*

Shapland, Andrew (British Museum (Greece and Rome))

[251] *Shifting horizons and emerging ontologies in Bronze Age Crete*

Animals, objects and people flowed around the Mediterranean in ever greater numbers over the course of the Bronze Age. This movement has long been studied in terms of economic and cultural exchange, and the social significance of this trade has been increasingly appreciated. Yet this changing network of relations poses important questions for an understanding of past ontologies. The implications of Descola's scheme of ontologies will be considered for Minoan society. It will be suggested that the dominant analogistic ontologies of the elites emerged to incorporate diverse bodies and things, both creating and reinforcing a hierarchical social order.

Sharp, Emily (Arizona State University) and Tiffany Tung (Vanderbilt University)

[5] *Consequences of State Collapse: a Bioarchaeological Assessment of Post-Imperial Lifeways in the Ayacucho Basin, Peru*

Collapse of state institutions and subsequent changes in sociopolitical systems can lead to marked transformations in community health and daily life. This study examines consequences of Wari state disintegration (ca. 1000 CE) through analyses of human skeletal remains at Ayamachay rock shelter, located in the central Andes. Previous studies attest to significant increases in violent related trauma after state collapse at the imperial capital—Huari. Given Ayamachay's close proximity to Huari, did inhabitants of this area experience similar changes? Trauma frequencies and trepanation practices at the site are compared to other regional samples and assessed within a broader, post-imperial context.

Sharp, Kayeleigh (Southern Illinois University Carbondale) and Natalia Guzmán Requena (Museo Nacional Sicán)

[243] *Re-Defining the Gallinazo-Mochica Relationship: Technological Style as a Practice-Based Proxy to Their Identities*

Since the 1940s, relationships between Gallinazo and

Mochica 'cultures' have been matters of ongoing debate in Northern Coastal Peru. Diverse perspectives on the independence, interrelatedness, or antecedence of Gallinazo and Mochica groups leave many issues unresolved. Critical links between practice, context and technological style provide important conceptual and methodological frameworks for understanding the social situations in which identities were constructed, implemented and strategized. Recent work in the residential sector of the Songoy-Cojal site in the mid-Zaña Valley sheds light on mundane social contexts in which Gallinazo and Mochica identities coexist, offering insights on their significance in broader social domains.

Sharp, Robert (The Art Institute of Chicago)

[266] *Mythic Figures or Shamanic Practitioners: What New Additions to the Flint-Clay Corpus Suggest*
The flint-clay effigy pipes and figurines of the 12th century constitute a remarkable corpus of Native American art. While the female figures are surprisingly rich in iconographical significance, more than half the known examples of flint-clay works depict males, often with few accoutrements and surprisingly little regalia. Two new additions to this subgroup bring fresh material for examination and also invite a reconsideration of prior studies of these sculptures that have suggested they represent shamans in ritual practice or supernatural figures of cosmic significance. This paper reopens that discussion and hopes to stimulate further consideration of their function.

Sharp, William (usda-nrcs), Eric Schlarb (University of Kentucky/Kentucky Archaeological Survey), Greg Maggard (University of Kentucky/Kentucky Archaeological Survey) and David Pollack (University of Kentucky/Kentucky Archaeological Survey)

[124] *The Grassy Lake Site (15Ba144): A Terminal Late Woodland Dillinger Settlement in Ballard County, Kentucky.*

Limited excavations conducted at the Grassy lake site documented the presence of intact terminal Late Woodland deposits. Ceramic artifacts recovered from the site are indicative of a Dillinger phase occupation and are similar to those from the nearby Pettitt site in southern Illinois. In this paper we present the initial results of these investigations and examine the possible regional relationship of Grassy Lake site to nearby Late Woodland Twin Mounds and Wickliffe sites.

Sharpe, Ashley (University of Florida), Kitty F. Emery (Florida Museum of Natural History, University of Florida), Charles Golden (Brandeis University) and Andrew K. Scherer (Brown University)

[166] *Distinguishing Status in the Maya Menu: Zooarchaeological Evidence from Three Late Classic Polities*

Maya polities of the Late Classic period (A.D. 550 – 850) had complex social hierarchies that included ruling elite, lesser elite, and non-elite classes. Determining how animal resources were acquired, used, and controlled by status groups and between capitals and subordinate communities provides a means of understanding this complex social organization. This study examines faunal remains from three Maya polities: Piedras Negras, Yaxchilan, and Aguateca. Comparisons are assessed using measures of species abundance, diversity, habitat

fidelity, and deer skeletal distribution. These comparisons provide evidence of correlations in animal resource use among intra-site social ranks, sites of varying size, and different polities.

Sharpless, Megan (UW - Milwaukee), Lisa M. Zimmerman (University of Wisconsin-Milwaukee) and Robert A. Birmingham (University of Wisconsin-Waukesha)

[187] *History and Prehistory at the Aztalan Site: Excavation of an Early 20th Century Rock Feature*
Excavations in a ravine eroding into the Crawfish River in the northeast corner of the Aztalan site, exposed a concentration of large rocks (Feature 1) arranged in a rough arc. The feature appears to be related to Euroamerican activities as early 20th Century items including glass bottles, flat glass, and metal fragments were found throughout the rock matrix. However, similar aboriginal rock features were reported in this part of the site by Barrett during his 1919-1920 work at Aztalan, suggesting that Feature 1 may be the disturbed remnants of an aboriginal rock structure dismantled and used as a trash dump.

Sharratt, Nicola (Dept Anthropology, Field Museum) and Donna Nash (UNCG)

[104] *Ceramic Hybrids and Multi-ethnicity in the Moquegua Valley*

Wari and Tiwanaku occupations in the Moquegua Valley are distinguished by geography, architecture and material culture. Different ceramic styles, in particular, are used to define sites as either Tiwanaku or Wari. However, increasing evidence for Tiwanaku presence in Wari space and vice versa indicates that members of the two colonial populations engaged in social relations across traditional territorial boundaries. This paper discusses several ceramic vessels that potentially show the influence of both Wari and Tiwanaku. It considers what this unusual but noteworthy variant of craft production means and what these vessels suggest about multi-ethnic identities during the Middle Horizon.

[104] *First Chair*

Shaver, Douglas (University of Missouri Kansas City)

[223] *Steed-Kisker Archaeology: Cooperative Research on the Smith's Fork Site, Clay County, Missouri-*
Recorded in 1976 during development of Smithville Lake, Missouri, the Smith's Fork site (23CL223) has emerged as an significant locality for studying the Steed-Kisker culture. Archaeologists from the U.S. Army Corps of Engineers, the University of Missouri, Kansas City and the Center for Archaeological Research, Missouri State University have all contributed to this research. Archaeological survey and testing of the Smith's Fork site reveals well-preserved domestic features and artifacts related to the cultural adaptations of one of Missouri's earliest Native American farming societies. The Smith's Fork research offers a useful model of multi-agency research in Missouri archaeology.

Shaw, Leslie (Bowdoin College) and Eleanor M. King (Howard University)

[131] *Producing for Export: Economic Growth and Agricultural Intensification at Maax Na, Belize*
Maya communities in the Three Rivers Region of Belize saw rapid growth during the Classic period. Our ongoing

settlement survey of the Maya center of Maax Na has documented a pattern of residential diversification that we propose supported an economy based on the agricultural production of export goods, such as cotton, cacao, or other produce that is not highly perishable. Residential clusters around the wetlands show a great variability in size, structural complexity, and topographic location. We propose a model of economic strategizing that explores how Maya households formed "economic partnerships" that worked collectively to generate agricultural export goods.

Shaw, Leslie [128] see King, Eleanor M. [70] see Brennan, Michael

Shea, John (Stony Brook University)

[89] *The Origins and Antiquity of Complex Projectile Technology: A Global Perspective*

Complex projectile weapons are vital components of our species' broad ecological niche. Yet, Old and New World prehistory have contradictory views about their origins and antiquity. This paper reviews recent theories about the origins antiquity of complex projectile technology in the Old and New Worlds. It argues that we need better criteria for recognizing complex projectile weaponry in the archaeological record and improved models of variability in the use of hunting weapons derived from experiments and ethnoarchaeology.

[89] *First Chair*

Sheets, Payson (University of Colorado)

[167] *No it's not a forest fire on that mountain! It's a volcano and it's erupting! Let's go climb it!*

In 1969 Bruce and I awoke, in Guatemala City, and saw Pacaya erupting. So we decided to climb it, and we did everything wrong. But we survived and experiencing the awesome force of that eruption up close was a life-changing experience for both of us. Henceforward Bruce had an interest in major natural events, and how ancient societies coped with them, or not. A month later we found a tephra in Chalchuapa that we traced to Ilopango. Bruce explored the different reactions of Maya cities to the AD 536 worldwide phenomenon, and that probably was Ilopango.

Shehi, Eduard (Institute of Archaeology, Albania)

[119] *Terra Sigillata and local red slip ware in the southern Illyria (II cent. B.C. – II cent. A.D.)*

The Terra Sigillata offers a detailed view on the commercial routes that crossed the ancient regions of modern Albania. The finds from several cities indicate three periods of commercial trends: 150 B.C.–50 B.C. Imports oriented toward east - ESA. 50 B.C.–50 A.D. Imports oriented toward west (Italian Sigillata), following three commercial routes. 50–200 A.D. Imports reoriented toward east - ESB. I will present a comparison of imported versus locally produced Sigillata. This will further highlight the social aspects pertaining to Sigillata. The combination of traditional forms, imitation of imports, and original creations, expose a symbol of a commercial issue rather than evidence for Romanisation.

Shelton, China (Boston University)

[219] *Elite Foodways at Roman Kenchreai, Greece*
Different kinds of food signal social meaning within different arenas of interaction— particular foods, or

assemblages of foods, send different messages depending on where, when, and by whom they are consumed. Communal consumption serves to reify social structure through continued practice or thoughtful adaptation to changing circumstances. At the site of Kenchreai, Corinthia, Greece, we attempt to investigate these capacities by comparing the plant remains from different but contemporary contexts (elite households; elite chamber tombs; and the remains of crematory pyre and potentially processional activity) all dating to the 3rd c. A.D. when Greece was under Roman control.

Shepard, Ben (UCLA)

[83] *Regional Variability in Nephrite Ornaments from the Early Bronze Age Cis-Baikal, Russia*

This poster presents the results of a study of formal characteristics of disc- and ring-shaped nephrite ornaments recovered from cemeteries across the Cis-Baikal region of Siberia, Russia. During the 20th century, archaeologists documented the appearance of these labor-intensive ornaments, made from highly circumscribed "white" nephrite nodules, during the Early Bronze Age (3000 - 2000 BC). While recent studies of nephrite objects tend only to describe variability in their presence at single sites, here I investigate a large regional assemblage, allowing for a meaningful assessment of the production and distribution of white nephrite objects throughout the Baikal region.

Shepard, Emily (Portland State University) and Michael Morrison (Flinders University)

[35] *The Archaeology of Wild Honey Production: Quantitative and Spatial Analysis of Culturally Modified Trees on Western Cape York Peninsula, Northeastern Australia*

Archaeological surveys in the Weipa region of northwestern Cape York Peninsula have documented thousands of culturally modified trees (CMTs) created by Indigenous peoples during collection of honey and wax from the nests of Australian stingless bees. Oral histories and historical documents suggest collection methods and intensity altered during European colonization of the region (beginning in the 1880s). This study investigates CMT distribution and scar morphology using statistical and spatial analytical techniques. This information is applied to investigate trends in honey collection and to explore these patterns in relation to economic and social shifts experienced by the Indigenous community.

Sheridan, Thomas (University of Arizona) and Stewart Koyiyumtewa (Hopi Tribe, Cultural Preservation Office)

[25] *Moquis and Kastilam: Hopi Oral Traditions of the Spaniards and the Trauma of History in Hopi Society*
Moquis and Kastilam: The Hopi History Project compares and contrasts Spanish documents about the "Moqui" and Hopi oral traditions about the "Kastilam" to better understand how eight decades of conquest and missionization (1629-1680) four centuries ago still sear Hopi social memory today. Two examples -- the first "encounter" between Hopis and Spaniards in 1540 and the whipping, scalding to death of a Hopi by a missionary -- reveal how Hopi oral traditions contradict and complement the Spanish documentary record, and how remembering the past reveals patterns of intergenerational trauma that still stalk Hopi society

today.

Sherman, Jason [22] *see Villamil, Laura P.*

Sherwood, Sarah (Sewanee: The University of the South), Stephen B. Carmody (University of Tennessee), Nicholas P. Herrmann (Mississippi State University), Martin M. Knoll and Sierra M. Bow (University of Tennessee)

[6] *Sandstone Rockshelter Site Formation on the Southern Cumberland Plateau of Tennessee: Geoarchaeology, Archaeobotany, Artifact Analysis and Remote Sensing.*

The sandstone rockshelters perched high along the rim of the Cumberland Plateau contain a rich and complex archaeological record. Existing models of the formation and infilling of sandstone shelters do not adequately reflect the development of these sites. An interdisciplinary project is underway to decipher their history, especially how they form and infill and the role these upland sites played in the processing and storage of indigenous cultigens and mast crops. The presentation will focus on one site in particular, Michaels Shelter (40FR276); that contains Early Archaic through Late Woodland deposits.

Sherwood, Sarah [274] *see Kidder, Tristram R.*

Shillito, Lisa-Marie (University of York)

[37] *Ecology of Crusading – geoarchaeological investigations of site formation processes and environmental change in the Medieval Baltic*

The Ecology of Crusading project is investigating the environmental transformations in the eastern Baltic following the crusades against indigenous tribes in the 13th century. What was the impact on the landscape associated with castle construction and maintenance, and how did European colonists adapt to the local environments? A key aspect is to investigate whether the success of colonisation was related to environmental exploitation strategies, through targeted botanical, zooarchaeological and geoarchaeological analyses. Preliminary results from geoarchaeological investigations are reported here, and the importance of integrating macro, micro, geochemical and molecular methods is discussed.

Shimada, Izumi (Southern Illinois University) and Barbara Winsborough (Winsborough Consulting)

[175] *Tsunamis and Coastal Peruvian Prehistory*
As a part of the circum-Pacific "Ring of Fire," Peru faces the constant threat of earthquakes and resultant tsunamis from both sides of the Pacific. Although tsunamis of the recent past have painfully demonstrated their devastating and extensive impacts, prehistoric tsunamis have hardly received archaeological attention due to their scant documentation. Our deep sediment coring at the Urpi Kocha Lagoon at Pachacamac on the Central Coast of Peru has documented three major tsunami events over the past 2300+ years. We discuss specific lines of evidence for their occurrences and their archaeological significance in comparison with historically known cases.

[175] *First Chair*

Shimada, Izumi [215] *see Wagner, Ursel*

Shimelmitz, Ron [63] *see Rosenberg, Danny*

Shinde, Vasant [217] *see Valentine, Benjamin*

Shiratori, Yuko (The Graduate Center, CUNY), Timothy Pugh (Queens College, CUNY) and Christina Halperin (Princeton University)

[87] *Exploring Postclassic Community and Architecture in the Peten Lakes Region, Guatemala*

This paper presents recent data from Postclassic settlement at Tayasal, Guatemala, and explores community organization around Lake Peten Itza during the Postclassic period. During this period, the Itza Maya occupied the western side of the lake including the capital Nojpeten and the archaeological site of Tayasal. Recent research at Tayasal shows that the Itza Maya had different architectural and material patterns from those of the Kowoj Maya in the east. Identifying the differences and similarities of these patterns help to reconstruct Postclassic community organization in this region.

Sholts, Sabrina (University of California, Berkeley) and Sebastian Wärmländer (Division of Biophysics, Arrhenius Laboratories, Stockholm University)

[164] *Morphometric variation in human crania from prehistoric California*

For more than a century, museum collections of ancient human skeletal remains have produced valuable information about human population history across the prehistoric landscape and coastlines of California. Although early anthropometric studies of native Californians identified inter-regional differences in cranial form, modern technology and statistical techniques have become powerful tools to further investigate these patterns. Using 3D imaging and landmark-based morphometrics, this paper examines geographic variation in morphological cranial features throughout California. Potential factors of health, migration, and adaptation are discussed, providing a broad context for reconstructing ancient human microevolutionary processes over space and time.

Sholts, Sabrina [176] *see Warmlander, Sebastian*

Short, Kristina [181] *see Blomster, Jeffrey P.*

Short, Laura (Texas A&M)

[109] *Bringing cooking to light: using infrared spectroscopy to examine the effects of cooking on the chemical structure of wild foods*

Archaeologists primarily use infrared (IR) spectroscopy to study pigments and resins. Given that food science uses IR to accurately identify and source food components such as wine and olive oil, archaeological food processing residues are a potential application of IR. Archaeological residues, however, have many more "unknowns" and include wild foods, limiting the applicability of food science data. This paper explores the breakdown of chemical structures in wild foods: how cooking processes are expressed in the spectroscopic signature. This is part of continued preliminary work attempting to create a basis for identifying food types in the archaeological record.

[10] *First Chair*

Shott, Michael (University of Akron) and Brian Trail (Univ. of Akron)

[261] *How Much Are Scrapers at Nobles Pond? A Pilot Study in Measurement of Uniface Reduction*

Scrapers are a common formal type in Paleoindian and Paleolithic assemblages. How much size is reduced and form is changed from first use to discard are important to know but difficult to gauge. Using 3D laser scanning, we produce digital models of a sample of Nobles Ponds unifaces, measure platform area, predict original mass from platform area, and thereby estimate degree of reduction of specimens. We compare this reduction estimate to others. The better we can estimate original size of discarded retouched tools, the better we can gauge curation and exploit the value of this theoretical concept.

[123] *Discussant*

Shults, Sara (University of Alabama)

[70] *Uncovering Ancient Maya Exchange Networks: Using the distributional approach to interpret obsidian exchange at Actuncan, Belize*

This study seeks to understand the economy of the Maya during the Late and Terminal Classic period at Actuncan, Belize. Using the distributional approach proposed by Kenneth Hirth, 594 obsidian artifacts were analyzed across households of differing rank to determine whether elites had greater access to this long distance import. If obsidian is evenly distributed across households regardless of rank, then market forces might have worked to distribute goods to all. Additionally, a sample of the obsidian from the site was sourced using XRF to determine trade relationships and whether obsidian from certain geological sources were exchanged through inter-elite networks.

Sidebotham, Steven [173] *see Kotarba Morley, Anna M.*

Sidell, Nancy Asch [271] *see Asch, David L.*

Sierralta, Melanie [93] *see Urban, Brigitte*

Sievert, April (Indiana University)

[271] *The Daily Grind at Early Archaic Koster*
Early Archaic contexts at the Koster Site revealed an array of ground stone implements apparently used in activities that involved grinding, crushing, and pounding. The functions of these early ground stone implements and the roles they played in exploiting plant resources are assessed using experimental approaches and use-wear analysis. Replica manos and metates, anvils, and other implements were used in a range of tasks and the resulting wear compared to traces on materials from Koster (Horizon 11). The results reveal a variety of tool uses, and shed light on the day-to-day use of long-life tools during the Koster Early Archaic.

Sillar, Bill (Institute of Archaeology, UCL)

[201] *Supply on Command: The development of Inka pottery production in the Cuzco area*

Dean Arnold has shown how pottery production relates to the environment, social organisation and technical choices, promoting debate about how changes in these variables affect pottery output. I will discuss factors influencing the change from domestic to larger scale

production, by considering the development of 'classic' Inka pottery in Cuzco. Early integration and expansion of the Inka state gave access to new materials, labour and technical know-how that were used to increase the quality and quantity of pottery production. Other areas of state control facilitated cross-craft complementarity, such as the development of Inka stonework (which provided andesite temper).

[262] *Discussant*

Silliman, Stephen (University of Massachusetts Boston) [192] *Discussant*

Sills, Elizabeth (Louisiana State University) and Heather McKillop (Louisiana State University)

[172] *Activity Areas At Two Ancient Maya Salt Works: Underwater Excavations*

We discuss the distribution of artifacts and their relationship to wooden architecture at two ancient Maya salt works in Paynes Creek National Park, Belize. Wooden architecture is preserved in mangrove peat below the sea floor due to sea-level rise. Underwater excavations at Early Classic Site 24 and Late Classic Site 35 reveal activity areas associated with a massive salt industry for the Classic Maya. The artifacts are overwhelmingly briquetage—ceramic vessels used to boil brine to make salt. We evaluate the distribution of briquetage in relation to interior and exterior of buildings and the lines of palmetto palm posts.

[172] *First Chair [172] Second Organizer*

Sills, Elizabeth C. [172] *see Harrison, Jessica*

Silva, Fabiola (University of Oklahoma)

[85] *The Plundering of Paquimé: A History of Looting in Casas Grandes, Chihuahua, Mexico*

In this study, I explore the history of looting in Casas Grandes, Chihuahua, Mexico, a site well known for its complex architecture, elaborate pottery and which in the past century has witness severe looting. Through the analysis of Casas Grandes pottery collections housed in several museums across the U.S. Southwest, I was able to determine three distinct looting periods in the area: 1) Museum Period 1900-1940's, 2) Private Collector Period 1950's-1970, and 3) Present Period 1980- present. Each period provides an insight to the complex bi-national issue of looting and the antiquities market along the U.S./Mexico border.

Silva, Jorge (San Marcos University, Ricardo Palma University)

[209] *Archaeology, Cultural Heritage and Pedagogy in Peru*

This presentation will discuss archaeology, cultural heritage and pedagogy in Perú. Although archaeology began as a scientific discipline by the end of the nineteenth century in Perú, it was not until the decade of 1940 that it had become a career at San Marcos University. Today, Peruvian archaeologists ask how useful was archaeology for understanding the past and for developing concepts that help recover, preserve and properly teach cultural heritage. It is suggested that a positive attitude of people toward the past has developed in the last two decades.

Silva, Rosicler (Pontificia Universidade Católica de

Goiás), Julio Cezar Rubin de Rubin (Pontifícia Universidade Católica de Goiás), Maira Barberi (Pontifícia Universidade Católica de Goiás), Rute de Lima Pontin (ARS Consult Engenharia Ltda) and Tamiris Maia Gonçalves Pereira (Consórcio Arqueologia FIOLE)

[277] *Archaeological Stratigraphy in Morro do Frio Archaeological Site, Brazil*

The Morro do Frio site is on an alluvial terrace in the Brazilian northeast. The stratigraphic profile presents two well defined units, the superior with an average thickness of 1.40m, pedogenized and presenting intense bioturbation caused by roots, termites and ants to an approximate depth of 0.50m, and an inferior unpedogenized unit reaching a maximum depth of 3.0m. A number of vestiges, such as coal fragments, Core and flake concentration were identified in both units. These characteristics, besides the horizontal variety in organic matter in the superior layer, have impeded a precise archaeostratigraphic interpretation of the pits investigated so far.

Silverstein, Jay (JPAC/U of Hawaii), Robert Littman (University of Hawaii) and Joshua Trampier

[264] *Strategic Archaeology at the Mendesian Nome*
Project directors make strategic decisions about sites, choosing between preservation and destructive excavation. Methodological and scope of work decisions profoundly affect our ability to interpret the past as well as shape our future. At Tell Timai in the Egyptian Delta, a new archaeological initiative appears to have saved the majority of the site from imminent destruction. Decisions are now being made to design a future that integrates the quest for knowledge with the social, political, and economic development of the region. Here we present the Tell Timai Project strategic plan to manage this important archaeological resource.

[264] *First Chair*

Silverstein, Jay [264] see *Trampier, Joshua [264]* see *Leger, Jessica*

Simek, Jan (University of Tennessee) and Sierra Bow (University of Tennessee, Knoxville)

[241] *The Writing on the Wall: Late Prehistoric Paint Recipes in the Southeast*

Throughout his career, Robert C. Dunnell was a strong advocate for formal analyses of archaeologically derived materials as one way to empirically characterize artifacts and their relationships. In this paper, we examine the chemistry of some previously unanalyzed prehistoric (Mississippian) pigments from sites in the Southeast in order to determine if there was a consistent recipe used to produce paints of different colors. Specifically, white paint used to decorate exterior structure walls at Toqua (East Tennessee) are compared to red and black paints known from other contemporary contexts. Aspects of paint technology and site relationships are examined.

[101] *Discussant*

Simmons, Alan (University of Nevada Las Vegas)

[63] *The First Cypriot Villagers: the Case from Ais Giorkis, a Unique Early Neolithic Upland Site*
Conventional wisdom was that the Mediterranean islands were not occupied before the Late Neolithic. This is no longer the case, and much of the evidence for early

occupations comes from Cyprus, where both unexpected late Epipaleolithic and early Neolithic sites occur. The focus of this paper is Ais Giorkis, dating to ca. 7,800 cal. B.C. Ais Giorkis is unique in its upland rather than coastal location, its rich material assemblage, unusual architecture, the presence of cattle (previously not documented until the Bronze Age), some of the earliest directly dated plant domesticates in the Near East, and its evidence for feasting.

Simmons, Scott (University of North Carolina Wilmington), Elizabeth Graham (University College London), Jim Aimers (SUNY Geneseo), Isabel Median Gonzalez (INAH) and Linda Howie (University of Western Ontario)

[61] *Update on Recent Research at Marco Gonzalez and Lamanai, Belize*

Research in Belize at the sites of Marco Gonzalez, on Ambergris Caye, and at Lamanai continues to focus on the implications of artifact studies, particularly Postclassic ceramics. At Lamanai, Pendergast's early work on Lamanai's sugar mill has served as the jumping-off point for examining the wider range of British colonial activity as well as its impact on the landscape. At Marco Gonzalez, rescue excavations in 2010 contributed further information on Late Classic, Terminal Classic and Early Postclassic occupation phases. Both sites have also been the focus of tourism and development projects. In this session, we will summarise the results of study and excavation over the past year and share our goals for future work.

Simms, Stephanie (Boston University), Francesco Berna (Boston University) and George J. Bey, III (Millsaps College)

[22] *A Prehispanic Maya Piib?: Archaeological Evidence for a New Cooking Technology in the Puuc Region*
Excavations of a kitchen in the Puuc Maya region of Yucatán, Mexico, revealed concentrations of an enigmatic category of artifact: burned clay balls. The results of a suite of analyses support the hypothesis that the burned clay balls represent a cooking technology, akin to hot rocks and similar ceramic objects documented throughout the world. Micromorphology, FTIR, microbotanical residues, and experimental replication reveal aspects of clay preparation, cooking temperatures, repeated use of the balls, and specific food ingredients adhering to them. Based on ethnographic evidence, we propose that the burned clay balls were employed in pit oven cooking.

Simon, Katie [191] see *Fisher, Kevin D. [7]* see *Ernenwein, Eileen G. [194]* see *Weeks, Rex*

Simons, Susan [171] see *Lynch, Elizabeth M.*

Sims, Marsha (Nat Resources Conserv Svc)

[255] *Paleoindian Issues: Investigating Snake Hunting and Dancing, Kachinas, and Long-Nosed Effigies*
People vanish in time, but their ideas and symbols carry on. This study delves into recorded snake dances, snake hunting, and kachinas of the Hopi, as well as long-nosed effigies from Eastern North America and ties them to symbolism important to Paleoindians. Snakes are very important to cultures where cultivating plants is a way of life and symbolism is a link to the past. Long-nosed gods

and some Kachinas are reminiscent of proboscidsians. This study investigates rock effigies and incisions from an early time as symbolic representations compared to those of ethnographic documentation.

Sinelli, Pete (University of Central Florida)

[165] *Lucayan Exploitation of Small Cay Environments in Rock Sound, Eleuthera*

Excavations at three small cay sites in Rock Sound, Eleuthera have provided new insight into the behavior of pre-Columbian Lucayan populations in the region. Previous research in the Bahama Archipelago has indicated that small, currently uninhabited, offshore cays were a critical component of the Lucayan occupation profile. Results from Eleuthera support this hypothesis, and provide sound evidence that throughout the archipelago, the Lucayans were exploiting small cay environments to advance their economic agenda. This presentation will discuss not only the particulars of the excavations, but also these sites' contribution toward a more complete reconstruction of pan-regional Lucayan settlement strategies.

Sisk, Mathew [11] *see Garrett, Zenobie S.*

Sisk, Matthew (Stony Brook University)

[89] *Investigating the morphological constraints on stone projectile tips*

Several different measurements (e.g. TCSA/TCSP, tip convergence angle) can indicate if a given type of stone point is capable of serving as a projectile armature. But, these different measurements are often tracking a single morphological constraint on projectile effectiveness. For a stone point to function as a useful armature it must meet certain criteria of aerodynamics, penetration, durability, and ability to cause lethal hemorrhage. This paper uses three-dimensional modeling techniques to investigate how several of these simple proxies for projectile use function. Through this, it then proposes a more accurate holistic method for determining projectile plausibility.

[11] *Second Chair*

Skarbun, Fabiana (FCNyM. UNLP. Argentina / CONICET), Manuel Cueto (FCNyM. UNLP.

Argentina/CONICET), Ariel D. Frank (FCNyM. UNLP. Argentina) and Rafael S. Paunero (FCNyM. UNLP. Argentina)

[231] *Lithic technology in early occupations of the southern tip of South America*

We present a synthesis of the research conducted during the last decade, regarding the lithic technology of the first human occupations in Patagonia, Argentina. We have studied the sites Casa del Minero, Cueva Túnel, Cerro Tres Tetas and La Mesada, which are dated in the Pleistocene/Holocene transition. Our goals are related to the research of the tool-making processes and their functions. These are linked to diverse uses of the landscape, expressed by the movement of raw materials, the exploitation of natural resources, the mobility of groups, the functionality of the sites and the way intra and inter-site space was structured.

Skibo, James (Illinois State University)

[120] *Behavioral Archaeology: An Historical Examination*

This year marks the 40th anniversary of the publication in

American Antiquity of "Archaeological Context and Systemic Context." This nine page paper by Michael Schiffer laid out the foundation of "formation processes" and introduced an artifact flow model that included procurement, manufacture, use, recycling, maintenance, and then discard. These concepts were at odds with the then common notion that the deposited artifact "leaves a "fossil" record of...an extinct society" (Binford 1964: 425). This short article, Schiffer's first publication, has been cited over 450 times. I examine the history of Formation Process theory and Behavioral Archaeology 40 years on.

[120] *First Chair* **[154]** *First Chair*

Skidmore, Maeve (Southern Methodist University) and Arturo F. Rivera I.

[243] *The evolution of a Wari colonial community: modification of domestic space through time at Hatun Cotuyoc, Huaró, Peru*

This poster traces the evolution of one sector of the community of Hatun Cotuyoc, part of the larger Wari colony in the Huaró Valley, which became a key stronghold of the Wari empire in the Cusco Region of Peru over the course of A.D. 600-1000. Modification of architecture and layout of domestic space, as well as material culture from different phases of site occupation will be presented. Preliminary investigation indicates that the community became more concerned with the standardization of architecture and the separation of different kind of space (e.g. funerary areas, neighborhoods) through time.

Skidmore, Maeve [141] *see Kennedy, Sarah*

Skinner, Anne (Williams College), Bonnie Blackwell (Williams College), F. Mashriqi (RFK Science Research Institute), Maxine Kleindienst (University of Toronto at Mississauga) and Jennifer Smith (University of Washington at St. Louis)

[37] *ESR Dating Proxy Indicators for Water in Arid and Semi-arid Environments in the Middle East and North Africa*

Fossils from freshwater snails and herbivores indicate the presence of water within paleoenvironments, making human habitation viable. Pleistocene tufas deposited by springs often fed ponds and lakes that the snails inhabited and that often house Paleolithic artefacts. ESR dating can pinpoint the times when abundant water existed by dating the fossils directly. ESR has been used to date both snails and teeth from several sites with materials ranging from Middle Stone Age or Mousterian to Aterian from North Africa and the Middle East. Results from several sites illustrate this method's utility for sites from the Middle and Late Pleistocene.

Skinner, Anne R. [117] *see Blackwell, Bonnie A. B.*

Skinner, Craig [111] *see Ellis, David V. [100]* *see Gorrie, Bryan F.*

Skinner, Craig E. [161] *see Binning, Jeanne Day*

Skousen, Benjamin (University of Illinois) and Meghan Buchanan (Indiana University)

[199] *Relationships, Movement, and Entanglement: Theories on Viewing the World*

For the past decade, Tim Ingold has developed a

perspective that views life as a tangle of intertwined relationships. These relationships exist in a dynamic world that is always on the verge of becoming and where movement among these interacting webs instigates continual reconstitution and transformation. In this paper we outline the tenants of what we call Theories of Entanglements. Following Ingold, these theories consider relationships, movement, and transformation the essence of life, the world, and human experience. Most importantly, these theories reject evolutionary, structural, and environmental determinist perspectives that have long dominated archaeological interpretations.

[199] *Second Chair* [199] *Second Organizer*

Skov, Eric (University of Nebraska - Lincoln)

[213] *The Forgotten Projectile Weapon: Ongoing experimentation in the capabilities of slings and slingstones.*

The sling is a simple, cheap and effective weapon that was widely distributed among prehistoric and historic populations. Archaeological and textual evidence attests to its widespread military usage in Europe, South and Central America. Accordingly, most research has focused on these contexts. However, ethnographic and archaeological evidence suggest that Native American populations were also familiar with this technology. Researchers on all continents will profit from an expanded knowledge of the capabilities of sling weapons, especially such variables as range, accuracy and terminal effect. My experimentation suggests that previous research may have significantly underestimated potential velocity and range.

Slater, Donald (Brandeis University & Robert S. Peabody Museum)

[208] *Linking the Depths of the Earth to the Sky: A Solar Observatory within Ikil Cave 1, Yucatan, Mexico*

In the Maya region scholars have long noted the connection between solar alignments and radial pyramids at sites such as Chichen Itza, Dzibilchaltun, and Uaxactun. Just 26km WSW of Chichen, the site of Ikil also contains a massive radial pyramid. In May 2011 investigations at the cave within Ikil's main complex revealed that this pyramid also figures in a solar hierophany – the May zenith sunrise over the pyramid's summit as viewed from a unique observation point inside the cave. This paper will present documentation of the alignment, as well as preliminary interpretations of its significance.

Slater, Philip (University of Illinois Urbana-Champaign), Stanley H. Ambrose (University of Illinois, Urbana), Ian Steele (University of Chicago), Jeffrey Ferguson (University of Missouri, Columbia) and Michael Glascock (University of Missouri, Columbia)

[254] *Chemical fingerprinting of Kenyan obsidian sources and Late Quaternary artifacts with Electron Microprobe*
We resampled many previously known obsidian sources analyzed by Merrick and Brown (1984-1994) and collected many new sources in the Kenya Rift Valley for Electron Microprobe analysis, adding 15 new chemical source groups to the 30 known previously. Obsidian artifacts were analyzed from Six Middle Stone Age and three early Later Stone Age assemblages (N=2800) at four archaeological sites ranging in age from 240 to 16

ka in the central Rift and southwest Kenya. They provide insights into the scale of mobility and interaction in response to climate change during the last stages of the evolution of modern human behavior.

Slater, Philip [254] *see Ambrose, Stanley H.*

Sload, Rebecca

[179] *Caves in hill sign toponyms*

Hill sign toponyms of the Aztec, Mixtec, and Zapotec are characterized by a basal element that most agree is an earth referent derived from a gaping maw. Evidence is presented that "cave" is the more specific referent of this basal element, with the attendant meaning of entrance or access to the earth's interior. It is also argued that this element has a long history as a standalone icon having the same meaning. The continuity through time and cultures of the icon, its meaning, and its subsequent incorporation into hill sign toponyms illustrate the profound significance caves had in ancient Mesoamerica.

Small, David (Lehigh University) and John Powell (Pennsylvania State University)

[206] *Political Economies in Small Polities: Comparing the Maya and the Ancient Greeks*

The economies of small polities challenge accepted concepts of political economies. Because of their limited size the economies associated with ruler ship or government are challenged by "interpolital" economies associated with large kinship groups. Two regional examples highlight this issue – the Classical Maya and Classical Greece. The Maya shed light on this issue within a prestige economy, while the Greek operate within a staple one. Examining this issue within cross-cultural analysis throws light on its operation and allows for analytical expansion to other polities.

[206] *First Chair*

Smallwood, Ashley (Center for the Study of the First Americans Texas A&M University) and Thomas A. Jennings (Center for the Study of the First Americans Texas A&M University)

[20] *Learning from Legends: Case Studies in Experimental Paleoindian Archaeology*

Frison and Haynes's pioneering work continues to guide the way we, as archaeologists of a new generation, approach Paleoindian research. Among the many questions they helped answer over the past half-century, their work on chipped-stone studies and experimental archaeology remains a fundamental contribution. We present two experimental programs replicating Paleoindian tool use and production and distinguish these from unintentional or natural damage. We first discuss a use-wear analysis that documents wear traces acquired on Clovis point replicas. Next, we compare intentional tool production to core reduction and trampling. These studies highlight the importance of experimental approaches to understanding Paleoindian technology.

Smeltzer, Marion (Indiana U of Pa)

[170] *Reconstructing the Inaccessible Past*

Historical moments and places are now being recreated and shared through virtual world platforms. A virtual world is an internet-based, simulated environment where motion able avatars, graphic images and 3D models

represent people, places and objects. In this presentation the Laurel Hill /Brown farm is created in a virtual world platform. The farm established in 1790 and occupied until the 1960s, was the site of an antebellum community of former slaves. Because of its inaccessibility, the area has been virtually reconstructed to show the landscape, buildings and stone marking the graves of Civil War Colored Troops.

Smeltzer, Marion [170] *see Poeppel, Emily*

Smiarowski, Konrad (Graduate School, University Center CUNY)

[263] *Economy and Diet at E172 - Tatsip Ataa. Zooarchaeology of Vatnahverfi region in Norse Eastern Settlement, Greenland.*

As part of the IPY 2007-2010 project, three seasons of excavations were completed on a Norse site in the Eastern Settlement in Greenland. E172 Tatsip Ataa is a medium-sized farm site located in Igaliku Fjord (coastal Vatnahverfi), in close proximity to the Bishop's seat at Gardar. Multidisciplinary studies into economy and subsistence strategies of the Greenland Norse settlement are being conducted. This paper is a preliminary report of the excavation results, with emphasis on the zooarchaeological patterns in relation to other regions of Eastern and Western Norse Settlements, and other islands in the North Atlantic.

Smiarowski, Konrad [263] *see McGovern, Thomas H.*

Smít, Douglas

[104] *"Examining Estuquiña Architecture in the Upper Osmore During the Late Intermediate Period"*

Toward the end of the Late Intermediate Period (AD 1000-1400), settlement patterns in the Upper Osmore drainage exhibited a shift to defensible agglutinated settlements that have been broadly defined as the Estuquiña culture. Previous research has suggested that domestic architecture is a reliable archaeological correlate for studies of ethnicity and social organization, noting data from two Estuquiña sites appear to display two distinct forms of domestic architecture. This paper extends this research across a wider regional context, presenting settlement mapping data from multiple Estuquiña sites throughout the Upper Osmore drainage in order to examine the diversity of built environments during the LIP.

Smith, Adam (Cornell University) [19] *Discussant*

Smith, Adam T. [130] *see Leon, Jeffrey F.*

Smith, Alexa [24] *see Gabler, Brandon M.*

Smith, Alexander [213] *see Herring, Susan N.*

Smith, Benjamin (Rock Art Research Institute, Wits University)

[194] *The Place of Rock Art in South African Society Today*

Prior to the coming of democracy in 1994, out of some 15,000 rock art sites within South Africa, only 10 sites had been declared as National Monuments. A handful of sites were open to the public, but South Africa was one of the few countries in the world where political ideology

had closed down the development of any truly 'public' archaeology. This paper considers this history and reviews the impact of 18 years of liberation politics upon the place of rock art with South African society.

Smith, Beth [234] *see Hockett, Bryan*

Smith, Beverley (University of Michigan -Flint)

[143] *Bioarchaeology of the Stone Street Ancestral Population*

Despite extensive damage as a result of construction and taphonomic forces to bone elements from this disinterred cemetery, the ancestral human remains from the Stone Street site contribute to our knowledge regarding the nature and structure of the population including indicators of age, sex, and health in the Late Woodland period in Michigan. The limitations of the assemblage and the results of the analysis are considered in terms of comparability with findings from other regional cemetery sites.

[143] *First Chair*

Smith, Bruce (Smithsonian Institution) [234]

Discussant [271] Discussant

Smith, Bruce D. [238] *see Fritz, Gayle J.*

Smith, Burton (University of Minnesota)

[214] *Reconstructing the Provenance of an Orphaned Pottery Vessel Collection: A Missing Assemblage from the Middle Mississippian Type Site of Cherry Valley?*

This poster explores a variety of evidence linking an orphaned collection of Mississippian pottery vessels from a museum in St. Paul, Minnesota, with the Middle Mississippian type site of Cherry Valley. This evidence includes documentary evidence, as well as some preliminary comparisons between the orphaned collection and a sample of vessels from the Cherry Valley site.

Smith, Calvin [84] *see Condon, Peter C.*

Smith, Cecilia (University of Illinois at Chicago), Eusebio Dizon (National Museum of the Philippines) and Clyde Jago-On (National Museum of the Philippines)

[177] *The Bacong Archaeological Project: Investigating Metal Age Landscape Use on Negros Oriental, Philippines*

The Bacong Archaeological Project, directed by Dr. Laura Junker (University of Illinois Chicago) and Dr. Eusebio Dizon (National Museum of the Philippines), includes regional survey to reconstruct settlement systems of the Metal Age (500 BC–AD 800). The dynamics of landscape use in the Philippine Metal Age are not well understood, but the period is significant in the emergence of increasingly complex societies with status competition and use of foreign trade objects as prestige items. This report describes a GIS-based analysis of geographic and ecologic characteristics of identified sites, preliminary results, and plans for future field seasons.

Smith, Charles [183] *see Roney, John*

Smith, Craig (Cardno ENTRIX) and Lance McNees

(Cardno ENTRIX)**[100] Folsom Structures in the Wyoming Basin of Southwest Wyoming**

Folsom adaptation is typically thought to consist of highly residentially mobile, specialized bison hunters focused on the grasslands of the Great Plains. Recent research has begun to show greater variability in Folsom land-use patterns and mobility. The excavation of the remains of two structures consisting of roughly circular arrangements of cobbles associated with Folsom points on a juniper-covered ridge in the high semi-arid Wyoming Basin of the Middle Rocky Mountains adds to this growing evidence of variability. The presence of these structures suggests a reduced residential mobility and occupation and use of areas not typically associated with the Folsom.

Smith, Derek (University of Washington)**[227] Proyecto Costa Escondida: Coastal Ecology at Vista Alegre**

The contemporary ecological zones of the Quintana Roo coastline are a complex mosaic of habitat types influenced by dynamic environmental processes and historical socio-economic land use. Initial ecological investigation of the Vista Alegre site included GPS-driven terrestrial transects quantifying forest plant species richness and abundance as well as subtidal transects to quantify the percent cover of seagrass and algal species. Shell artifacts found in middens and in archaeological excavation units were also quantified so we can begin to assess the historical impacts of human predation on marine resources in the coastal waters surrounding Vista Alegre.

Smith, Erica (University of West Florida)**[18] Chemical Characterization of Spanish and Mexican Indian Artifacts from the Emanuel Point Shipwrecks**

Tests to determine the provenance of selected artifacts from the 1559 Tristán de Luna shipwrecks through chemical characterization and historical research has yielded successful results. Excavation and laboratory analysis of the two ships (Emanuel Point I and II) have identified a number of artifacts that are now known to have originated from Mexico and Spain. This presentation will outline the results of my thesis research, which employed the use of Instrumental Neutron Activation Analysis on brick and ceramics, as well as Chemical Ionization-Mass Spectrometry and Gas Chromatography-Mass Spectrometry to identify resinous material.

Smith, Erin (Washington State University, Pullman)**[278] Mat Kulaaxuuy and the Land of the Holes: Burials, Landscape, and Historical Process**

As hunter-gatherer archaeology continues to expand and incorporate more humanistic and historicizing theories, our understanding of hunter-gatherer actions, behaviors, and organizational system dynamics has been greatly enhanced. This paper revisits a cluster of sites along the coastal bluffs of La Jolla, San Diego County, California that contained numerous burials exhibiting little evidence indicative of marked status differentiation. Although previously cast as the homogenous burial practices of a simple egalitarian society, the placement of the burials appears to follow a cohesive pattern that may have been expressed during the construction of this place over the

duration of the Holocene.

Smith, Geoffrey (University of Nevada, Reno), Teresa Wriston (University of Nevada, Reno) and Kristina Wiggins (University of Nevada, Reno)**[100] A First Glimpse into Deep Time in Warner Valley: Preliminary Results of a Survey for Paleoindian Sites in South-Central Oregon**

In 2011 a crew from the University of Nevada, Reno initiated pedestrian survey in Warner Valley, Oregon, to determine if it contains evidence of Paleoindian occupations. Our work revealed a high density of fluted and stemmed point sites occupying a series of relic beach ridges. Here, we describe our initial findings including radiocarbon dates for the landforms on which the fluted and stemmed point sites are located, XRF data for Paleoindian points, and the spatial relationship between the fluted and stemmed point sites. We conclude by outlining our plans for additional work in Warner Valley in the coming years.

Smith, Geoffrey [161] see Wiggins, Kristina M. [84] see LaValley, Stephen J.

Smith, Heather (Center for the Study of the First Americans)**[169] Preliminary Analysis of Fluted-Point Technology at Serpentine Hot Springs, Alaska**

Two new fluted points were recovered during the 2011 excavations at Serpentine Hot Springs (BEN-192), Bering Land Bridge National Preserve, Alaska, bringing the total number of fluted points from the site to eight, the most fluted points yet recovered from a single Alaskan site. Four are from buried and secure contexts associated with hearth features dating to about 12,200-12,000 cal BP. This poster presents results of a technological and morphological analysis of the Serpentine fluted point collection, and considers the results in the greater context of fluted-point technology across North America.

Smith, James, Martin Stein (Bureau of Land Management), James Renn (Bureau of Land Management), Jeremy Iliff (Bureau of Land Management) and Bruce Boeke (Bureau of Land Management)**[245] Permian Basin MOA - Year Three of Alternative Section 106 Compliance in Southeastern New Mexico**

To date, the Oil & Gas Industry has submitted over 1600 projects (well-pads, roads, pipelines, etc.) and contributed over \$3.5 million into a fund for archaeological research projects. A workgroup including members of BLM, NM SHPO, and academia select research projects. Projects completed include a synthesis of existing archaeological data, targeted inventory, and an ethnographic study. Current projects include an Historic Context for Oil & Gas and a National Register evaluation of properties along the Delaware River. Future projects across the Permian Basin MOA will include baseline testing of archaeological sites, a lithic and ceramic sourcing project, and targeted excavation.

Smith, Jennifer (Washington University in St. Louis), Jonathan Lewis (Washington University in St. Louis) and Elena Garcea (University of Cassino)

[37] *Reconstructing Nile margin environments during the Holocene: Geoarchaeology at Sai Island, Sudan*

To characterize environmental change and resource availability during the transition from foraging to food production along the Nile River in northern Sudan, a broad-based geoarchaeological investigation of Sai Island was undertaken in early 2011. Geomorphological, sedimentological and stratigraphic analysis of Holocene alluvial sediments documents changes in channel location, and allows for reconstruction of channel margin environments. Pedogenic carbonates were prominent components of soils developed on both Pleistocene and Holocene channel and overbank sediments; geochemical analyses of these carbonates may allow for a refinement of environmental conditions during times of active soil formation (most likely under conditions more humid than today).

Smith, Jennifer [37] see Skinner, Anne [37] see Wreschnig, Andrew

Smith, Karen (Monticello), Sara Bon-Harper (Monticello), Derek Wheeler (Monticello) and Fraser Neiman (Monticello)

[67] *Non-Site Survey on Monticello Mountain*

This poster describes current results from an ongoing systematic, non-site survey of Thomas Jefferson's Monticello Plantation. We construct continuous density surfaces from artifact counts in roughly 17,000 shovel test pits (STPs) on Monticello Mountain and use the results to isolate high-density patches, low-density scatters, and the assemblages they contain. Analysis of assemblage variation allows us to chart change and functional variation in land use. This in turn yields insights into the shifting strategies employed by Jefferson and his slaves during the transition from tobacco to wheat cultivation at the end of the eighteenth century.

Smith, Karen [97] see Stephenson, Keith

Smith, Kevin (Middle Tennessee State University) [197] *The Tennessee Archaeological Society (1944-1988): Legacy and Consequences of the New Deal in Tennessee*

Efforts to create a statewide Tennessee Archaeological Society (TAS) began in the 1920s in response to national goals of sponsoring professional southeastern organizations. The 1920s TAS was shortlived with few legacies. The followup came in the 1940s, when federal relief programs funded an unprecedented amount of archaeology in rural Tennessee. Disappearance of those funds at the onset of World War II led Tom Lewis and Madeline Kneberg to revive the TAS through their New Deal network -- this second effort was extraordinarily successful, spanning five decades and involving as many as 15 chapters and 800 members at its peak.

[266] *First Chair*

Smith, Kevin [197] see Moore, Michael C. [266] see Beahm, Emily L.

Smith, Larissa (University of Illinois at Chicago) and Laura Junker (University of Illinois Chicago)

[57] *Feasting Across Social Boundaries in the Pre-hispanic and Recent Philippines*

Archaeological, ethnographic and historical studies of feasting have generally emphasized societies at similar scales and with similar forms of socio-political complexity, and often involving societies with largely shared understandings of the social meanings and political agendas embedded in feasting events. Long-term archaeological and ethnographic fieldwork, along with historical analysis, in a region of the Philippines that was occupied conjointly by lowland maritime trading chiefdoms, upland swidden farming tribal peoples, and mobile hunter-gatherers shows that the objects and spatial contexts of feasting change meaning when transferred between interacting members of these groups, materially encoding differing views of their social worlds.

Smith, Lisa (University of Montana) and Eric S. Carlson (Historical Research Associates)

[110] *Preliminary Results of Investigations at the s7i7stkn (Little Pit House) Site, Middle Fraser Region, British Columbia*

The hunter-gatherer-fisher people of the Canadian Plateau are renowned for having occupied large, densely populated winter pit house villages. This poster outlines results of test excavations conducted at the s7i7stkn site, a small pit house village located in the Bridge River Valley, with particular focus on a house occupied during the late pre-historic and early contact periods. Preliminary results suggest this household, like others in the region, were highly dependent on anadromous salmon, and may have intensified the use of this resource during the early contact period, likely due to increased participation in the growing trade economy.

Smith, Lisa [132] see Prentiss, Anna Marie [110] see Nauman, Alissa L.

Smith, Michael S. [162] see Herbert, Joseph M.

Smith, Monica (UCLA)

[57] *Networks of provision, networks of disposition: The potential for "feast failure"*

Ancient feasting events often are analyzed as though they were uniformly linear, successful occurrences. However, anthropological examinations of this same subject illustrates the potential for "feast failure": people may or may not contribute, may or may not come to the feast, may or may not be satisfied, and may or may not repay the feast-giver in labor or obeisance. A network approach reveals the complexities of managing the circuits of food and other items that are transformed into feasting provisions, and how we can look for archaeological evidence of tension, negotiation, and consensus among the givers and recipients of feasts.

[92] *Discussant*

Smith, Samuel [42] see Fruhlinger, Jake C.

Smuin, Michale [129] see Schou, Corey D.

Smyth, Michael (Foundation for Americas Research/U. at Buffalo)

[132] *Lewis Binford's Legacy to Processual Archaeology in the Maya Lowlands*

It may seem strange that Lewis Binford was the chair of a Maya archaeology Ph.D. committee at UNM. The topic

was storage and of great interest to Lew who shared many innovative ideas. Storage as an economic process is fundamental and has not been treated adequately in the Maya lowlands where processual archaeology is not widely practiced. This paper will discuss these topics and climate change and human ecodynamics research at Xcoch and the Puuc region of Yucatan. Processual approaches allow the systematic reconstruction of statics to dynamics and an understanding of archaeological variability; all issues championed by Lew.

Smyth, Michael [22] *see Weaver, Eric M.*

Snead, James (California State University Northridge)

[205] *The Original Jones Boys: Archaeologies of Place, Race, and Identity in the Reconstruction South*
Histories of archaeology traditionally emphasize presentist narratives that prefigure today's professional foci. Voices in the archaeological past that emphasize different perceptions of archaeology and its social/cultural role are rarely investigated. Such is the case with Charles and Joseph Jones, two brothers from Savannah, Georgia, who were active in American archaeology after the Civil War. Shaped by their Antebellum and wartime experiences, the Jones brothers shared a passion for collecting and were steeped in the complex sectional politics of the Reconstruction era. Their archaeologies of place and identity represent visions of American archaeology reflecting the complexity of their era.

Snetsinger, Andrew [203] *see Lamoureux St-Hilaire, Maxime*

Snow, Benjamin and Will Russell (Arizona State University)

[171] *Petroglyphic Analysis on Perry Mesa*
Hopi migration histories discuss the coalescence of numerous clans in northeastern Arizona. Some originated in Palatkwapi to the south, traveled in groups known as phratries, and systematically marked their passage with clan symbols. Hopi elders have identified Perry Mesa as an ancestral Hopi place. If the Perry Mesa Tradition included proto-Hopi peoples among its diverse settlers, we might expect to find petroglyphs that are consistent with documented Hopi clan symbols. Using data from past and ongoing fieldwork, we demonstrate the compelling presence of Palatkwapi clan symbols, clustered in phratries among a paucity of petroglyphs that are consistent with non-Palatkwapi clans.

Snow, Dean (Pennsylvania State University)

[51] *Living on the Edge: The Limits of Northern Iroquoian Farming*

A demographic explanation for the appearance of longhouse villages, maize cultivation, and Northern Iroquoian speech in the Northeast after 600 CE fits the known data better than alternative explanations. The expansion of agriculture into the Northeast was coincident with a demographic expansion, as was so often the case elsewhere in North America. The expansion was facilitated by the advent of the climatic warming episode known as the Medieval Maximum. When the more favorable conditions of that episode waned, Iroquoian farmers retreated from more marginal

environments, but remained in the region.

[253] *Discussant* **[257]** *Discussant*

Snow, Frankie [97] *see Stephenson, Keith*

Snow, Susan (San Antonio Missions National Historical Park) and James Oliver (San Antonio Missions NHP/National Park Service)

[33] *Continuity of Use and Community on the San Juan Acequia*

The National Park Service has been working since the early 1990s to restore water to the San Juan Acequia. Construction of the flood control channel in the early 1970s interrupted the flow of water from the San Antonio River into the San Juan Acequia. Later damage by vandalism, storm water blow-outs etc. have necessitated repair and restoration in order to return water to the ditch. These repairs have revealed a number of features along the acequia which show Spanish Colonial repairs that were later augmented by late 19th century and early 20th century repairs. These archeological features of the ditch show the continuity of community from Spanish Colonial times until the 20th century. With restoration of water to the San Juan acequia these features will not be visible but the continuity of community will be continued with water flowing once again to the Spanish Colonial labores of Mission San Juan.

[33] *Second Chair*

Snow, Susan [33] *see Tomka, Marybeth S F*

Snyder, Amanda (Indiana University of Pennsylvania) and Lydia DeHaven (Indiana University of Pennsylvania)

[170] *Stuck in a Rut: The Search for Historic Forbes Road*

Forbes Road was commissioned in 1758 to allow a surprise attack on the French. It was later used as a major conduit for settlers heading west through the Allegheny Mountains. Although some sections of Forbes Road have been preserved, its exact course through Historic Hanna's Town is unknown. The 2011 IUP advanced field school at Hanna's town attempted to locate a segment of the original Forbes Road. Excavations revealed cultural material and features dating to the mid 19th and early 20th centuries, with traces of late 18th century material, and one feature possibly indicative of a wagon rut.

Snyder, Lynn M. [245] *see Hull-Walski, Deborah A*

Sobur, Marta (Harvard University)

[65] *Near Eastern Archaeology in Popular Film.*

The Near Eastern archaeological theaters lend themselves readily to fictionalized portrayal in popular motion pictures. The perception of the Orient as so exotic that it's governed by supernatural forces accounts for the majority of the productions. Presently, archaeologists create scientific content with digital media ubiquitously, while the same media screens archaeo-errors to the general audiences. Through a closer look at select popular motion pictures (10 000 BC, Year One and others) I will examine this paradox and the main conceptual trends (anachronism, syncretism, familiar past and archaeo-errors), which shape the mainstream portrayal of ancient Near Eastern civilizations in film.

Sofaer, Anna (Solstice Project) and Richard Friedman (City of Farmington)

[198] *Chaco Roads: New Insights to their Significance*
The Chaco people engaged in massive construction and engineering feats to develop hundreds of miles of roads throughout the Four Corners region. The thirty-five mile Great North Road, recently studied in depth with LiDAR technology, connects the primary architecture in Chaco Canyon's central ceremonial complex to the direction North and prominent landscape features in the North. The Chaco roads may suggest a fabric of ideological beliefs connecting the Chaco society with prominent landscape (buttes, springs, lakes) and in some cases with key astronomical directions.

Soffer, Olga [202] *see* Adovasio, James M.

Solar Valverde, Laura [98] *see* Jimenez, Peter F.

Solis, Kristina (University of Texas at San Antonio)

[36] *The Graveyard Shift: Spatial Analysis of South Texas Hunter-Gatherer Cemetery Sites*
During the Middle and Late Archaic, the hunter-gatherers that occupied South Texas began to bury their dead at specific locations rather than isolated burials. These cemetery sites are marvels of the South Texas Archaic as they show signs of repeated use, occupational differences, and trade with Mesoamerica. This poster will use ArcGIS to perform spatial analysis of these cemetery sites. The hunter-gatherer cemetery sites will be compared against environmental data in order to understand what factors were important to these hunter-gatherers for choosing ideal burial locations.

Somers, Lewis [7] *see* Greenlee, Diana M.

Sosa, David (California State University Monterey Bay)

[255] *Graffiti and Urban Subcultures: An Archaeological Perspective*

Media and law enforcement sources report that Chicano graffiti has spiked in concert with the escalation of gangland violence in Salinas, California. Differentiating the social and artistic types arising within this urban art form presents a formidable challenge, however, interpreting the writing on the walls may assist community agencies with effectively gauging the dynamics of barrio youth identity and conflict. Concomitantly, grouping all taggers with gang members via the misinterpretation of graffiti continues to fuel the subordination of Chicano youth, and significantly, serves to criminalize the perceived behavior of taggers in the eyes of both the community and law enforcement.

Souther, Lauren (East Carolina University) and Megan Perry (East Carolina University)

[139] *A Comparative Analysis of Paleopathology and Mortuary Practices of West Site 31CK22 in Currituck County, North Carolina*

Archaeologists of prehistoric North Carolina have focused on exploring Late Woodland biological adaptations to the region's unique coastal microenvironments. Recent excavations at the West site (31CK22) have produced new skeletal data (N=5) and

evidence for varied modes for disposing of the dead. The data on these individuals' health and disease are considered in their broader regional context to underscore these populations' unique adaptations to their coastal environment. We then integrate biological and material cultural data to identify underlying biological or demographic issues for differences in burial programs and patterning in other aspects of the mortuary ritual.

Souza, Joanne [123] *see* Bingham, Paul M.

Spalding, Karen (Univ. of Connecticut emeritus & PUCP - Lima, Perú)

[156] *Revisiting Huarochiri: forty years later*
The Central Andes, and in particular the region of Huarochiri, have been the focus of archaeological and ethnohistorical work that has made important contributions to the understanding of Andean society and its transformations. Drawing on field notes and survey reports prepared in 1972 as part of the NSF project, "Archaeology of the Central Andes of Perú," directed by Thomas C. Patterson, this paper will examine the changes in the model of native society beyond the core of the Inca political system that have been proposed since the Lurin Valley project, forty years ago.

Spann, Tamara (Louisiana State University), Rachel Watson (Louisiana State University) and Heather McKillop (Louisiana State University)

[172] *Underwater Transect Excavations: Searching for Salt Production at the Eleanor Betty Site, Paynes Creek National Park, Belize*

A transect was excavated at the underwater salt work site of Eleanor Betty in Paynes Creek National Park. The site is associated with a massive salt industry for the Classic Maya. The transect was excavated along the inside of a wooden structure hypothesized to be an area of salt production based upon an area of dense briquetage—ceramic pots used to boil brine to make salt. The wooden architecture is preserved in mangrove peat. We describe the underwater excavations and report the ceramic analysis carried out at our field lab in Punta Ycacos Lagoon.

Sparks, Janine and Kenneth Tankersley

[127] *A Case Study of Chert Sourcing in the Ohio River Valley: Site 33HA49*

Petrography remains the single most accurate, cost effective, and non-destructive method to determine chert source areas. Petrographic identification requires (1) comprehensive comparative sampling of cherts from primary stratigraphic and geographic provenienced sources, secondary deposits, as well as all look-alikes, and (2) macroscopic and microscopic examination of the cherts to determine rock color, texture, and fossil and non-silica mineral content. The resulting information can be used to determine the procurement sources of cherts. This technique is used to determine the chert source areas of more than 10,000 flaked-stone artifacts from site 33Ha49.

Speakman, Robert, R. Game McGimsey (United States Geological Survey, Alaska Volcano Observatory), Richard Davis (Bryn Mawr College), Michael Yarborough (Cultural Resource Consultants, LLC) and Jeff Rasic (University of

Alaska)**[112] *Obsidian in the Aleutians Islands and Alaska Peninsula***

The Aleutian Islands and adjacent Alaska Peninsula span a 1700 mile arc at the apex of the Pacific Rim. This immense, linear, island chain is ecologically rich and the logistically risky environment provides an interesting case study for examining 8000 years of human mobility and resource procurement strategies in a high latitude maritime setting. Through geochemical sourcing of obsidian, which occurs in tool assemblages throughout the region, we examine these issues. We analyzed 1500 obsidian artifacts from 97 sites, and identified one major source of obsidian and at least five minor geochemical groups that were used prehistorically.

Speakman, Robert J. [153] *see Rasic, Jeffrey T.*

Speer, Charles (University of Texas at San Antonio)**[127] *Investigation of the Edwards Plateau Chert Resources Using LA-ICP-MS***

This research focuses on advancing chert sourcing using non-destructive LA-ICP-MS to characterize chert resources within the Edwards Plateau through combination of in-depth testing of inter- and intra-formation chert variability. Three chert bearing Early Cretaceous Edwards Limestone formations were identified, classified, and distinguished through geochemical composition to document inter- and intra-formation variability. The three primary geologic areas (Callahan Divide, Fort Hood, and Leon Creek) of the Edwards Plateau were analyzed and compared with Clovis period artifacts, also analyzed using LA-ICP-MS, from the Gault site. The Gault site is an important multi-function archaeological site with rich deposits of Clovis artifacts.

[127] Second Chair [127] Second Organizer

Speller, Camilla (Simon Fraser University), Brian Kooyman (University of Calgary), Gwyn Langemann (Cultural Resource Services, Western and Northern Service Centre, Parks Canada) and Dongya Yang (Simon Fraser University)

[141] *Documenting former elk (*Cervus elaphus*) populations and exploitation in Alberta, Canada through archaeological and ancient DNA analysis*

North American Elk are an important component of Alberta's natural ecosystems, and were hunted both by indigenous peoples and European colonists. Overhunting and habitat decline in the 19th century led to the near eradication of Alberta's elk. Though elk have been restored within Provincial and National Parks, there has been ongoing controversy as to past population sizes and distributions. This project conducted an archaeological literature review and analyzed 50 archaeological elk remains using ancient DNA techniques to document elk exploitation by native peoples and assess the distribution, abundance and diversity of elk populations through time and space.

Speller, Camilla [70] *see Thornton, Erin Kennedy*

Spenard, Jon (University of California, Riverside)**[15] *Making Place: An Analysis of the Classic Period Maya Use and Modification of the Karst Landscape in the***

Pacbitun Region, Cayo District, Belize.

This paper offers a discussion and interpretation of the Classic Period Maya use of the karstic landscape that surrounds the Ancient Maya site of Pacbitun. It focuses on a large hill containing several caves, rock shelters, bedrock outcroppings, and boulders all of which were the foci of past activities. The argument presented in this paper is that the construction of features such as terraces, rock walls, blocked passages, etc. transformed the landscape into a series of meaningful places, which in turn were used as stages for various ritual activities that formed and reinforced community identity on local and polity levels.

Spenard, Jon [15] *see Reece, Robert B.*

Spence, Michael [139] *see Wells, Emily E.*

Spencer, Kaylee [275] *see Wren, Linnea H.*

Spencer, Susan (University of Southern Indiana) and Robert Mahaney (Indiana University, Bloomington)

[139] *What to do with presence/absence data?: the benefits of cluster analysis in estimating the timing of trauma at a pre-Columbian site in west-central Illinois.* Discrete trait analysis is a fundamental analytical technique. Using PAST, we demonstrate the benefits of cluster analysis in a case study estimating the timing of cranial trauma using ten patterns of cultural and taphonomic bone alteration. This technique shows how an observation clusters from theoretical category exemplars. Of the seventeen cases previously identified as perimortem trauma, nine could be attributed to non-violent causes, seven were possible perimortem blunt force trauma, and one could be attributed to a celt-wound. We recommend this method for exploring potential etiologies and for addressing ambiguity in a way that is transparent to scientific audiences.

Spengler, Robert (Washington University in St. Louis)**[134] *Ecotopes and Herd Foraging Practices in the Bronze and Iron Age, Steppe and Mountain Ecotone of Central Asia***

Exchange and mobility have been core concepts in Bronze and Iron Age research in Central Eurasia. Using Begash in southeastern Kazakhstan as a case study, this paper examines the wild seed component of the archaeobotanical assemblage, arguing that herd animal dung, burned as fuel, can provide a clearer picture of herd diet and mobility patterns. Mobile pastoralists in semiarid environments focus on specific locations on the landscape where herd forage and water are abundant. These ecotopes are vital components in the herding system; herders focused their herding practices in a network of ecological nodes across a vast mosaic landscape.

Speth, John (University of Michigan) [234] Discussant

Spielmann, Katherine (Arizona State University)**[23] *Art, Community, and the End of Ohio Hopewell***

By the mid-AD 400s the creation and use of the distinctive art objects that are emblematic of Ohio Hopewell had ceased. Artisans no longer crafted copper plates and

ears, mica and copper cut-outs, obsidian blades, elaborate flint bifaces, or decorated ceramics. Nor did people continue constructing the earthworks within which such items had been made, used, and decommissioned. Villages grew, but the nature of the collectivity had changed significantly. This paper explores changes in southern Ohio communities from the Hopewell to the early Late Woodland period and discusses the relationship between change in community, ritual performance, and art.

[257] *Discussant*

Spiess, Arthur [268] *see Bartone, Robert N.*

Spigelman, Matthew (New York University)

[134] *Attempts at the Revitalization of Society in Late Bronze Age Cyprus*

Wallace's "Revitalization Movement" model is used to investigate new cultic practices and material culture that appear in Cyprus at the close of the Late Bronze Age (LBA), ca. 1200 BCE. This model has been productively employed by archaeologists in historical contexts; here it is utilized in an effectively pre-historic setting. The novel practices and material culture of LBA Cyprus bear the marks of both originality and archaic iconography that suggest the Revitalization Movement model to be useful. Previous explanations have presented narratives of invasion or long term processual development, neither of which provides a convincing fit with the archaeological evidence.

Spradlin, William [243] *see Cutright, Robyn E.*

Sprajc, Ivan (ZRC SAZU)

[269] *Pyramids marking time: Tony Aveni's contribution to the study of astronomical alignments in Mesoamerican architecture*

While the study of astronomical practices in ancient Mesoamerica has a long history, it is Anthony F. Aveni's work that defines the beginning of systematic, methodologically coherent and anthropologically oriented archaeoastronomical research. Particularly pathbreaking has been his study of architectural orientations. The huge corpus of alignment data he collected represented the first compelling evidence of the largely astronomical rationale of orientations in Mesoamerican civic and ceremonial architecture. As exemplified in the paper, recent advances in the understanding of the role of astronomy and cosmology in Mesoamerican architectural and urban planning derive, to a substantial degree, from Aveni's pioneering work.

Springate, Megan and Amy Raes (Monmouth University)

[166] *Power of Choice: Reflections of Economic Ability, Status, and Ethnicity in the Foodways of a New Jersey Free Black Family*

Four generations of the free black Mann family owned and occupied their small house in historically white Sussex Borough in northwestern New Jersey from 1862-1909. The foodways assemblage recovered archaeologically included faunal remains, tablewares, and food preparation vessels. Analysis indicates a dramatic shift in the family's economic status in the late nineteenth century, accompanied by changing negotiations of ethnicity, social status, and consumer

choice that engaged both white and black communities. The foodways assemblage from the Mann site is compared with other contemporary free black house sites in the Mid-Atlantic, and reasons for the observed differences are proposed.

Sprowles, Michael [99] *see Quates, Duane*

Stack, Adam (Harvard University) and Emily Hammer (Harvard University)

[91] *Future Directions for Historical Ecology Research in Archaeology*

Historical ecology focuses on changing relationships between communities and landscapes, both natural and manufactured. We argue for greater emphasis on the concepts of "sense of place" and "landscape capital" within this framework. Pre-modern peoples intentionally and positively transformed the environment, and in doing so produced historically particular senses of place based on classifications, associations, and histories of landscapes. Indigenous senses of place are critical to understanding how landscape capital — accumulative systems of highly visible, as well as small-scale and ephemeral, landscape features — works in different societies. We examine the prospects and problems of these concepts in archaeological research.

[91] *Second Chair* [91] *Second Organizer*

Stafford, C. (Indiana State University) and Mark Cantin (Indiana State University)

[261] *Unifacial tool design, depletion, and recycling at the Early Archaic James Farnsley site in the central Ohio River Valley*

A large sample of endscrapers (n= 583) was recovered from a series of Kirk residential camps at the Farnsley site. This study focuses on a metric analysis of end scraper attributes to identify patterns of design, hafting, and depletion. Farnsley scrapers are typically made on large blade-like flakes and often exhibit evidence of hafting. Wyandotte chert (semi-local) accounts for over 79 percent of the assemblage. Lack of blade cores suggests that blanks/scrapers were not made onsite. A comparison of occupation zones and disposal contexts are made (including a secondary trash deposit) to examine degrees of scraper depletion and recycling.

Stafford, Thomas [164] *see Johnson, John R.*

Stafford, Thomas W. [20] *see Jenkins, Dennis L.*

Stahl, Ann (University of Victoria)

[267] *Metal working, ritualization and the rhythms of village life in Banda, Ghana*

Village sites occupied ca. AD 1300 to 1650 in the Banda area, Ghana have yielded evidence of both copper alloy and iron metal working at a time when Saharan exchange networks were giving way to Atlantic ones. Shifting spatial relationships and ritualization of metallurgical practice through this period provides a lens through which to explore implications for the materiality of everyday life in a time of shifting interregional connections. Discussion will focus particularly on the implications for how metal working fit into the rhythms and practices of village life.

Stahl, Ann [92] *see Logan, Amanda L.*

Stahl, Peter (University of Victoria)**[157]** *Fox, Dog, Amazonian Animism, and Non-Domestication*

Although widely recognized as an important hearth of plant domestication, the pre-Columbian Amazon has long puzzled anthropologists for its paucity of native animal domesticates. With the possible exception of the Muscovy duck (*Cairina moschata*), no native animal domesticates were known to have been domesticated in the way that we normally think of domestication.

Although possible candidates for animal domestication were always present in Holocene Amazonia, the reason for their non-domestication is most likely to be found in concepts of native Amazonian perspectivism and key relational features that dominate indigenous cosmologies of the region today.

**Stahlschmidt, Mareike (University of Tübingen),
Bertrand Ligouis (Institute for Archaeological
Sciences, University of Tübingen) and Christopher
E. Miller (Institute for Archaeological Sciences,
University of Tübingen)**
[93] *The depositional environments of Schöningen 13II-4 and their archaeological implications*

The depositional context of any site is key to the interpretation of its archaeological remains. In the case of Schöningen 13 II-4, the Horse Butchery Site, it is vital to understand how the remains of this butchery event were deposited and how post-depositional processes influenced the preservation. The micromorphological and organic petrographical analyses presented here apply evidence at the microscale to decipher the geogenic and anthropogenic processes that led to the formation of this world famous site. These results provide a contextual basis for the interpretation of the site including essential information for the faunal, botanical and lithic analyses.

Stahlschmidt, Mareike [93] *see Miller, Christopher E.***[93]** *see Julien, Marie-Anne*
**Stair, Joseph (University of Kentucky) and Scott
Hutson (University of Kentucky)**
[229] *Dedicatory Offerings from 21 de Abril and Kancab, two Maya sites along the Causeway between Uci and Cansahcab, Yucatan, Mexico.*

This paper reports and analyzes several offerings found at the Maya sites of 21 de Abril and Kancab along the intersite causeway between the larger sites of Uci and Cansahcab on the Yucatan Peninsula. These offerings include broken ceramic vessels from domestic contexts and projectile points from an altar located in a plaza. I argue that these material offerings dedicated the structures that they are associated with for use, allowing individuals and groups to occupy, use, and experience them, creating a ritually sanctioned built environment that can be employed in the continual creation and maintenance of social identity.

Staller, John (The Field Museum)**[166]** *Nixtamal: Maize, Food, Symbol and Meaning in Ancient Mesoamerica*

Nixtamal, the preparation of maize through soaking and grinding the kernels is perceived as a ritual act or performance among pre-Columbian cultures. Imagery of women grinding maize kernels over a mano and metate

has powerful symbolic references to female sex in ancient mythology, legend, folklore. Adoption of the nixtamalization process in the Americas accompanied the spread of maize cultivation. The religious and cultural importance of preparing and grinding maize is made comprehensible through food science and has broader implications for human nutrition and economic dependence. Significantly, the earliest maize grinding implements from southern Mexico and Guatemala date to 1500-1200 B.C.

**Stanchly, Norbert (Trent University) and Darcy
Wiewall (Antelope Valley College)**
[137] *Colonial Period Maya Animal Resource Utilization: Evidence from Commoner Household Excavations at Lamanai, Belize*

We present zooarchaeological data from commoner household contexts at Lamanai during the Late Postclassic to Colonial period transition to assess the effects of Spanish colonization on Maya foodways. The data is compared to elite animal resource use at Lamanai from similarly dated deposits. The data suggest that variability in elite vs. commoner access to animal resources observed during the Classic period persisted into the Colonial period. The Lamanai data provides insight on the gendered relations of household production involved in the preparation and procurement of animal resources in response to the demands of the Spanish State.

Stanford, Dennis [225] *see Lowery, Darrin L.*
Stanish, Charles (Cotsen Institute, UCLA) [12]
Discussant
Stanley Guenter, David Lee [151] *see Eppich, Keith*
**Stark, Barbara (Arizona State Univ) and Krista
Eschbach (Arizona State University)**
[21] *Population Movement Issues in the Classic and Postclassic of the Gulf Lowlands*

Migration, ethnicity, and colonial studies offer overlapping and contrastive concepts for understanding population movement in the Classic and Postclassic archaeological record of the Gulf lowlands. We consider the utility of these diverse perspectives for Gulf lowland archaeology. Our assessment of the general state of population movement studies in this region includes the nature of archaeological evidence, timing, the causes and consequences of population movements, and key topics for future research. Linguistic evidence also plays a role in the assessment, but the focus is archaeology.

Starnini, Elisabetta [176] *see Mannino, Marcello A.***Starzmann, Maria Theresia (Freie Universität Berlin)****[230]** *Remembering Landscapes of Violence: Doing Justice in Archaeology*

The attachment of memories to specific sites not only creates a sense of place, belonging or identity, but also produces ideological landscapes that are highly contested. Looking at the African Burial Ground in Lower Manhattan, this paper explores how archaeology figures in the memorialization of landscapes of trauma and violence. Discussing some of the ways in which archaeology serves economic and political interests, I

develop ideas for an archaeology that 'does justice,' thus moving beyond concerns with advocacy and toward the radical emancipation of those who are traditionally silenced in and excluded from our academic work.

[230] *First Chair*

Stawski, Christopher (Michigan State University)

[98] *Modeling Settlement in the Prehispanic Lake*

Pátzcuaro Basin, Michoacan, Mexico

Current models of settlement for the Prehispanic Lake Pátzcuaro Basin (LPB) are based heavily on Pollard's ethnohistoric and archaeological research of the Tarascans. Using new data from survey, excavation and satellite imagery, as well as utilizing technologies that enable a finer scale analysis of landscapes and communities, this paper illustrates the expansion of Pollard's original work into a fuller understanding of settlement and human-environment relationships from the Preclassic to Late Postclassic in the LPB.

Steadman, Dawnie (University of Tennessee, Knoxville)

[105] *Victim, Warrior, Mother: Health consequences of female positions in Mississippian societies*

Recent hazard model analyses of Mississippian samples demonstrate that reproductive-age females have a greater risk of death than their male cohort. Reproductive-age morbidity and mortality among females is often attributed to child-bearing stresses while cohort male morbidity and mortality is largely ascribed to cultural factors, such as warfare. Undue emphasis on a purely biological interpretation of female well-being ignores how gender-specific risks and cultural roles (captives, warriors, abuse victims and labor responsibilities) can directly contribute to mortality. Biological, ethnographic and archaeological data from Southeastern Mississippian groups demonstrate that more integrated models can explain the complexities of female frailty.

Stech, Edward [216] see Steier, Andrew

Steele, Ian [254] see Slater, Philip

Steele, James (University College London)

[158] *'Modelling dispersal dynamics from radiocarbon data'*

This paper reviews some methodological problems in the use of radiocarbon dates to reconstruct episodes of archaeologically-recorded human dispersal. Much effort has been expended estimating speeds and directions of spatial population expansion in such cases. An appropriate application for these techniques is the first peopling of the Americas. We discuss techniques for estimating front speeds and dispersal vectors, and consider some limitations due to incomplete archaeological sampling and imprecise radiocarbon dating. We also summarise results from a recent collaborative compilation of dates from previously-excavated sites in South and Central America.

Steele, Teresa (UC Davis)

[96] *How studies of shell remains can contribute to our understanding of faunal landscapes*

While traditionally most discussions of taphonomy have focused on skeletal remains, the increasing interest in the exploitation of coastal resources means that

archaeologists should apply similar principles when considering the taphonomic history of shells. Mollusks can provide data about a site's chronology and environmental context, as well as the diet and density of the occupants, as seen in examples from Morocco and South Africa. Interpreting the mollusks requires many of the same principles traditionally employed by taphonomists, including the importance of actualistic studies and multiple samples for comparisons. The special problems of shell beads, landsnails and ostrich eggshells are raised.

Steele, Teresa [83] see Schwartz, Steve

Steele, Teresa E. [117] see Álvarez-Fernandez, Esteban

Steelman, Karen (University of Central Arkansas), Josephine McDonald (Australian National University) and Peter Veth (Australian National University)

[255] *Radiocarbon Dating Rock Art in the Western Desert of Australia*

Over 50 paint samples were collected from rock art in the Calvert and Carnarvon Ranges of the Australian Western Desert for radiocarbon dating. Background samples demonstrated insignificant organic contamination, allowing successful analyses. Art ages ranged from 10±35 years BP (modern) to 3190±60 years BP consistent with prehistoric occupation patterns. These results allow us to associate images on shelter walls with excavated cultural finds, as well as understand the chronology of artistic styles. The traditional Martu will be able to use this information to assist in their management of tourism on the Canning Stock Route.

[255] *First Chair*

Steelman, Karen L. [255] see Bates, Lennon N.

Steere, Benjamin (Coweeta LTER, University of Georgia) and Russell Townsend (Eastern Band of Cherokee Indians Tribal Historic Preservation Office)

[65] *Collaborative Cherokee Archaeology: The Western North Carolina Mounds and Towns Project*

Western North Carolina has a rich history of archaeological research. However, archaeological data regarding Cherokee mound and town sites have not been systematically compiled, hindering research and preservation. The EBCI THPO and the CWT LTER recently began a project to build a database and GIS containing locational and archaeological information for all mound and town sites in western North Carolina. This project involves close collaboration among the Cherokee community, the EBCI THPO, the Cherokee Preservation Foundation, the Coweeta LTER, and archaeologists. Our preliminary research has produced new data for interpreting settlement patterns and new opportunities for preservation and public outreach.

Steffen, Anastasia (Valles Caldera National Preserve)

[112] *Shattered: Direct Effects of the Las Conchas Fire at Jemez Obsidian Quarries*

The 2011 Las Conchas Fire swept through the Jemez Mountains burning more than 150,000 acres. This conflagration included obsidian quarries located at deposits from all three of the major Jemez geochemical groups (Valles Rhyolite, Cerro Toledo Rhyolite, and El

Rechuelos Rhyolite). Included were all of the quarries on Cerro del Medio and all of the Dome quarries (including Obsidian Ridge and Rabbit Mountain). This poster reports on the diverse "direct effects" of the fire on obsidian, including fire fracture, vesiculation, and crazing, and capitalizes in this unparalleled opportunity to investigate the causes of variation in obsidian fire effects.

Stefka, Brad [140] *see Byers, David A.*

Stehman, Kelly (National Park Service)

[171] *Rock Art Revisited*

This poster presents the results of a comprehensive rock art analysis at Walnut Canyon National Monument, Arizona. Northern Arizona rock art continues to be well documented by both scholars and the interested public, yet little is known about the rock art located within Walnut Canyon NM. The initial documentation project provides an important first step in identifying the extent and condition of rock art located within the monument. Moreover, it provides an avenue for an increased understanding of the prehistoric occupants of the monument.

Steier, Andrew (University of Notre Dame), Donna Glowacki (University of Notre Dame) and Edward Stech (University of Notre Dame)

[216] *Investigating Paint Recipes of Mesa Verde Black-on-White Bowls through PIXE Analysis*

Particle Induced X-Ray Emission (PIXE) is used to analyze the paints and slips on 45 Mesa Verde black-on-white bowls (A.D. 1150-1300) from Aztec Ruins National Monument, New Mexico. In addition to developing analytical methods, including the use of standards to allow comparison between runs, preliminary analysis of a larger sample size than previous studies supports the finding that ancestral Pueblo potters at Aztec were using several recipes to make their paints. We add to this assessment by examining 15 samples of one of the possible source materials, Beeweed, showing that composition is affected by the associated geology of the plant.

Stein, Martin [245] *see Smith, James B.*

Steinbach, Penny

[242] *A Revised Definition of Late Classic Maya Codex-style Pottery*

Late Classic Maya Codex-style pottery originates from sites in Guatemala's Mirador Basin. Coe described it initially in 1973, and Robicsek and Hales defined it extensively in 1981. Their definition, however, was too broad until Reents and Bishop refined it shortly thereafter. Since then, it has become evident that the traditional corpus of Codex-style vessels includes three distinct stylistic variations, each evincing a particular combination of vessel form, pictorial composition, color use, and characteristic content. Consequently, I am proposing a revised definition that addresses the variations and offers a different template for defining Classic Maya pictorial pottery styles.

Steinbrenner, Larry (Red Deer College)

[259] *Warriors and Jaguars and Step-Frets, Oh My! Making Sense of Pataky Polychrome*

Pataky Polychrome, one of most spectacular and

elaborately decorated Nicoya polychrome ceramic types of the Sapoá Period (AD 800-1350), is also one of the least satisfactorily described and least well understood ceramic types in the archaeological literature pertaining to Pacific Nicaragua and northwestern Costa Rica. Drawing on a database of material recovered from archaeological contexts in Pacific Nicaragua and complete vessels in museum and private collections, this paper applies a more systematic approach for the classification of this important ceramic type to provide new insights into its relationship with other Nicoya polychromes as well as its long-presumed Mesoamerican affiliations.

[259] *First Chair*

Stelle, Lenville (Illinois State Archaeological Survey)

[101] *First Chair*

Stemp, James [153] *see Grant, Sarah*

Stemp, W. James [61] *see Peuramaki-Brown, Meaghan M.*

Stemp, William (Keene State College) [61] *Second Chair*

Stephenson, Keith (USC Institute of Archaeology and Anthropology), Frankie Snow (South Georgia College) and Karen Smith (Monticello)

[97] *Connectedness and Ceremonialism in Swift Creek Societies of the Interior Georgia Coastal Plain*

Interior Georgia witnessed cultural modifications to the natural landscape for sociopolitical ends where mounds and civic-ceremonial buildings incorporated dispersed populations. At one of these locations, the Hartford site, ritual and competitive feasting demanded material provisioning for surplus redistribution. Zooarchaeological and archaeobotanical remains indicate that labor allocation was ramped-up on a multiseasonal basis in a ceremonial mode of production. Escalating social contradictions inherent in displays of costly signaling transformed the relations of production. Exotic artifacts indicate long-distance exchange and analysis of Swift Creek complicated stamped designs reveals connections between Hartford and contemporaneous ceremonial sites.

Steponaitis, Vincas (UNC-Chapel Hill), Megan Kassabaum (UNC-Chapel Hill) and John O'Hear (University of Mississippi)

[185] *Coles Creek Earthworks and Ritual at the Feltus Mounds in Southwest Mississippi, AD 700-1100*

The Coles Creek period in the Lower Mississippi Valley represents a time (ca. AD 700-1000) when mound-and-plaza arrangements typical of later Mississippian centers first appear in the American South. Three seasons of excavations at the Feltus Mounds (22Je500) have revealed how the mounds and plaza were constructed, as well as other aspects of public ritual, such as feasting and the repeated placement of large posts with dedicatory offerings. Some aspects of this architecture and ritual are precursors to later practices adopted at Cahokia and elsewhere.

[266] *Discussant [239]* *Discussant*

Sterling, Kathleen (Binghamton University) [28] *First*

Chair [28] Second Organizer

Sterling, Sarah [253] *Discussant*

Sterner, Katherine

[78] *Oneota Lithics: A Functional Analysis of the Crescent Bay Hunt Club Assemblage*

The lithic assemblage from the Crescent Bay Hunt Club site (47Je904), an Oneota habitation site on the shore of Lake Koshkonong in Southeastern Wisconsin, provides valuable insight into 13th-14th century material culture and technology in the Great Lakes. Resource procurement, tool assemblage complexity and diversity, and energetic efficiency are addressed in this study. Low power (10-40x) microscopic use wear analysis addresses issues of tool form and function, including the traditional categories of Madison points, humpback bifaces, and thumbnail scrapers.

Stevenson, Chris [177] *see Ladefoged, Thegn*

Stevenson, Christopher (Richard Bland College)

[112] *Obsidian Hydration Dating by Infrared Photoacoustic Spectroscopy*

Obsidian hydration dating is generally applied through the use of high magnification (500-1000X) optical microscopy to measure the hydration layer found on natural glass artifacts. Unfortunately, optical methods are poorly suited for this application because the birefringent optical image does not reflect the true penetration depth of diffused water. Photoacoustic spectroscopy is an alternate approach that relies upon infrared heating of water molecules in the hydration layer and the thermal response is recorded as an infrared spectrum. Both diffused molecular water and structural water (hydroxyl) are recorded; two key variables in the hydration dating calibration.

Stevenson, Christopher [37] *see Cajigas, Rachel*

Stewart, Caitlin (University of Mississippi), Nicholas Herrmann (Mississippi State University) and Gabriel Wrobel (University of Mississippi)

[203] *Skeletal Remains from Caves Branch Rockshelter: A GIS-approach*

Excavations at Caves Branch Rockshelter have revealed over 100 primary Maya burials of both sexes and all ages spanning the Classic period. Numerous taphonomic factors, including repeated intrusive burials and looting, have created a matrix with highly fragmented and commingled bones, thus complicating estimates of the minimum number of individuals and reconstructions of mortuary ritual. We use a new GIS-approach focusing on identification of overlapping features in this complex context to create an inventory of skeletal elements. This approach increases the accuracy of MNI estimates and thus expands the potential of CBR as a biological and mortuary sample.

Stewart, James (University of South Carolina)

[107] *40MI70: A Multicomponent Archaic and Woodland Site on the Tennessee River*

This paper will summarize the 2009 - 2010 data recovery at 40MI70. Five Archaic and Woodland components were identified and excavated. Ground penetrating radar influenced a research methodology that minimized site

disturbance and targeted specific resources for excavation. Components were identified and interpreted following: archaeobotanical, faunal, soil chemistry, microdebitage and ceramics analysis.

Stewart, R (Temple University), Jeremy Koch (Temple University), Kurt Carr (State Museum of Pennsylvania), Del Beck (American Society for Amateur Archaeology) and Gary Stinchcomb (Baylor University)

[268] *The Paleoindian Occupation at Nesquehoning Creek (36CR142) Carbon County, Pennsylvania*

An overview of stratigraphy, geomorphology, artifact assemblage and preliminary interpretations are presented. The site is situated on a low, late Wisconsin age terrace in the Lehigh River Gorge, Valley and Ridge province. Paleoindian deposits occur to depths of 8.5 feet (2.59m), are associated with an uncalibrated AMS date of 9940 \pm 50 RCYBP, and are stratified beneath Archaic, Woodland, and Historic occupations in a package of vertical accretion deposits. Paleoindian artifacts occur in weathered A horizon overlying Late Pleistocene gravels. A Crowfield fluted point base, debitage, channel flakes, and flake tools are part of an assemblage dominated by micro/cryptocrystalline tool stone.

Stewart, R. Michael [174] *see Lattanzi, Gregory D.*

Stich, Kyle (Louisiana State University), Gabriela Bertone (Museo de Historia Natural, Universidad Nacional Mayor de San Marcos), Giancarlo Marcone (University of Pittsburgh), Li Jing Na (Museo de Historia Natural, Universidad Nacional Mayor de San Marcos) and Paula Esposito (Museo de Historia Natural, Universidad Nacional Mayor de San Marcos)

[39] *A paleoethnobotanical analysis of Lote B, a Lima culture site on the central coast of Peru*

Despite decades of research, little has been published regarding plant use by the Lima, an Early Intermediate Period culture from the central coast of Peru. A recent University of Pittsburgh excavation at the site of Lote B provided an opportunity for paleoethnobotanical research on the Lima Culture. This investigation consisted of an analysis of macrobotanical remains coupled with the stereoscopic scanning of soil samples taken from floor and feature contexts. Our presentation will summarize the results of this study and provide an outline of the variation in botanical remains that was observed between sectors of the site.

Stinchcomb, Gary [268] *see Stewart, R Michael*

Stine, Linda (University of North Carolina Greensboro)

[28] *A cultural negotiation: gender, class, preservation law and opportunity*

Gone are the days when women archaeology students are regulated to piecing pots in the basement laboratory. The American upheaval in gender relations in the 1960s-1970s helped expand archaeological student pursuits. It is argued that the National Historic Preservation Act of 1966 as amended and subsequent CRM regulations created burgeoning institutional structures, private and public, which followed government dictates for equal opportunity. Teasing apart sexism from classism is

crucial to understanding if archaeological teaching, research, mentoring and employment opportunities have changed in the last 50 years.

Stiver, Laura [181] *see Brannan, Stefan P.*

Stockton, Trent (Tulane University), T. Kam Manahan (Kent State University) and Traci Ardren (University of Miami)

[58] *Patterns of Variability in Slateware Pottery at Ancient Xuenkal: Implications for Archaeological Interpretation*

Archaeological investigations at the ancient Maya site of Xuenkal, Yucatan, Mexico, seek to uncover how the rapid growth of Chichen Itza during the 9th and 10th centuries A.D. affected existing regional economic and political configurations. Interpretations hinge on assessing chronological, spatial, and social variability in samples of Cehpech and Sotuta slateware pottery recovered from excavated contexts. We report preliminary results of a multivariate exploratory study of macroscopic attribute variability of slateware sherds (n=100) and chemical compositional patterns as revealed by non-destructive portable x-ray fluorescence spectrometry.

Stodder, Ann (Field Museum) and Anna Osterholtz (University of Nevada, Las Vegas)

[94] *Interpreting Sacred Ridge: Behavioral Taphonomy, Quantitative Taphonomy and Regional Context*

The assemblage of commingled processed human remains from Sacred Ridge is the earliest and largest in the Southwest. The early Pueblo I event provokes a range of questions about the nature and purpose of the violence, and the larger history of perimortem violence in the region. Analysis combining quantitative taphonomic characterization of the assemblage, fragment conjoining and provenience control, and behavior oriented reconstruction of body processing affords several dimensions of comparison with Mancos Canyon, Cowboy Wash, and other sites, elucidating unique aspects of the Sacred Ridge assemblage and some constants in the practice of violence across several centuries here.

[72] *First Chair [72] Second Organizer*

Stoessel, Luciana, Gustavo Flensburg (CONICET-INCUIA-UNICEN), Gustavo Martínez (CONICET-INCUIA-UNICEN), Alcaráz Ana Paula (CIC-INCUIA-UNICEN) and Santos Florencia (FACSO-UNICEN)

[273] *Archaeofaunas, oral health, and human stable isotopes: exploring intensification in hunter-gatherers subsistence during the Late Holocene in arid North-eastern Patagonia (Argentina).*

In the arid-semiarid lower basin of the Colorado River (eastern pampean-Patagonian transition, Argentina) subsistence patterns of hunter-gatherers groups underwent a change towards the Final Late Holocene (1000-250 years BP). Archaeofaunal analysis indicates the development of a resource diversification strategy, including terrestrial, marine and freshwater species to diet. A process of economic intensification on some of these resources and also probably on vegetable resources is proposed. In this paper, other lines of evidence such as oral health and human stable isotopes are discussed for the purpose of exploring more deeply

the effects of intensification in subsistence patterns.

Stokes, Robert (Archaeological Consulting Services) and Joanne Tactikos (Archaeological Consulting Services)

[222] *A Protohistoric to Historic Yavapai Persistent Place on the Landscape of Central Arizona: Evidence from the Lake Pleasant Rockshelter Site*

Excavations at a rockshelter site in Lake Pleasant Regional Park revealed sequential occupations beginning with the prehistoric Hohokam and terminating in the 1940s. It was assumed that the protohistoric occupation would be Yavapai, who moved into this area at this time, and the late historic occupation would be Euroamerican. However, analyses of the material culture, especially lithic tools, revealed that the Yavapai were still using the rockshelter into the Late Historic period. The excavations therefore provide not only material cultural and subsistence pattern data for the Yavapai, but demonstrate the power of persistent places on the landscape for indigenous peoples.

Stoll, Marijke (University of Arizona)

[181] *Urbanization and the Transformation of Society in the Mixteca Alta*

Urbanism is a dynamic process indicating a radical change in settlement patterns and social relations. The impetus for urbanism in the Mixteca Alta region of Oaxaca was previously linked to the founding of Monte Alban in the Central Valley area. However, recent arguments have been made that urbanism was more of a direct result of endogenous processes, rather than strictly emanating from outside influences. This paper will examine the phenomenon of urbanism and the transformation in settlement patterns from the Late Cruz to the Early Ramos (Terminal Formative) phases using new evidence from the Coixtlahuaca Valley in northern Oaxaca.

Stone, Andrea (Univ of Wisconsin-Milwaukee)

[152] *Classic Maya Iconography Re-envisioned: the Terminal Classic Cementerio Platforms, Uxmal, Yucatán*

Stone reliefs on four platforms in Uxmal's Cemetery Group are typically seen as a hallmark of Central Mexican influence on Terminal Classic Maya art because of their glaring death symbols, including crossed bones, eyeballs, and skulls. However, closer examination of this imagery reveals unequivocal derivation from Classic Maya precedents. Furthermore, woven bones suggest connections to the old Goddess O, but conceptualized in new ways, paralleling depictions at Chichen Itza. These transformations of Classic Maya iconography may, indeed, have a foreign stimulus. Thus, the Cementerio Platforms offer insights into processes of iconographic retention and innovation characteristic of this period.

Stone, Jane [42] *see Nelson, Shaun R.*

Stone, Jessica (North Carolina State University), Scott Fitzpatrick (North Carolina State University) and Scott Burnett (Eckerd College)

[35] *Paleodiet and nutrition at Grand Bay, Carriacou, West Indies*

Research was conducted to examine paleodiet and health of 15 prehistoric individuals from the island of Carriacou (West Indies) as inferred from stable isotope,

zooarchaeological, and paleobotanical analyses, and frequencies of linear enamel hypoplasia (LEH). It was hypothesized that subsistence would follow a pattern of marine protein and horticultural crop consumption seen throughout the Caribbean and that diverse dietary components would fulfill nutrient requirements resulting in low LEH frequencies. Results indicate that early Carriacouans exploited marine and terrestrial resources. LEH occurred in about 47% of the sample, mostly between ages 2 and 4, suggesting that weaning was a factor.

Stone, Jessica [141] *see Clark, Meagan E.*

Stone, Pamela (Hampshire College)

[105] *Beyond Reproduction – Life Herstories and the Bioarchaeological Women*

Bioarchaeological signatures offer a transcript of life when examined in broader contexts than only through the lens of reproduction. Though challenging, it is crucial that multiple lines of inquiry (skeletal, ethnohistoric, archaeological) are examined and used to guide the discussion of gender, ideology and power, to reveal more about females' activities in community and show that they were not limited by their reproductive roles. The papers in this session, and the research presented here from Ancestral Puebloan populations, utilize data from material and human remains to engender expanded understanding of the roles and responsibilities that women held in the past.

[105] *Second Organizer [105] First Chair*

Stone, Tammy (University of Colorado Denver)

[88] *Diasporas, Migrations, and Ethnic Enclaves in the American Southwest*

A series of Kayenta Anasazi ethnic enclaves have been identified in southern Arizona and New Mexico dating between A.D. 1200 and 1400. The ethnographic concept of a diaspora has been invoked recently to explain both the appearance of these enclaves and the nature of the interaction between the migrants and host populations. This paper exams the theoretical literature on diasporas to better understand the relationship of the enclaves to each other, to their motherland, and to their host communities. Data from enclaves at Point of Pines Pueblo, Reeve Ruin, Goat Hill and the Davis Site are used.

[88] *First Chair*

Stoner, Edward (Western Cultural Resource Management, Inc.), Geoffrey Cunnar (Western Cultural Resource Management, Inc. (WCRM)) and Luan Fengshi (Shandong University)
[159] *The Symbolic Importance of Color Choices in Stone Raw Material*

There are many factors that a prehistoric craftsman might have considered when selecting raw material for the construction of stone tools including raw material quality, package size, availability, and source location. In this paper, we consider the importance of color in toolstone selection. We examine evidence for the importance of green in Neolithic China (ca. 7,250-3,500 BP) and the importance of black in the selection of toolstone for the manufacture of projectile points during the Paleoarchaic Period (ca. 11,500-7,500 BP) in the Great Basin, United States. Potential cross-cultural

relationships between color, status, ritual, and gender are explored.

Stoner, Wesley (University of Missouri Research Reactor)

[71] *The Cipactli Cult Of Totocapan: Strategies Of Politico-Ritual Control In The Classic Period Tuxtla Mountains, Southern Veracruz, Mexico*

The Totocapan regime controlled settlements within the Tepango Valley during the Classic period. This poster examines one strategy of control employed by the Totocapan regime. Early excavations in an altar at Totocapan recovered a pair of bowls engraved with stylized images of a saurian figure, which probably portrays the mythical creature, cipactli. Recent survey of the Tepango Valley, found these engraved images on a highly standardized ceramic type distributed throughout the Valley. This poster explores the role of cipactli in local religion, and the ways in which Totocapan regime officials used these beliefs to subjugate the valley.

Storey, Rebecca (University of Houston)

[105] *Reproductive versus Post-Reproductive-Age Women Among the Formative Maya*

The Formative Period (c. 100 BCE to CE 250) is when many of the famous traits of Maya civilization were developed, and the period is one of increasing stratification among individuals, as evidenced by mortuary treatment as well as the built environment. These Maya are hypothesized to be a patrilineal society, so it is possible that the mortuary treatment of women who married into lineages would be impoverished compared to males. Actually, the main difference appears to be between reproductive age and post-reproductive age women, as samples from Copan, Honduras, and K'axob, Belize, indicate.

Storey, Rebecca [102] *see Widmer, Randolph J.*

Storlie, Curtis [144] *see O'Brien, Matthew J.*

Storozum, Michael (Washington University in Saint Louis) and T.R. Kidder (Washington University in Saint Louis)

[6] *Micromorphological Features of Ancient Agriculture in China*

Although soil micromorphologists have identified diagnostic features of ancient fields in European contexts, few studies exist concerning farming in ancient China. Recent excavations at the site of Sanyangzhuang, Henan Province, China, unearthed a sequence of buried fields, dating to the Neolithic, Warring States, and Western Han periods. This paper presents the record at Sanyangzhuang as a longitudinal case-study on changes in early Chinese agricultural practice and technology. Using micromorphological techniques as one part of a broader geoarchaeological study, these data enrich our current understanding of field management, and more broadly, landscape modification, in ancient China.

Stout-Evans, Rachel [50] *see Mehta, Jayur M.*

Stoutzenberger, Halle [227] *see Patterson, James W.*

Stovel, Emily (IIAM-UCN and Ripon College) and Christina Torres-Rouff (IIAM-UCN/Colorado College)

[29] *Exploring the Expression of People vs. Pots in the Late Intermediate Period (c. AD 1000- 1500) Chilean Atacama Desert*

Late Intermediate Period San Pedro de Atacama communities shared household ceramic styles with their Salado River Valley neighbors. However, cranial non-metric traits demonstrate clear biological differences between contemporary Salado River and San Pedro populations. In the context of LIP burial practices, which held a special role in the expression of identity, this biological divergence and ceramic convergence suggests that pottery differed in social meaning and in its function in identity formation from the intimate practice of shaping infant heads. We argue here that the relationship between biological and cultural identities was complex, frequently manipulated, and expressed using specific material vectors.

Straight, Kirk (Penn State)

[102] *The Production, Exchange, and Consumption of Pottery Vessels during the Classic Period at Tikal, Petén, Guatemala*

The results from a distributional study of Classic Period serving vessels recovered from a 2005-2006 testing program in peripheral Tikal are reported. Ceramic samples derive from settlement within a 250 m corridor running the 12.8 km length of the northern earthwork as well as settlement associated with the minor center of Ramonal/Chalpaté. A representative sample of 162 ceramic sherds and 8 figurine fragments were subjected to Instrumental Neutron Activation Analysis (INAA) in order to formulate compositional reference groups reflecting different ceramic production traditions. Coding of metric variables expressed as diversity measures permit evaluation of the relative number of production units.

Straus, Lawrence Guy [202] see Fontes, Lisa M.

Strauss, André (MPI-EVA), Pedro Da-Gloria (The Ohio State University) and Walter Neves (São Paulo University)

[158] *Beyond Lund's dilemma: new perspectives from Lagoa Santa region, central Brazil*

By the time Hrdlicka's "Early Man in South America" was published, Lagoa Santa was already well-known among scholars. From the beginning, their main interest in the region was centered on the evidence suggesting man's "great antiquity" in the New World. For more than a century, two topics have dominated the discussion: the co-existence of man and mega-fauna, and the non-Amerindian cranial morphology of Lagoa Santa's man. Today, however, these issues have been exhausted. The study of Lagoa Santa's archaeological record has shifted towards mobility patterns, life style, and mortuary rituals, unveiling a complex scenario for the occupation of the continent.

[158] Second Chair [158] Second Organizer

Strauss, André [158] see Hubbe, Mark

Strawhacker, Colleen (Arizona State University)

[25] *Response of O'odham Irrigated Agriculture to Colonial Forces on the Middle Gila River, Southern Arizona*

Responding to new economic forces introduced by

Spanish missionaries and the United States military, O'odham farmers on the middle Gila River adapted their agricultural system throughout the historic period (AD 1694 – 1950), shifting to a barter and cash based economy. This paper will explore how the nature of agriculture changes during the historic period and how these changes affected the quality of agricultural soil. By comparing prehistoric irrigated agricultural fields (primarily subsistence based) to historic irrigated agricultural fields (primarily barter and cash based), the effects of these new colonial forces on O'odham agriculture and soil quality will be determined.

Strawinska, Urszula [128] see Brown, Clifford T.

Strezewski, Michael

[239] *Mississippian Origins in the Middle Ohio River Valley: A View from the Kuester Site*

The Late Woodland to Mississippian transition in southwestern Indiana is not well understood. Recent analysis of the Kuester site (12-Vg-71) excavations, which were conducted in the 1970s, sheds some light on this matter. Late Prehistoric features, including a Mississippian-style wall-trench structure, have been dated to A.D. 1100. Ceramics within the structure, however, are predominantly Terminal Late Woodland Yankeetown varieties, with Mississippian pottery found only in small quantities. The Kuester site may represent a brief period of overlap between the latest Yankeetown peoples in southwestern Indiana and the earliest Mississippian residents, who likely moved to southwestern Indiana from elsewhere.

Striker, Michael (Gray & Pape)

[239] *The Cosmological and Social Significance of Palisades*

Palisades are more than simply defensive structures. In addition to controlling access to a village or a temple complex, palisades are a meaningful component of the village as microcosm, constitute a significant public works project that can help forge collective identity, and are a significant part in the contexture of the social life of the village.

Striker, Sarah (Arizona State University)

[185] *Artifacts and Space in Iroquoian Longhouses*

While the architectural features of Iroquoian longhouses are relatively well understood, the spatial patterning of artifacts within excavated longhouses are often overlooked in comparative research. This study examines the spatial distribution of common artifact classes such as pottery, stone and bone tools, and pipes within several longhouses representing three centuries and several regional Iroquoian traditions. Quantitative analyses characterize these distributions, including a novel method to quantify the degree to which objects are clustered on the periphery of a given space. These methods provide a new perspective on regional and temporal differences in the use of space within Iroquoian longhouses.

Stuart, David (The University of Texas at Austin)

[118] *Sorcery, Disease and the Dark Side of Ancient Maya Political Ideology*

The fantastical beings portrayed on many Classic Maya ceramics are known collectively as way, a term

deciphered by Stephen Houston, Nikolai Grube and myself in 1989. As more recent work has shown, many if not most of them now prove to be representations of animated diseases and demonic "spooks" familiar from ethnographic and ethnohistorical literature. Here I reexamine the way concept, emphasizing how sorcery and witchcraft were central themes of Maya ceramic decoration. Contextualizing such imagery shows the importance of sorcery in political machinations among competing kingdoms, and in the general expression of Classic Maya royal ideology.

[269] *Discussant*

Stuart, George (Boundary End Archaeology Research Center)

[4] *Our Debt to David Kelley, My Friend and Colleague*

My relationship with David Humiston Kelley began in 1966 and endured for the next 55 years. During those years, and beginning with a key meeting in Mexico City, I became continually aware, not only of Dave's brilliance in the broad field of Americanist studies, but also of the unique scope of his intellect and his incredible innovation within the bounds of rigorous scholarship. Here I will review his influence on me and on the fields of our shared endeavors in the study of Mesoamerican culture, with particular emphasis on its epigraphy, iconography, and astronomy.

Stump Sr, Videl [250] *see O'Boyle, Robert C.*

Stup, Jeffrey (University of South Dakota)

[65] *Practicing Archaeology in Romania: Adapting to different methods*

This presentation and the research leading to it address the importance of comparing the methods developed by American archaeologists those used by Romanian Archaeologists. Participating in an excavation of the Piatra Detunata site in Racos, Romania, led by a Romanian archaeologist, was a change in methodology for an American student in archaeology. The Romanian methodology is more contextual while North American Archaeology tends to be a standardized and repetitive process. Although there were numerous transferable skills, the archaeological process in Romania proved to be a learning experience for methodological adaptation.

Stvan, Jeffrey (University of Chicago)

[65] *A Storied History: Transformation in Museum Narratives*

Museum exhibits have long constituted an important medium for the construction and public dissemination of archaeologically-informed narratives. Necessarily contingent, these narratives are also situated in specific social, political, and economic milieus. Thus, over time, these narratives are increasingly subject to transformational pressures, the results ranging from minor edits to outright replacement. Such transformations often involve a significant rethinking of didactic strategies, as well. Referencing a selection of exhibits focused on the pre-Columbian Americas, this paper examines the nature of these revisions and considers what a more thorough documentation of these institutional narrative/didactic shifts might have to offer our field.

Suarez, Rafael (Depto. Arqueología, Universidad de

la República.)

[231] *Blade Technology in Southeast of South America by 10,930-10,880 yr BP: Evidence for Pay Paso 1 site, Northwest Uruguay*

The research at multicomponent Pay Paso 1 Paleoindian site allowed the generation of a solid chronological base with 32 AMS dates and a stratigraphic sequence of three successive human settlements in the Northwest of Uruguay (ca. 10,930 – 8,500 yr. BP). The site is remarkable because it yielded evidence of a blade technology for 10,930 – 10,880 14C years BP, with blades and depleted blade core. The paper describes and discusses the blade technology, the variability in the early projectile points and the lithic assemblage of early hunter-gatherers of Uruguay in the context of the peopling of America.

Suarez, Raphael [225] *see Bradley, Bruce A.*

Sugandhi, Namita [211] *see Raczek, Teresa P.*

Sugiyama, Nawa (Harvard University), Saburo Sugiyama (Aichi Prefectural University & Arizona State University), Enrique Pérez Cortes (Instituto Nacional de Antropología e Historia) and Alejandro Sarabia (Instituto Nacional de Antropología e Historia)

[73] *Beginning of Teotihuacan State Ideology Reconstructed from the Earliest Offerings/Burials in the Sun Pyramid*

Excavations inside the Sun Pyramid in 2009-11 discovered 2 substructures, 4 burials, and 2 offering complexes corresponding to the Tzacualli or earlier periods. We particularly describe the earliest offerings found to date inside the monument and discuss the ritual context that integrated greenstone, obsidian, slate, pyrite, shell, ceramic, organic materials and animals sacrificed and buried together near the center of the pyramid. Socio-political implications are interpreted with architectural sequence and the possible royal tomb located in the ancient tunnel found in 1971. The data demonstrate innovative ideology and powerful rulership competitive to other emerging complex societies in the Mexican Highlands.

Sugiyama, Saburo (Aichi Prefectural U./Arizona State U.)

[73] *How did Teotihuacan Rulers Set Religious Order to Dominate Mexican Highland Communities?*

Early architectural sequence associated ceramic analysis and C14 data from the Moon Pyramid, the Sun Pyramid, and Ciudadela are analyzed to elucidate cultural changes and continuities in Teotihuacan socio-political contexts. Teotihuacan's grand scale city-layout is also discussed in terms of standardized orientation and spatial distribution as a result of the Teotihuacan measurement unit study. Worldview uniquely and precisely materialized by the state can be understood as a successive path to power among the increasingly varied Highland centers during the Terminal Formative periods. The paper stresses ideology, or human's cognitive capacities, as an interlocked key factor that lead to social complexities.

[73] *Second Organizer*

Sugiyama, Saburo [73] *see Sugiyama, Nawa*

Sullivan, Elaine (UCLA)

[129] *3D Saqqara: Exploring landscape and memory at the ancient Egyptian necropolis*
3D Saqqara integrates GIS and 3D modeling to create a truly 4-dimensional exploration of the important necropolis of Saqqara, Egypt. By simulating the original built and natural landscape of the site, the project investigates the visual environment that shaped (and was in turn shaped by) the experience and choices of ancient peoples. Through the recreation of lines of sight between important cult places, 3D Saqqara specifically traces how decisions over time at the cemetery and surrounding sites transformed the meaning of these spaces and altered ancient peoples' perception of the ritual landscape.

Sullivan, John [139] see *Martin, Paul S.*

**Sullivan, Lynne (University of Tennessee),
Donna McCarthy (University of Tennessee) and
David Echeverry (University of Tennessee)**

[197] *Reconfiguring the Chickamauga Basin*
New Deal-era excavations for TVA's Chickamauga Reservoir literally laid the groundwork for subsequent archaeology in the Upper Tennessee Valley. Chickamauga sites like Hiwassee Island and Dallas became type sites for archaeological phases and the basis for comparisons with sites in other reservoirs. The well-documented collections from the Chickamauga sites continue to provide data for interpretations of Mississippian Period cultures. Reworked site chronologies developed with modern dating methods are enabling significant new insights to regional dynamics during this timeframe, including interactions with adjacent regions. Both archaeological and bioarchaeological data contribute to new ideas about social, political, and biological relationships.

[164] *Discussant* **[48]** *Discussant*

Sullivan, Norman C. [139] see *Rodell, Roland L.*

Sullivan, Timothy (University of Pittsburgh)

[19] *Shifting Strategies of Political Authority in the Middle Formative through Terminal Formative Polity of Chiapa de Corzo, Chiapas, Mexico.*

The performance of large scale ceremonies appears to have been a central strategy employed by the Middle Formative founders of Chiapa de Corzo. Towards the Terminal Formative, rulers at the site constructed a more restricted ceremonial setting, likely restricted to elite participants. Continued use of the older ceremonial zone suggests that earlier more inclusive large-scale rituals persisted throughout the occupation of the site. Through the analysis of changes in architecture at Chiapa de Corzo, and of evidence from the hinterland, this paper addresses the development of several political strategies through the evolution of this early Mesoamerican capital.

Summers, Garry [261] see *Seeman, Mark F.*

Sun, Guoping [60] see *Lauer, Adam*

Sun, Lei [60] see *Pechenkina, Ekaterina*

Sundman, Elin [176] see *Warmlander, Sebastian*

Sunseri, Jun (University of California, Berkeley)

[25] *Frontline Tactics and Homescape Strategies in Biomechanical Perspective: Equine travel along the raiding frontier of Colonial Northern New Mexico*
Archaeologists of the colonial period investigate the lived experiences of communities who inhabited landscapes alive with commerce, communication, and violence. Traditional GIS studies of settlement patterning and least cost pathways are only now coming into their own as analytical tools to model human pedestrian movement accurately. However, equestrian mobility in the colonial era was an even more important vector for slave raiding, communication, transport, and trade. An experimental approach for interpolating equestrian/topographical dynamics for integration in GIS analyses of archaeological landscapes is proposed.

Supak, Karen

[46] *Where Beginning Meets End: Local Variation in Chert Procurement at Noah's Springs Cave, Fort Campbell, Kentucky.*

A decade of research has demonstrated a distinct pattern of casual, localized prehistoric chert procurement and processing at Fort Campbell, particularly when compared with regional patterns of toolstone acquisition and distribution. Noah's Springs Cave (15CH57), a prehistoric quarry, habitation, and burial site utilized from the Early Archaic through Mississippian periods, offers a rare and noteworthy exception to this localized pattern. This paper examines potential motivations for the differences documented at 15CH57 and discusses how they relate to contemporaneous toolstone procurement at Fort Campbell and throughout the southeastern United States.

[147] *Discussant*

Supernant, Kisha (University of Alberta)

[36] *Tracing Spaces of Ethnogenesis: Exploring the rise of Métis identity in Canada, 1750-1900*

The ability of archaeologists to query the spatiality of social identities is becoming increasingly sophisticated with the advent of advanced mapping and GIS techniques in archaeology. Combining nuanced applications of social theory with appropriate spatial methods is leading archaeologists to deeper understandings of how social boundaries and identities are constituted by social action. Much work, however, remains to be done to understand the factors that contribute to how new identities arise in past societies. In this paper, I explore the possibility of applying spatial techniques to trace the rise of Métis identity in Canada via archaeological and historical records.

Surface-Evans, Sarah (Central Michigan University)

[16] *Climate Change and Archaic Hunter-Gatherer Adaptations in the Ohio Valley*

Many the adaptive strategies observed among Middle Archaic hunter-gatherers in the American mid-continent, such as increased sedentism and subsistence intensification, appear to be interwoven with mid-Holocene hypsithermal climate change. While paleoecological data from the upper Midwest and Southeast support this hypothesis, local-level data necessary to evaluate the extent of climate change are lacking for other regions. Pollen core data collected from an Archaic Shell Midden in the central Ohio valley

provides a glimpse of mid-Holocene botanical resource availability. Adaptive decisions made by Middle Archaic peoples are discussed vis-à-vis this new paleoecological data.

[16] *Second Chair*

Surridge, Evan [243] *see Mullins, Patrick James*

Sutter, Richard (Indiana University-Purdue University Fort Wayne)

[5] *Class-Structured Gene Flow During the Moche Occupation of San José de Moro (AD 500 – 850), Jequetepeque Valley, Perú*

The mortuary site San José de Moro, located within the Jequetepeque Valley, Perú, was used throughout the Moche (AD 500 – 850) and Lambayeque (AD 950 – 1200) periods. The ability to infer class distinctions based upon mortuary data for more than 900 individuals provides a unique opportunity to explore class-structured gene flow at the San José de Moro, where, over time, there is an increased presence of exotic grave offerings in elite tombs. This paper explores class-structured gene flow using R-matrix analyses of phenetic tooth trait frequencies during the Moche occupation of San José de Moro.

Sutton, Elizabeth (University of California, Santa Barbara)

[126] *Considering Nimatlala: Revisiting the Organization of Historic Period Chumash Settlement Systems*

All Historic period Chumash villages are thought to have been occupied by sedentary populations, with the majority of villages positioned along the coastline of the Santa Barbara mainland and Northern Channel Islands. No significant occupation was believed to have existed in the interior regions of the Islands. However, the village of Nimatlala is located in the very center of Santa Cruz Island in the Central Valley. The discovery of this Historic period village and the results of excavations there suggest that the Chumash settlement system during the Contact and Historic periods is more complex than previously believed.

Suvrathan, Uthara (University of Michigan) [82]
Discussant

Swarts, Kelly (Cornell University), Feiyan Yan (Cornell University) and Edward Buckler (Cornell University)

[35] *A genetic comparison of 38 modern maize landraces from the southwestern US and northwestern Mexico*

Modern maize landraces, or native varieties, derive from the complex intersection of plant genetics, environment, and the interactions and cultural preferences of the people or peoples who developed and managed these populations. This study presents preliminary results from high-throughput DNA sequencing of 38 maize landraces from publicly curated collections of southwestern US and northern Mexican named accessions. Equifinality has historically confounded ethnobotanical inquiries into the nature and timing of the spread of maize agriculture throughout the Americas. Molecular studies provide a genetic baseline for which to understand environmentally and culturally-informed selection and, by proxy, past human interactions.

Swenson, Edward (University of Toronto)

[262] *Theorizing the Particular: Engaging Andean Archaeology with Theories of Place and Landscape*
Theory-building in archaeology relies on general concepts, whether ritual, social memory, practice, etc. However, such constructs are of interpretive value only when empirically contextualized in space and time. In fact, place-sensitive heuristics are better suited to illuminate the historical particulars of power relations than taken for granted typological models, including most notably chiefdom or state. In other words, analyzing social dynamics as constituted in specific landscapes intends to historicize past societies in a manner that abstract institutional generalizations fail to accomplish. By investigating diverse constructions of social space, Andean archaeologists are in a position to make important theoretical contributions.

Swenson, Fern (State Historical Society of North Dakota)

[186] *Pottery Function at Extended Middle Missouri Sites in North Dakota*

Vessels from Middle Missouri sites in North Dakota have been studied over the last several decades by numerous researchers utilizing a variety of methods for establishing taxonomies reflective of temporal and spatial variations. More detailed attribute analysis studies involving multivariate statistical techniques have more recently been undertaken in order to address stylistic and technological variation. Building on these studies, vessels from house contexts are examined to explore functional variation as indicated by vessel size, shape, residues, and use-alteration variables from multiple Extended Middle Missouri sites.

Swihart, George (University of Memphis), Emily Hassler (University of Memphis), David Dye (University of Memphis) and Ying-Sing Li (University of Memphis)

[127] *Infrared Reflectance Microspectroscopy of Chert: A Non-destructive Analysis Method for Archaeological Artifacts with Potential for Sourcing*

We explore the potential of non-destructive Infrared reflectance microspectroscopy (IRRMS) for the characterization of chert samples from 10 different geological outcrops in North America with emphasis on the Midcontinent. The study documents the level of spectral variation introduced by the instrument, natural intra-sample variation at the hand sample scale, and variation of minor and trace minerals in chert that may provide sufficient chemical characterization for chert sourcing. The preliminary results of IRRMS analysis are promising. We suggest that a concerted effort to compile an IR database for the Midcontinent will allow for better delineation of indigenous chert exchange patterns.

Swogger, John (Freelance Archaeological Illustrator) and Quetta Patricia Kaye (UCL)

[24] *Showing What We See: Re-presenting archaeology in the Caribbean*

Presenting archaeology to communities with limited engagement with the past presents challenges – particularly to small archaeological projects. Traditional platforms can be overlain by existing cultural preconceptions and prejudices. The paper will survey six seasons of public engagement by the Carriacou

Archaeological Field Project, and demonstrate simple visualisation techniques which potentially enhance communication with a wide variety of audiences by use of non-traditional educational media, e.g. serialised comic strip, to raise awareness of archaeology in the Caribbean. This paper assesses the role of re-presenting archaeology in the context of the project's commitment to a long-term strategy of public engagement.

Szpak, Paul (University of Western Ontario), Trevor Orchard (University of Toronto) and Iain McKechnie (University of British Columbia)

[207] *Historical Ecology of Late Holocene Sea Otters (Enhydra lutris) from Northern British Columbia: Isotopic and Zooarchaeological Perspectives*

We examined the isotopic composition of sea otter bone collagen from ten late Holocene archaeological sites in northern British Columbia, Canada. The isotopic data suggest a diet composed primarily of benthic invertebrates, with a very low reliance on epibenthic fish, as well as an unexpected lack of dietary variability in British Columbia sea otters during the late Holocene, suggesting a lack of individual dietary specialization. This focus on a small number of low trophic level prey, and lack of individual dietary specialization may reflect top-down impacts on sea otter populations through hunting by aboriginal peoples.

Szumik, Claudia [101] see Scheinsohn, Vivian G.

Szumilewicz, Amy (Southern Illinois University Carbondale)

[215] *Size Matters: Functional and Symbolic uses of Miniature Vessels in Middle Sicán, Peru.*

Finely made, miniature ceramic vessels occur consistently yet sporadically in many Middle Sicán burials and offering caches. This study focuses on 3 clusters, approximately 15 anthropomorphic vessels each, from 3 distinct contexts in the West Cemetery at Huaca Loro on the North Coast of Peru. Systematic analysis of formal qualities, size and comparison to larger "twin" vessels provides insights towards function of miniatures in general, while composition in situ reveals deliberate placement and patterning of a limited number of representational human and animal types. Discussion offers possible symbolic uses of miniatures in funerary contexts of the Sicán culture.

Szuter, Christine (Arizona State University)

[120] *Reading, Technology, and Research in the Digital World*

The digital revolution has been described as a series of disruptive technologies. At the core of this cultural transformation is how scholars read, research, and publish scholarly works for the academy and the public. An understanding of the history and development of new technologies in reading, research, and publishing through the lens of behavioral archaeology offers insights into the future world of scholarly communication within and beyond the academy.

[149] *Discussant*

Szymanski, Ryan (Washington State University) and Craig Morris (USDA ARS, Western Wheat Quality Laboratory, Washington State University)

[64] *Imaging of Carbonized Wheat Endosperm Using Field Emission Scanning Electron Microscopy: Archaeological Applications*

The ability to distinguish between wheat species after carbonization is critical to understanding the economic, technological and environmental contexts from which archaeological grains are derived. In an experimental study, the carbonized endosperm of wheat species bearing hard, very hard and soft textural phenotypes were analyzed using field emission scanning electron microscopy (FESEM). The internal endosperm structure and fracture pattern of each textural type is characterized in an effort to identify observable patterns usable in the identification of carbonized wheat grains at the species level. Archaeological applications and avenues for further research are proposed.

Tache, Karine (University of York)

[164] *Delving into Old Collections and Scratching the Surface of Early Pottery Uses in Northeastern North America*

Archaeological remains accumulated over the years are a valuable source of information, but collections research also entails its share of difficulties. This paper discusses the contributions and limitations of using old collections for a research program focusing on the initial uses of pottery in Northeastern North America. Potsherds housed in research institutions across Eastern Canada and the United States are sampled and analysed using state-of-the-art methods in residue analysis. Such a project exemplifies how revisiting curated materials can produce new knowledge when new analytical techniques are available, in this case greatly enhancing our understanding of early pottery-using communities.

Tacon, Paul (Griffith University), Ronald Lamilami (Kakadu Health Services), and Sally K. May (Australian National University)

[194] *The contemporary significance of Djulirri and related Wellington Range sites for the people of northwest Arnhem Land, Australia.*

Since 2008 we have been recording the rock art of the Namundjibuk clan estate in the Wellington Range of northwest Arnhem Land, Australia with a large multi-disciplinary and multicultural team. The art dates from about 15,000 years to 50 years ago but all of it is important for contemporary Aboriginal people of the region. For the Lamilami family these places are of local and world significance, likened to history books and libraries. Thus we have also made films so that oral history can be recorded for posterity, implemented a new database management system and initiated a 3D recording program.

Tactikos, Joanne [222] see Stokes, Robert J.

Tafilica, Zamir [119] see Deskaj, Sylvia

Tagliacozzo, Antonio [176] see Mannino, Marcello A.

Taimagambetov, Zhaken [38] see Horton, Katharine

Tamberino, Anthony [70] see Nagy, Andras

Tani, Masakazu (Kyushu University)

[120] Social structure reflected in the spatial structure of a settlement in rural Bangladesh

The objective of this study is to examine that structures can be a type of material correlates of kinship and social distance. Data were collected in a rural village in Bangladesh by recording plan maps of a settlement and family trees. Analysis suggests that family groups sharing a common ancestor can be delineated by the placement of main structures forming bari, a habitation unit sharing a patio. In order to control/express subtle social distances, villagers seem to use auxiliary structures, such as kitchen, store houses and cow sheds, rather than main structures.

Tankersley, Kenneth (University of Cincinnati), Vernon Scarborough (University of Cincinnati), Nicholas Dunning (University of Cincinnati) and David Lentz (University of Cincinnati)

[87] *Volcanism and the Rise of a Maya Metropolis*
While others have argued that rapid economic growth, military conquest, and political domination led to the rise of Tikal, inexhaustible fertile soils would have been crucial to the city-state's growth, development, and sustainability. XRD and XRF results from natural depressions and reservoir sediments provide the first clear-cut evidence of a long-term explosive volcanic history of the region. Ash fall from explosive volcanic events blanketed Tikal throughout the Late Holocene, providing the Maya with a mechanism to maintain soil fertility on a limestone bedrock surface in a tropical environment.

Tankersley, Kenneth [167] see Dunning, Nicholas P. [157] see Koster, Jeremy [127] see Sparks, Janine M

Tantaleán, Henry (Instituto Francés de Estudios Andinos, Peru)

[265] *Calco, Copia o Creación Heroica?: Peruvian marxist archaeology at the beginnings of 21st century*
This paper focuses on the development of Marxist archaeology and its political milieu in Peru during the 20th Century. It analyzes the main elements of the historical trajectory of this Marxist archaeology with Andean characteristics. Also, the relevance of Marxism in Peru as a political project in general, and in archaeology in particular, is discussed. In addition, the reasons why an explicitly Marxist archaeology is necessary are presented, exploring the main problems it needs to overcome and the goals that need to be achieved in the future.

Tarabek, Julianne (University of Kansas)

[43] *From Dart to Arrow: Transitions in Hunting Technologies in the Eastern Plains*

Despite many years of research by professional and avocational archaeologists, many questions still surround the transition between the atlatl and dart and bow and arrow in North America. This paper documents the cadence and nature of this change in the cultural and environmental context of northeastern Kansas. I use David Hurst Thomas (1978) and Michael Shott's (1996) formulas to metrically classify points from 10 sites, grouping these into three temporal periods and compare the use of technologies within and across these time scales. This indicates the two technologies co-occurred during the entire transitional period.

Tate, Carolyn (Texas Tech University)

[152] *The enduring record: The exhibition catalogues of V. Fields*

A review of the three exhibition catalogues that Virginia Fields produced for the LA County Museum of Art and their contributions to Mesoamerican scholarship.

Tate, Natalye B. [24] see Connolly, Robert P.

Tayles, Nancy [60] see Halcrow, Sian E.

Taylor, Amanda (University of Washington)

[204] *Lithic Procurement and Territoriality on the Pacific Coast*

This paper draws on analyses of lithic assemblages from the Watmough Bay site in the San Juan Islands, Washington, and Tule Creek Village Mound B, San Nicolas Island, California to explore the ways that past coastal communities maintained and transcended territorial boundaries. To address hypotheses about territorial strategies drawn from economic defensibility and risk models, I present data from beach cobble surveys and examine lithic procurement, technology, and exchange in the context of environmental and sociopolitical changes during the Holocene. I focus particularly on how and why even strongly defended boundaries might remain permeable to kin and friends.

Taylor, Anthony (University of Nevada, Reno) and Jarod Hutson (University of Nevada, Reno)

[248] *Paleodietary Analysis of Coprolites from Last Supper Cave, Nevada*

How hunter-gatherers met their subsistence needs is one of the fundamental questions routinely posed by archaeologists interested in prehistoric populations. Here we offer an improved occupational chronology and dietary reconstructions for Last Supper Cave, Nevada (LSC). Data suggest an occupation of LSC spanning the entire Holocene into the latest Pleistocene. Dry conditions at LSC provide increased organic preservation allowing for analysis of human coprolites as a means to understand ancient diet. Results demonstrate where the inhabitants of LSC fell within the larger Great Basin hunter-gatherer dietary spectrum and indicate how their diet varied over time.

Taylor, Christine [131] see Walling, Stanley L.

Taylor, Sarah (University of Pittsburgh)

[235] *Social Organization at El Dornajo during the Regional Development Period*

This paper presents the results of a multi-dimensional scaling analysis of burial data from the Regional Development Period site of El Dornajo, El Oro, Ecuador. Despite being a small and localized sample, the data suggest that the community was hierarchically organized. The community was also divided into two social groups as indicated by clusters that crosscut sex, age, and wealth indicators. These results corroborate other kinds of data that indicate inequality at the site. They also allow informed speculation on the nature of social organization during a period of rapid transformation in the region.

Taylor-Perryman, Rebecca (Tulane University)

[213] *An experimental approach to Middle Stone Age engraved ochre*

Among the earliest widely accepted symbolic objects are abstract engravings on ochre pebbles from the Middle Stone Age. Speculation as to the meaning of these geometric designs, while fascinating, has proven largely ambiguous. But within our grasp are questions of how they might have been produced. Understanding the time and labor that went into their creation can give insight into how the pebbles might have functioned as symbolic objects for the MSA foragers who made these objects. To this end, I repeatedly replicated some of these engravings using a variety of implements and techniques, hoping to reveal their chaîne opératoire.

Teeter, Wendy (Fowler Museum at UCLA) [74]

Discussant [74] First Chair

Temirbekov, Sayat [202] see Beeton, Tyler A.

Temple, Daniel (University of North Carolina Wilmington) and Soichiro Kusaka (University of Kyoto)

[60] *Behavioral and biological responses of Jomon people to climate change*

Bioarchaeological data is used to explore the response of Jomon people from western and central Japan to shifts in climate. Sea-diatoms suggest climactic cooling around 4000 BP. Data collected from Middle and Late/Final Jomon period skeletal remains were used to reconstruct diet and morphology. Significant declines in stature, body mass, and humeral strength are observed between the Middle and Late/Final Jomon period. Significant increases in dental caries prevalence and a 1‰ reduction in δ¹⁵N among Late/Final compared to Middle Jomon period people is reported. This reflects elevated systemic stress, but resistance to climate change through dietary transition and functional adaptation.

Terry, Karisa (Central Washington University), Masami Izuho (Tokyo Metropolitan University, Faculty of Social Sciences and Humanities), Ian Buvit (Central Washington University, and Museum Studies/ McNair Scholars Program), Koh Hamaguchi (Tokyo Metropolitan University, Faculty of Social Sciences and Humanities) and Kyousuke Hori (Tokyo Metropolitan University, Faculty of Social Sciences and Humanities)

[211] *Current Investigations at the Shimaki Site: An LGM Occupation in Hokkaido, Japan*

The Last Glacial Maximum (LGM), roughly 20,000-17,000 14C BP, was a crucial time in NE Asian Prehistory as foragers were forced to cope with extreme ecological deterioration, however few sites are thoroughly chronicled. Excavations during 2010-2011 at the Shimaki site in southeastern Hokkaido were opened to assess human responses to LGM environmental conditions. Here we present our findings in terms of chronological analysis, reconstruction of environmental setting during occupation, as well as characterization of stone tool production and maintenance activities. New discovery of blade technology alongside the established flake industry forces the reassessment of current technological models in Hokkaido.

Terry, Richard (Brigham Young University) and Eric Coronel (Brigham Young University)

[128] *Geochemical detection of an ancient Maya exchange environment at Coba, MX*

Lines of evidence for ancient exchange plazas may include trade routes, open space, public structures, and rock alignments, but regular patterns in soil chemical concentrations also point to marketplace use. We applied geochemical and geospatial analysis of the floors of Plazas B and D at Coba, to discover the chemical residues of P and metals associated with the exchange of foodstuffs and workshop items that may have been marketed there. The patterns of chemical residues in the floor of Plaza B suggest ritual activities while the linear, parallel patterns of P and Zn concentrations in Plaza D support the hypothesis of market exchange at that location.

Terry, Richard [58] see Larsen, Zachary [128] see Horlacher, Jacob M. [167] see Beach, Timothy

Thacker, Paul (Wake Forest University)

[173] *Evaluating pedoturbation at archaeological sites in sand-rich sediments*

Many archaeological sites around the world are buried within bedded sandy sediments. The archaeological interpretation of chronological and spatial relationships at such sites is dependent on assessing post-depositional processes that may have disturbed or translocated artifacts, ecofacts, and sediments. Using case examples of three Upper Paleolithic open-air sites from Portugal, this paper details a range of integrated techniques for identifying site burial processes and pedoturbation in sand-rich geoarchaeological contexts. Stereographic fabric analysis, diagnostic sedimentology, magnetic and electrical resistivity techniques, microartifact patterning, and feature structure contribute important data for evaluating the preservation context and behavioral significance of archaeological deposits.

Thakar, HB (University of California, Santa Barbara)

[126] *Before CA-SCRI-236 was Ch'olosush: 3000 years of occupation, subsistence, and mobility*

CA-SCRI-236, on Santa Cruz Island, is a substantial and inherently fascinating archaeological site that has long been associated with the historic Chumash village of Ch'olosush. However, both the allure and temporal span of this site far exceed Late Period village associations. Recent research at CA-SCRI-236, confirms human occupation at this location for over 3000 years. This paper presents a detailed site chronology, diachronic subsistence data (macrobotanical and faunal) and geochemical data (δO18) from CA-SCRI-236. These data are integrated to evaluate risk-reducing subsistence and mobility strategies prior to demographic expansion and cultural complexity associated with the later historic village.

[164] First Chair

Thatcher, Jennifer J. [161] see Binning, Jeanne Day

Theden-Ringl, Fenja [138] see Fenner, Jack

Theuer, Jason (Southern Methodist University)

[249] *Glaze-Paint Recipes and Communities of Practice at Hummingbird Pueblo, LA578*

The occupation of Hummingbird Pueblo (LA578) spans the development and diffusion of glaze-paint technology across the Southwest in the late 13th and 14th century. The site was occupied for nearly 200 years during an era when few sites were occupied for more than 80 years and during a time of huge demographic upheaval and population relocation. Architectural evidence suggests that LA578 was inhabited by family groups from diverse geographic origins and cultural histories. Compositional analyses of glaze-paints provides additional clues to the nature and diversity of potting communities, and cultural identities of the family groups at LA578.

Thibodeau, Alyson (University of Arizona), Leonardo López Luján (Museo Templo Mayor, INAH), Joaquín Ruiz (University of Arizona), John Chesley (University of Arizona) and Giacomo Chiari (The Getty Conservation Institute)

[71] *The source of turquoise from Offering 125 at the Templo Mayor*

Although it is widely believed that Mesoamerican cultures acquired turquoise via trade with U.S. Southwest, chemical data to support this idea has never been published. To investigate the source of turquoise in used in Mesoamerica, we report and interpret lead and strontium isotopic ratios of turquoise tesserae recovered from Offering 125 at the Templo Mayor in Mexico City. These data, which represent the first isotopic measurements of Mesoamerican turquoise, provide an alternative perspective on turquoise procurement in Postclassic Mesoamerica, and should spur future research on the topic of turquoise mining and exchange in the Prehispanic Southwest U.S. and Mexico.

Thiel, J. Homer (Desert Archaeology, Inc.)

[25] *Life on the Northern Frontier*

Archaeological excavations over the past 20 years have provided new information of the Presidio San Agustín del Tucson, a Spanish and Mexican era (1775-1856) military fortress located on the northern frontier of the Pimería Alta. The isolated community relied on far-reaching trade networks for utilitarian and luxury goods. Pottery from the Hopi and Zuni pueblos, Chinese porcelains, Mexican majolicas, and British ceramics and muskets all made their way overland and overseas, helping the Presidio residents negotiate life in the isolated and often dangerous environment of the Sonoran Desert.

Thieme, Donald (Valdosta State University) and Jane Whitehead (Valdosta State University)

[90] *Recording Archaeological Stratigraphy: New World and Old World Examples*

Methods and forms used in two excavations will be discussed in relation to recording of both "natural" and cultural contexts. Examples will be drawn from both a.) a multi-component stratified alluvial site in the Delaware River valley, and b.) the baths at the Roman city of Carsulae, Italy. At Carsulae, excavations have demonstrated continuous occupation from the late 3rd century B.C.E. until the city was abandoned in the 4th or 5th centuries C.E. Roman coins provide precise age dating on loci described on the field forms while areas beneath and beyond the excavations are being probed with geophysics.

Thomas, Mandisa [69] see Morris, Alexis

Thomas, Ben (Archaeological Institute of America) and Meredith Langlitz (Archaeological Institute of America)

[24] *National Archaeology Day and Public Outreach*

The Archaeological Institute of America constantly looks for new ways to engage the public as it strives to fulfill its mission of promoting archaeological inquiry and public understanding of the material record. The Institute's newest effort was National Archaeology Day. On October 22, 2011, the AIA, its 108 Local Societies, and several collaborating organizations hosted symposia, fairs, fieldtrips, and more, as thousands joined in an international celebration of archaeology. This paper discusses the triumphs and challenges of the first National Archaeology Day and evaluates the efficacy of an event of this nature in informing and engaging the public.

Thomas, Ben [99] see Langlitz, Meredith Anderson

Thomas, David (American Museum of Nat History)

[136] *Discussant*

Thomas, Emma (University of North Carolina at Greensboro)

[104] *Bones--the Butchered, Boiled, Baked, and Blackened: An Ethnozoarchaeological Exploration of Animal Bone Taphonomy at Cerro Mejía*

Animal bone specimens found at the archaeological site of Cerro Mejía exhibit variation in preservation, which could be due to the method of food-processing the specimens underwent before discard. Middle-range research was conducted by recreating different cooking and burning strategies with alpaca long-bones and ribs. Modern bones were altered through boiling, rock-frying, baking, "ritual" burning, exposing to the Andean sun, and others were left raw. In this paper I present the results from comparing experimental specimens with those from Cerro Mejía. I also describe some significant insights gained through ethnoarchaeological research on Andean cooking practices.

Thomas, Jonathan (University of Iowa)

[32] *Creating Complex Identities? The Problems and Potential of a World Systems Approach to Neolithic and Copper Age Personal Ornaments*

In the context of the Neolithic Revolution, the consolidation of farming communities is often associated with an expansion of bead production and diversity, suggesting new technologies and a new-found emphasis on the use of personal ornaments to form social identities among agriculturalists. Similarly, during the Late Neolithic/Copper Age (3500-2500BC), southern Iberia witnessed a host of changes in social organization and craft production in which new types of raw materials, production techniques, and long-distance exchange relationships appear. This paper explores a World Systems approach to LN/CA personal ornaments, objects which stand at the crossroads of exchange, power, collective burial, and identity.

Thomas, Jonathan T. [114] see Kendall, Bryan S.

Thomas, Julian (Manchester University) [108]

Discussant

Thomas, Noah

[47] *Color and value in early colonial New Mexican mining and metallurgy*

The entradas of the late sixteenth and early seventeenth century in New Mexico were in part an attempted expansion of the mining frontier of New Spain. Spanish colonial assessments of mineral wealth attempted to translate indigenous values surrounding local minerals and their use in pigment production into colonial miners' knowledge frameworks that often connected color to indications of metallurgical processes or hidden precious metal content. Color became a common language for the negotiation of value between these communities. This paper explores how color encoded a range of cultural meanings and practices that shaped early colonial technologies and social interactions.

Thompson, Amy (University of New Mexico) and Keith M. Prufer (University of New Mexico)

[70] *Changing Spaces: Shifts in Functionality of Elite Residential Groups at Uxbenká, Toledo District, Belize*
Mapping and excavations of public and elite residential compounds at the Classic Maya center of Uxbenká indicate modifications in layout and function throughout their occupations. Excavations indicate that architectural groups initially identified as parts of the civic/ceremonial site core during survey and mapping appear to have functioned as domestic spaces, and vice-versa. In this poster data are presented from several large architectural groups proximate to the central precinct excavated between 2008 and 2011. Their occupation histories are discussed in the context of broader political and economic changes at the Uxbenká polity through time.

Thompson, Andrew (Indiana University, Bloomington)

[139] *Odontometric classification of sex at Mound 72, Cahokia*

Interpretations of Mound 72 at Cahokia often cite evidence related to the distribution of sex within the mound. Unfortunately, poor preservation of skeletal material has precluded the ability to determine the sex of most individuals, forcing researchers to draw inferences based on assumptions. This paper presents the results of a new study that was able to estimate the sex of a large number of individuals within Mound 72 using dental crown dimensions. These results are important for better understanding the events that unfolded at early Cahokia, as well as underscore the importance of continued data collection of curated archaeological collections.

Thompson, Jennifer [33] *see Tomka, Steve A.*

Thompson, Jessica [96] *see James, Emma C.*

Thompson, Kim [167] *see Lentz, David L.*

Thompson, M (Arizona State University)

[116] *Phoenix Basin Mortuary Practices: Performance and Treatment in Classic Period Villages of the Salt River Valley*

Throughout the Pre-Classic and Classic periods in the Phoenix Basin, Hohokam mortuary programs involved an array of practices that engaged the living with human

remains and memorial settings. Mortuary ritual included different ways of processing remains, construction of different facilities that likely permitted access to remains, and/or the association of remains with lived spaces. I examine the performance of mortuary ritual in Classic period villages on the Salt River to document the variety of behaviors that continued interaction with the dead. The analysis synthesizes patterns from a large, integrated database of Phoenix Basin mortuary features.

[257] *Discussant [116]* **Second Organizer**

Thompson, Victor (The Ohio State University) and Thomas Pluckhahn (University of South Florida)

[121] *Pipes, Cups, Platform Mounds, and Mortuary Ritual in the Lake Okeechobee Basin of South Florida*

This paper addresses the materiality of mortuary rituals at the site of Fort Center. Here, we suggest that 'things' and 'spaces' were as important as substances for entering altered states for these activities. Specifically, we argue that the creation of unique spaces (earthworks and ponds) and the manufacture/procurement of special artifacts (shell cups, pipes, effigies) for such performances helped to define a type of 'permanent liminality' for specific individuals in the community. The emergence of such individuals would have been a particular historical 'event' that would have served to redefine the community's place within the natural and spiritual worlds.

Thompson, Victor D. [124] *see Pluckhahn, Thomas J. [64]* *see Turck, John A.*

Thornton, Erin (Trent University Archaeological Research Centre), Kitty Emery (Florida Museum of Natural History), Camilla Speller (Simon Fraser University), Ray Matheny (Brigham Young University) and Dongya Yang (Simon Fraser University)

[70] *Earliest Mexican turkey (Meleagris gallopavo) in the Maya region found at Preclassic El Mirador*

Turkey remains from the Preclassic site of El Mirador (Peten, Guatemala) represent the earliest evidence of the Mexican turkey (*Meleagris gallopavo*) in the ancient Maya world. Archaeological, zooarchaeological, and ancient DNA evidence combine to confirm the identification and context. Until this discovery, the earliest reported evidence of *M. gallopavo* in the Maya area dated to approximately one thousand years later. The El Mirador specimens therefore represent previously unrecorded Preclassic exchange of animals from northern Mesoamerica to the Maya cultural region, and pushes back the date for Mesoamerican turkey domestication, or at least captive rearing, to the Preclassic.

Throgmorton, Kellam (University of Colorado, Boulder)

[85] *Domestic Architecture, Style, and Identity during the Early Pueblo Period in the Puerco Valley*

Social identity during the early Pueblo period (AD 600-900) in the US Southwest has been examined most extensively within aggregated settlements in southwest Colorado and southeast Utah. Elsewhere, such as in the Puerco Valley of eastern Arizona and western New Mexico, settlements are smaller and more dispersed and identity construction is poorly understood. This poster

describes research that quantifies architectural variability in the Puerco Valley and relates variation in style to social identity. The results suggest that while multiple social identities were expressed in the Puerco Valley, social boundaries were constructed less rigidly than in larger, denser communities.

Thulman, David (George Washington University)

[147] *Discussant* [147] *First Moderator*

Thunen, Robert [136] *see Ashley, Keith*

Thurston, Tina (SUNY Buffalo)

[91] *Engineering the Wilderness: Landscape Capital in Pastoral Agro-ecosystems*

The concept of landscape capital has been successfully applied in the study of societies where highly visible built features – irrigation systems, mounds, terraces – are clearly contrasted with ‘nature’. This paper examines societies in northwest Europe that invested in less visible, yet no less engineered, built landscapes, often mistaken for ‘nature’. By taking the long-term perspective of dynamic historical socioecology, using archaeological, paleoecological, and historic data, landscape investments offering otherwise unavailable livelihood affordances are more clearly revealed, as are unexpected strategies for dwelling in harsh environmental, climate, and social conditions.

Tierney, Meghan (Emory University)

[26] *Evidence for Shamanic Practice in Nasca Ceramics*

This paper examines formal aspects of ceramic vessels to better understand how key components of shamanic ritual were depicted by the Nasca culture. Variations in shamanic practice exist, but most include the ability to access other realms while in a trance state during which visions occur. Although widely accepted to have been practiced in the ancient Andes, little physical evidence remains to conclude that shamans were an integral part of Nasca society. Going beyond figures of shamans and illustrations of vision-inducing substances, the author contends that Nasca ceramics display formal characteristics that communicate the esoteric experience of the shaman.

Tiesler, Vera (Universidad Autónoma de Yucatán)

[59] *What is “Deviant”? Meanings and Archaeological Expressions of Ancient Maya Funerary Behaviors*

This paper examines pitfalls and challenges in inferring ancestrally motivated customs and their specific ideological and social underpinnings from the ancient Maya mortuary record, given the non-normative, varied and often protracted nature of the expressed behaviours. Methodological approaches to burial reconstruction and current interpretive frames are reconsidered critically. Here I advocate the reconstruction of funerary sequences using detailed archaeoethnology, a shift of interpretation units towards mortuary programs and a culturally sensitive (emic) interpretational frame. I will put these considerations to work in case studies of headless, burnt, and jumbled skeletons from the Classic Maya Lowlands.

Till, Jonathan (Abajo Archaeology)

[88] *A Palimpsest of Pueblos: Excavations at Denison Mines’ White Mesa Mill, San Juan County, Utah*

This paper presents the results of a multi-site excavation project in southeastern Utah. Featured are excavation data from habitation sites that are representative of the Basketmaker III, early Pueblo II, middle Pueblo II, and late Pueblo III periods. Research of these data include an evaluation of the discard equation for the Pueblo II period, a discussion of land use and tenure practices by ancestral Pueblo populations in the western Mesa Verde region, and an examination of pottery style variation during the middle Pueblo II period.

Tillapaugh, Kim [109] *see McCandless, Kyle*

Timperley, Cinda L. [43] *see Lohse, Jon C.*

Tkachuk, Taras [176] *see Karsten, Jordan K.*

Todd, Brenda (University of Colorado, Boulder)

[198] *Chimney Rock Great House: Export, Emulation, or None of the Above?*

For almost one hundred years, archaeologists have debated the structure and intensity of the relationships between the political center located in Chaco Canyon (ca. A.D. 1050) and sites located throughout the San Juan Basin. Using new data recovered from the Chimney Rock Great House in southwestern Colorado, I evaluate the “export vs. emulation” framework often used to understand these relationships and present alternative possibilities for investigating the Chaco World. Chimney Rock Great House appears to be unique in its clear relationship to Chaco Canyon based on architecture, artifacts, and other citations of Chacoan practices.

[198] *Second Organizer* [198] *First Chair*

Tokovinine, Alexandre (Peabody Museum, Harvard University)

[57] *“It is his image with pulque”: drinks, gifts, and Classic Maya political networking*

Despite the widespread notion that feasting played a major role in the working of Classic Maya polities, the very concept of feasting in the context of its textual and visual representations remains poorly defined and understood. The present paper reviews the ancient narratives in order to present a more nuanced interpretation of the consumption of exquisite food and drinks at the courts of Maya lords and nobles. It also considers some tangible evidence of the socio-political networks created through feasting by looking at the spatial distribution of signed serving vessels which changed hands as gifts.

Tolmie, Clare (University of Iowa)

[202] *Tools on the hoof: prey variability, element selection and bone tool use in the Châtelperronian and Aurignacian in France.*

The adoption of bone tool technology in the Early Upper Palaeolithic of Europe by Neanderthals and anatomically modern humans has been the focus of considerable debate. This paper examines the reorganization of subsistence as a new technology and the associated production of tools and manufacturing of perishable items is integrated into existing food procurement and processing. Does the need for raw material change carcass transportation patterns or prey selection? This paper examines the context of element selection related to prey species in the Aurignacian and Châtelperronian

of the Grotte du Renne, Arcy-sur Cure and the Aurignacian of Abri Cellier, Dordogne.

[202] *First Chair*

Tomaskova, Silvia (UNC Chapel Hill)

[205] *What Do Institutes Do?*

In 1904 the Prince of Monaco received Abbé Breuil's reproductions of cave paintings. The Prince immediately committed to financing all of Breuil's research. He financed the establishment of L'Institut de Paléontologie Humaine in Paris in 1910. The Institute, an imposing structure taking up an entire city block, stood just around the corner from the venerable Museum of Natural History, until then one of the main spaces for the production of knowledge about prehistory. It was a research laboratory, an innovative structure that combined fieldwork and a laboratory space to encourage new ideas.

[28] *Discussant*

Tomasto, Elsa [195] *see Peters, Ann H.*

Tomka, Marybeth (UTSA-CAR) and Susan Snow (NPS)

[33] *Recent Archeology at Rancho de las Cabras: Mission Ranch and More*

UTSA Center for Archeological Research completed its fourth season of excavations at Rancho de las Cabras in 2010. These excavations as well as documentary research indicate that Rancho de las Cabras served a role in the expanding 18th century ranch community beyond its responsibilities to Mission Espada. This paper will look at interesting features at the ranch that may provide clues to the multiple uses of the ranch compound.

Tomka, Steve (Center for Archaeological Research-UTSA), Kristi M. Ulrich (University of Texas at San Antonio) and Jennifer Thompson (University of Texas at San Antonio)

[33] *Early Archaic and Paleoindian Archaeological Deposits at 41BX1396, on the banks of the San Antonio River*

Limited data recovery excavations within site 41BX1396 identified Early Archaic and Paleoindian archaeological deposits. The Early Archaic deposits were shallowly buried and consisted of numerous stone-lined hearths and an assemblage of adzes. Below this component was a 30-45 cm thick Angostura occupation. The base of this component (155-165 cmbs) was radiocarbon dated to Cal BP 8390 to 8180 (95% confidence level). Below the Angostura component, a Saint Mary's Hall deposit was identified dating to Cal BP 10,490-10,230 (95% confidence level). The implications of these early components to the occupation of the upper San Antonio River Basin are discussed.

[33] *First Chair* [33] *Second Organizer*

Tomka, Steve [33] *see Ulrich, Kristi Miller*

Tomka, Steve A. [33] *see Barkwill Love, Lori*

Tong, Shan [163] *see Ge, Wei*

Tonni, Eduardo P. [158] *see Martinez, Gustavo A.*

Toohy, Jason (University of Wyoming)

[166] *The Daily Practice of Cuisine: Socio-Political Aspects of Foodways in the Northern Peruvian Andes*
The analysis of patterns of food production and cuisine at the late prehispanic site of Yanaorco in the northern Peruvian highlands is leading to an understanding of the ways in which cuisine both reflected social stratification and distance between households, and was used to actively define Cajamarca identity within households. Analysis not only indicates differences in access to particular foods, such as camelid meat, but also differences in the nature of cooking style and cuisine implying the practice of very different strategies within elite and non-elite spaces. Daily reenactment of food preparation and consumption actively reflected political and social dynamics.

Tormey, Blair [139] *see Martin, Paul S.*

Torres, Constantino (Florida International University)

[121] *An inquiry into the origins of the ayahuasca/yagé concept*

Vines of the genus Banisteriopsis form the basis of ayahuasca potions. On occasion, ayahuasca is prepared with only stem or bark of Banisteriopsis without other ingredients. Frequently the leaves or bark of various plants are added to the brew (e.g. Diplopterys cabrerana and Psychotria viridis). The apparent function of these plant combinations is to provoke a synergy between the component alkaloids: beta-carbolines and tryptamines. This paper presents an inquiry into the origin of ayahuasca potions. It includes a thorough review of the literature and the archaeological record in order to determine the origin of the underlying concept of alkaloid synergy.

Torres, Josh (University of Florida/SEARCH, Inc.)

[193] *Community Formation and the Emergence of the Polity in South-Central Puerto Rico*

The development of the cacicazgos, evident at the time of European contact in the Greater Antilles, are typically viewed from an elite oriented perspective of power centralization. In this paper I provide an alternative perspective that emphasizes the formation of political communities. Using archaeological data from the south-central coast of Puerto Rico between AD 600 and AD 1200, I show the inception of early political units was also influenced by processes of settlement and the creation of local identities which promoted community status and power within a diverse social landscape.

Torres-Rouff, Christina (Universidad Católica del Norte & Colorado College), William J. Pestle (University of Illinois, Chicago) and Gonzalo Pimentel (Universidad Católica del Norte)

[29] *Dying Along the Way: Analysis of Burials from Prehistoric Routes in Northern Chile's Atacama Desert.*
Numerous routes connected northern Chile's coast and interior during pre-Columbian times. Nine individuals excavated from these routes offer a window into the human dimensions of this interaction. Some were carefully interred, while others were not given elaborate mortuary treatment. Interestingly, osteological examination documented infants, children, men and women, suggesting that families were mobile and participated in resource exchange. Moreover, light

isotope analyses revealed evidence of both coastal and interior populations using prehistoric routes. In concert with information from mortuary contexts, we argue against the dominance of a highland caravan model and for the routes serving as more than logistical courses.

Torres-Rouff, Christina [29] *see Stovel, Emily*

Torvinen, Andrea (Arizona State University)

[98] *The Rituality of Deposits in Northwest Mexico: An Ethnoarchaeological Approach*

Archaeologists commonly track the circulation of objects through provenance and interaction studies, but determining why those objects moved is difficult. In a ritual economy, the economic implications of ritual obligations provide one such impetus for object circulation. This perspective is explored through an analysis of ethnographically documented ritual movements of people and objects, and the use of ritual objects within ceremonies by the Huichol (Wixárika) of the Sierra Madre Occidental. This case study is used to determine whether ritually deposited assemblages can be identified as such archaeologically, and to evaluate criteria proposed for identifying ritual deposits in the archaeological record.

Toscano Hernandez, Lourdes [58] *see Martín Medina, Geiser G. [58]* *see Fernandez Souza, Lilia*

Tosi, Maurizio [185] *see Kelly, Lucretia S.*

Tourtellot, Gair

[236] *Ave atque Vale: Norman Hammond Early and Late in Mayaland*

Norman was initiated into Maya archaeology at Ceibal, Guatemala, under Willey and Smith in 1968. Supervising excavations in deep mounds, he demonstrated stratigraphic acuity, isolated termination rituals, and discovered his life-long interest in the mores of the Preclassic era. Three decades later, his own valedictory project apprenticed undergraduates in English archaeological methods on another bimodal Preclassic/Late Classic settlement at La Milpa, Belize. Under his leadership we rescued data from a heavily looted settlement, isolated ancient commemorative and termination activities across the site, and disclosed throne rooms in the regal sector.

Tourtellotte, Perry [103] *see Chang, Claudia*

Towner, Ronald (Tree-ring Lab, University of Arizona), Steve Baker (Centuries Research, Inc.), Jeffrey Dean (University of Arizona), Dana Rosenstein (University of Arizona) and Greg Hodgins (University of Arizona)

[183] *Fuelwood Availability and Radiocarbon Dating on the Northern Colorado Plateau*

The age of available fuel wood in many areas has significant implications for radiocarbon dating of archaeological materials and, therefore, the construction of archaeological chronologies. This paper reports on a multi-year project to assess the variability of firewood ages in northwestern Colorado and northeastern Utah. Fuel wood age varies environmentally, but in all areas shows significant biases that skew radiocarbon dates significantly. In general, radiocarbon dates from hearth

charcoal overestimate feature age by at least 300 years, and sometimes by as much as a millennium. These results suggest both Fremont and Ute cultural chronologies may need significant revisions.

[183] *First Chair*

Towner, Ronald H. [183] *see Rosenstein, Dana Drake*

Townsend, Richard (Art Institute of Chicago)

[152] *Exhibitions, Acquisitions, and Legal Restrictions*

The formation and presentation of exhibitions in the Precolumbian field, their educational purposes, and the acquisition of artifacts and works of art in museums today, often remain mysterious processes and goals to many in our academic communities. In this report, the author will sketch the changing panorama of exhibition strategies in major American museums from the 1960s to the present; the creation of exhibition catalogues of special interest; and the succession of treaties and restrictions protecting cultural properties signed by the United States and various Latin American countries from 1970 to the present.

Townsend, Russell [65] *see Steere, Benjamin A.*

Trachman, Rissa (Elon University)

[131] *Ancient Maya Household Organization: A Multi-Scale Analysis from the Dos Hombres Hinterland, Northwestern Belize*

A recent household investigation conducted in the hinterlands near the site of Dos Hombres, northwestern Belize, sought to understand ancient Maya social organization both within households and between them resulting in a multi-scalar analysis through several lines of evidence. Community level social, political, and economic organization are visible through the ways in which resources are utilized and managed in and around households. The results indicate that socio-political organization in the Dos Hombres hinterlands are the result of the interaction of a number of social, political, ideological, economic, and environmental factors, influencing diverse manifestations of household organization across the landscape.

Trail, Brian [261] *see Shott, Michael J.*

Trainer, Anna [202] *see Beeton, Tyler A.*

Trampier, Joshua (University of Chicago) and Jay Silverstein (University of Hawaii)

[264] *Lemons or Lemonade: Salvage Archaeology of Tell Timai, Egypt*

To the casual visitor, Tell Timai would appear frozen in time. Well-preserved domestic and sacred quarters from the Classical and Medieval eras will enable critical examination of the dynamism of material culture at all levels of society. Through an iterative examination of historical imagery, we offer our initial observations on the physicality of the tell as human forces have shaped it over the past century. Even as the pressures of development undermine intact archaeological contexts, three seasons of salvage work provide focus and new hope for the future of Tell Timai and Nile Delta archaeology more generally.

Trampier, Joshua [264] *see Silverstein, Jay E.*

Tratebas, Alice (Bureau of Land Management)**[171] *Damaging Effects of Wildfire Ash on Rock Art***

While spalling and other exfoliation from wildfire are well known, the long term effects of ash deposits are unknown. Ash deposits persist and samples of fire affected rock varnish show visible ash under the microscopic several years after a wildfire. A comparison of two wildfires that damaged the same site shows that the lower intensity fire produced more ash deposits on petroglyphs than the more intense fire. Current recommendations for reducing fire damage to rock art by removing nearby trees are inadequate since grasses and forbs also plastered ash on glyphs. We need to understand the long term effects of ash on rock art.

Tremain, Cara (University of Calgary)**[195] *Crossing Over: Costume, Gender, Status, and Ritual among the Ancient Maya***

The study of ancient Maya costume is an underdeveloped topic in scholarly research. From the limited studies that have occurred, an interesting, and potentially important, observation commonly made is that elite males and females are not always clearly distinguished from one another through costume. Considering that gender distinctions among the Maya may have been fluid, it is important to investigate the frequency, and purpose, of shared costume elements. This paper will discuss how costume was manipulated by the Maya to cross gender boundaries and, in doing so, became much more associated with displays of wealth, social stratification, and ceremonial events.

Tresset, Anne (Centre National de la Recherche Scientifique), Catherine Dupont (CNRS), Grégor Marc hand (CNRS) and Rick Schulting (Oxford University)**[75] *An insight into the end of the Mesolithic in north-western Europe: zooarchaeology of the shellmiddens from Brittany (France)***

The Mesolithic shellmiddens of Brittany provide the last evidence of a hunting-gathering way of life along the French Atlantic façade, just before the appearance of farming in this region. Stable isotope signatures in humans reflect a dominance of marine protein, while the faunal remains show that the marine resources exploited were very diverse and likely accessible in the immediate vicinity of the sites. Their seasonal availability also suggests permanent occupations. This extreme dependence on the seashore might have been a key factor in the regional disappearance of Mesolithic communities in a context of ongoing marine transgression.

Trigg, Heather [133] see Henderson, Samantha J. [133] see Jacobucci, Susan A.

Trimble, Michael (U.S. Army Corps of Engineers) [48] Discussant

Tromp, Monica [109] see Holmer, Nicholas A. [109] see Peterson, David L.

Troutman, Michele (Indiana University of Pennsylvania)**[170] *Lithic Analysis: The Raw Materials Present in the Lithic Artifacts of the Johnston Site (36In2)***

Pre-Columbian people in western Pennsylvania relied on stone tools in most of their daily activities. Native stone tools were made from a variety of raw material types; some available as local resources and others imported from long distances. An understanding of the techniques used to manufacture the artifacts has been used by archaeologists to study trade patterns and identify locally available materials. This research focuses on an analysis of the production stage that different materials are brought in to Monongahela Culture villages in Indiana County, Pennsylvania.

Trubitt, Mary Beth (Arkansas Archeological Survey)**[115] *"Tweakers 'N Diggers": Media Coverage of Looting and the Drug Connection***

How does the media portray the link between drug use and archaeological site looting? What stories have made the news and how have they been presented? Taking a title from a 2010 St. Louis Riverfront Times headline, this presentation reviews recent news stories to find out who gets quoted, what drugs are mentioned, when news of this linkage first appeared, where the problem gets the most coverage, and how public perceptions of archaeology may be affected.

Trubitt, Mary Beth [46] see Etchieson, Meeks

Tsesmeli, Evangelia (Southern Methodist University)**[249] *Debating Architectural Life Histories at Hummingbird Pueblo, New Mexico***

Architectural features and construction sequences provide tantalizing clues about the life history of Hummingbird Pueblo. Data drawn from excavated architecture and surface deposits in various room blocks help identify construction commonalities and differences among the site's occupational and communal areas. Within the site's temporal framework, GIS is implemented to analyze trends in building activity. Variability within the sample demonstrates distinct construction signatures, and suggests potential indicators regarding the cultural identity of the pueblo's builders within the ever-changing social landscape of the 13th and 14th centuries.

Tsukamoto, Kenichiro (University of Arizona)**[22] *Identifying Social Group in Classic Maya Society: Recent Research at El Palmar, Campeche, Mexico***

The identification of social groups is always challenging in the archaeological study of Classic Maya society. Recent excavations of a hieroglyphic stairway and surrounding structures provide supporting evidence for identifying social groups at the Guzmán Group, the north group of the major Classic Maya center of El Palmar. The results show that two different groups with distinct social statuses used this northern space during the Late Classic period (ca. A.D. 600-850). Materialization of social status such as spatial arrangements, construction techniques, and ceramic production changed considerably before and after the building of the hieroglyphic stairway (A.D. 726).

Tubbs, Ryan M. [105] see O'Gorman, Jodie

Tucker, Bryan (Georgia Department of Natural Resources) [257] Discussant

Tuffreau, Alain [141] see Wismer, Meredith A.

Tun Ayora, Gabriel [128] *see Ringle, William M.*

Tune, Jesse (Texas A&M University) and Kayla A. Schmalle (Texas A&M University)

[169] *Coats-Hines: A Potential Pre-Clovis Mastodon Butchering Site in Tennessee*

The Coats-Hines site, in Williamson County, Tennessee, has been suggested as a locale of human and mastodon interaction based on the presence of lithic artifacts associated with mastodon remains. Recent investigations have now securely dated the site to 14,000 Cal BP and confirmed a direct association exists between the lithic artifacts and the faunal remains. As a result, the site has recently been listed on the National Registry of Historic Places. Ongoing research is being conducted to study the geoarchaeological context of the remains, and analysis of the toolkit associated with proboscidean exploitation in Eastern North America is underway.

Tung, Tiffany (Vanderbilt University,) and Anita Cook (Catholic University of America)

[59] *Fetus Burials in the Wari Empire of the Ancient Andes*

There is much scholarship on ancient Andean funerary rites of adults and children, as well as the treatment of dismembered human remains, but fetus burials are largely ignored. This is partly because their recovery is rare, and when found, their uniqueness often garners only brief comment. At the Wari heartland site of Conchopata, 12 fetuses were recovered, and three received relatively elaborate funerary treatment. We describe their mortuary treatment and explore their significance in terms of Wari demography, community organization, and the role of women in producing narratives about life and death and the relationship between the two.

Tung, Tiffany [5] *see Sharp, Emily A.*

Turck, Ellen [181] *see Brannan, Stefan P.*

Turck, John, Victor D. Thompson (The Ohio State University) and Alex Cherkinsky (University of Georgia)

[64] *Considering Context and Sample Selection along the Georgia Coast: Implications for Radiocarbon Dating Methods in Archaeological Settings*

Recent radiocarbon dates from materials on the Georgia coast suggest that not all contexts are reliable for obtaining radiocarbon samples for archaeological purposes. In this paper we compare sooted pottery sherds, carbonized material within a sherd, shell and carbonized material from midden layers, and root and carbonized material from within a core. Results indicate that dating materials from inside sherds does not correspond to the period of use, due to either older or younger inclusions. Paired shell and charcoal samples are also compared, noting implications for reservoir corrections. This research provides general guidelines for sample selection in similar archaeological settings.

Turnbow, Christopher (New Mexico Gas Company) and Richard Huelster

[85] *West Fork Ruins: Its Architecture, Space, and Time in the Forks of the Gila River Region, New Mexico*

The Forks of the Gila River, located deep within the Gila National Forest of southwest New Mexico, has received very little archaeological research. In 1966, excavations at the West Fork Ruin (LA 8675) revealed roomblocks and various pit structure forms spanning the Pithouse periods, Classic Mimbres, and perhaps the early Post Classic period. This poster will present the first detailed description of the site's built environment, examine the spatial context of the structures through time, and compare the changes in architecture in the Gila Forks region with those from other Mimbres areas.

Turner, Andrew (University of California, Riverside)
[106] *Sex and Ceramic Production among the Moche of Ancient Peru*

The Moche culture of the North Coast of Ancient Peru produced an astonishing variety of mold-made ceramic vessels depicting natural and supernatural beings and objects. In the enormous corpus of recovered Moche vessels, examples that explicitly depict figures engaged in sexual behavior are among the most baffling to modern investigators. This presentation discusses pottery forms and production techniques employed by the Moche in the manufacture of such vessels in effort to provide a clearer understanding of the social, ritual, and ideological context in which they were created.

[106] *First Chair*

Turner, Bethany (Georgia State University), Haagen D. Klaus (Utah Valley University), Sarah V. Livengood (Georgia State University) and Leslie E. Brown (Georgia State University)

[29] *The Road to Sacrifice: Bioarchaeological Investigations on the Peruvian North Coast.*

Multiple mummified individuals exhibiting excellent preservation and signs of perimortem trauma were recovered from the Mochica site of Chotuna-Huaca Norte in the Lambayeque Valley Complex of north coastal Peru, providing an opportunity to contextualize the practice of human sacrifice in the region. Isotope values were characterized in bone and hair from these individuals, with particular attention paid to diet and follicular growth stages. Results suggest divergent experiences of systemic stress and diet composition leading up to death among these individuals; the implications of these findings for understanding sacrifice in the region and in comparison to other Andean sites/periods are discussed.

Turner, Bethany [168] *see Vanderpool, Emily M.R.*

Turner, Bethany L. [29] *see Gagnon, Celeste M.*

Turner, Jocelyn (Indiana University) and Cheryl Ann Munson (Indiana University)

[239] *A View of Southern Indiana Fields, Forests, and Kitchens: Revealing Inter- and Intra-Cultural Variation in Plant Foodways of the Emergent through Late Mississippian Periods*

New and existing analyses of plant subsistence remains, particularly varieties of maize, reveal cultural similarities and differences over time within the Lower Ohio River Valley. The Yankeetown, Angel, and Caborn-Welborn phases represent the Emergent, Middle, and Late Mississippian periods in southwestern Indiana, AD 900-1650. Traditionally, these cultures have been interpreted

as succeeding one another; but recent research hints at a more complex relationship among them, as well as with distant neighbors – such as Cahokia, the Mississippian frontier Prather complex at the Falls of the Ohio, and Fort Ancient settlements. Variation in intra-community farming/gardening patterns is considered for several sites.

Turner, Sara (Georgia State University)

[88] *The Search for the Space In-between*

In 2009 and 2010, I examined ritual architecture at the north Mexico site of Paquimé (AD 1250-1450) and the NAN Ranch Ruin in south-central New Mexico (AD 750 – 1140) with the intention of identifying liminal spaces. Specifically, I compared architectural spaces that were adjacent to previously identified ritual spaces with theorized characteristics of liminal spaces. My research concluded that most of the defined ritual spaces have at least one contiguous liminal space. In this paper, I will discuss the significance and complexity of identifying liminality in physical spaces. Furthermore, I will show how it is applicable to additional sites.

Turner-Pearson, Katherine (URS)

[90] *Budgets, Time, and Client Dictates: How are Archaeological Methods Effectuated in Commercial Settings*

Moving from non-profit archaeological investigations to commercial (CRM) excavations allows a comparison of the “good, the bad, and the ugly.” Often, commercial archaeology allows for more detailed analysis of the archaeological site due to large budgets and antiquity regulations. However, often the archaeologists are hampered by budget restraints, client dictates, and the fast paced nature of CRM archaeology. How do these factors impact archaeological investigations? This paper examines these issues.

Tway, Maria [242] *see Pohl, Mary*

Twiss, Kathryn (Stony Brook University) and G. Arzu Demirergi (Stony Brook University)

[238] *The Temporality of Food at Neolithic Çatalhöyük, Anatolia*

Over the course of her career, Christine Hastorf has explored myriad aspects of food's culturally specific roles and meanings, including food's political function, its gender implications, and its symbolic potency. We here follow specifically in her footsteps by investigating the social life of food at Neolithic Çatalhöyük in Anatolia (e.g., Atalay and Hastorf 2006). Our particular focus is on the temporality of Çatalhöyük foodways. We explore the structuring as well as the punctuation of time via food preparation and consumption, and discuss its sociopolitical and ritual significance.

Two Bears, Davina (Indiana University, Doctoral Student)

[125] *Community Based Participatory Research Methods and the Waapaahsiki Siipiiwi Mound Site Project*

At Indiana University in Bloomington a graduate course was offered entitled Community Based Participatory Research Methods (CBPR). Students were given the assignment of working collaboratively with the Sullivan County American Indian Council, a non-profit organization of Native Americans, whose goal is to develop a Native American mound site into an

educational space, where people can learn about the significance of mounds and Native Americans in Indiana. This paper will speak about the theory behind CBPR in the social context of a University setting, what the project accomplished, and lessons learned from a graduate student perspective.

[10] *Discussant*

Tykot, Robert (U. of South Florida)

[56] *Teaching Critical Thinking about Pseudoarchaeology to College Students*

Archaeology is just one pseudoscience topic that is covered in the media (TV, movies, internet, newspapers and magazines), and continues to interfere with public understanding of modern, academically accepted research and interpretations of past cultures. Critical thinking is an important paradigm in college education (at least at some universities), with students required to take courses that fit this category. I report on the Fantastic Archaeology course I have taught 18 times, to over 2000 students (mostly non-anthropology majors), and the results of surveys conducted by the students on topics including Atlantis, Bosnian Pyramids, Ancient Astronauts, Shroud of Turin, and Evolution.

[153] *Discussant*

Tykot, Robert [134] *see Ashkanani, Hasan J.*

Tykot, Robert H. [112] *see Hughes Markovics, Michelle [29]* *see Gagnon, Celeste M.*

Ueda, Kaoru (Boston University), Sonny Wibisono (The National Research Center for Development of Archaeology (Indonesia)) and Zhengdong Guo (Boston University)

[256] *The Petrographic Analysis on Earthenwares Excavated at 17th to 18th-Century Banten Lama, Java, Indonesia: the Sultan's Power Negotiation amid European Colonialism*

This paper discusses the preliminary result of the first petrographic analysis conducted on the earthenwares excavated from a historical site in Indonesia. The thin-section analysis on the ceramic sherds from the Panjunan pottery workshop and the local Sultan's Surosowan Palace from the 17th to 18th-centuries underscores the marked differences in the clay and temper materials between locally made utilitarian wares and imported prestige kendi jars. These analyses demonstrate the importance and continued presence of trade networks in Java among the Bantenese elites and their prestige display through material culture, even after the encroachment of European powers to Java.

Ugan, Andrew (University of Utah), Adolfo Gil (Museo de Historia Natural de San Rafael; CONICET) and Neme Gustavo (Museo de Historia Natural de San Rafael; CONICET)

[273] *Two New World Deserts: Parallels and Possible Lessons from a Study of Intensification in Central-Western Argentina and Western North America*

The Monte Desert of western Argentina and the Sonoran Desert of the American Southwest and southern Great Basin share a number of environmental and cultural similarities. Here we briefly lay these out, paying special attention to apparent parallels in mid to late Holocene resource intensification and the subsequent transition to

agriculture. We show how broad similarities hide some very interesting differences in how intensification plays out in the two regions, and discuss some of the possible reasons for and lessons from them.

Ugan, Andrew [273] *see Gil, Adolfo*

Ullah, Isaac (Arizona State University, SHESC)

[103] *Simulating the long-term effects of agropastoral landuse decisions: a computational modeling approach to the Prepottery/Pottery Neolithic transition in northern Jordan.*

This paper uses a computational modeling approach to investigate a major shift in settlement and agropastoral landuse patterns that occurred in northern Jordan at the end of the PPNB/C period (~8250 ybp). Although no consensus exists, archaeological and geomorphological evidence suggests that the shift could have been prompted by human-caused landscape degradation around the early villages. I test this hypothesis by first conducting a series of simulation experiments exploring the long-term effects of a variety of agropastoral subsistence behaviors on Neolithic landscapes. These experiments produce testable hypotheses, which are then used to explore the existing evidence recovered from this period.

[103] *First Chair*

Ullah, Isaac I. [103] *see Bergin, Sean M.*

Ullinger, Jaime (Ohio State University)

[94] *Mixing it Up: A History of Commingling Studies in Bioarchaeology*

This paper provides a historical background to commingling studies, outlining techniques used from forensic contexts and zooarchaeology. There are many challenges in working with commingled remains, including the inability to control for sex and age. Despite these challenges, many commingled burials have been excavated, and it is our responsibility to develop new techniques to analyze them. This will be documented by an overview of where commingled collections have been excavated, the numbers of individuals believed to be represented within them, what kinds of information have been gathered from those skeletons, and how that has changed over time.

Ullmann, Lee (Columbia University)

[91] *A Hittite Sense of Place*

Water, in all of its forms, was of the utmost importance to the Hittites as evidenced by their gods and their places of ritual. The relationship between water and cult is well attested in the Hittite textual evidence and it affirms a Hittite ideology based on a connection with the natural environment of the Land of Hatti. However, can the discovery of a spring in association with Hittite monumental stone carvings turn a quarry into a place of ritual? The following paper will investigate how the Hittites manipulated and altered their landscape to create a Hittite sense of place.

Ulrich, Kristi (UTSA-Center for Archaeological Research), Bruce Moses (UTSA-Center for Archaeological Research) and Steve Tomka (UTSA-Center for Archaeological Research)

[33] *Rediscovery of the Alamo Acequia Madre*

Recent intensive pedestrian survey and backhoe trenching along the San Antonio River exposed the Alamo Acequia Dam and two generations of the Alamo Acequia. The investigations included extensive review of historic maps, the meticulous overlay of drawings on modern aerial photos, and inspection of construction schematics. Following the closure of the acequia in 1905, large amounts of fill were used to raise the ground surface above the historic floodplain. This fill buried the former acequia channel 11 feet below the modern surface. The two acequia channels cross-sectioned by trenching likely date to the 1720s and early 20th century, respectively.

Unger, Jessica [250] *see Harrington, Katherine*

Upton, Andrew (Michigan State University) and Jodie O'Gorman (Michigan State University)

[78] *A Statistical Approach to Mississippian and Oneota Ceramics at Morton Village*

The late prehistoric period of the Central Illinois River valley is marked as a multi-ethnic occupation of Late Mississippians and Bold Counselor Oneota. A pilot analysis of the heterogeneous ceramic assemblage at Morton Village revealed key differences in vessel wall thickness and temper occurrence. However, uncovering these differences required the a priori assignation of cultural identity based on decoration. This investigation was enhanced with additional pre-dissertation research to further contextualize the fact that while Mississippian and Oneota ceramics are generally very similar, notable differences do exist and may indicate differential vessel production, cooking, and/or raw material sourcing practices.

Ur, Jason (Harvard University) and Bjoern Menze (Swiss Federal Institute of Technology, Zurich)

[200] *Frogs Orbiting the Pond: Case Studies from the Near East*

In the past decade, satellite remote sensing has injected new life into the investigation of landscapes in the Near East, in two ways. The first is a return to the early days of aerial archaeology- the use of declassified intelligence panchromatic satellite photographs from the 1960s. The second direction employs modern medium resolution multispectral imagery from the ASTER satellite and classification methods derived from medical remote sensing. These methods together allow for archaeological mapping and analysis over regions too large for full coverage survey. Case studies include EBA settlement and movement, Assyrian irrigation, and Iranian pastoral nomads.

[103] *Discussant*

Urban, Brigitte (Leuphana University Lüneburg, Germany) and Melanie Sierralta (Leibniz Institute for Applied Geophysics (LIAG))

[93] *Environmental reconstruction and biostratigraphy of Upper Middle Pleistocene lakeshore deposits of Open Mine Schöningen*

This paper deals with paleoenvironmental and biostratigraphical results and radiometric dating of the Middle Pleistocene archeological lakeshore sites of Schöningen, situated in the formerly glaciated Northern German Lowlands. A focus will be drawn on the changing environments of the Middle Pleistocene

interglacial deposits (Schö 12-II, Schö 13-I, 13-II) consisting of a number of archeological horizons. Moreover the evidence of our palynological and dating results for regional and long distance correlation will be discussed. We will dispute and review correlations with the marine isotope stages.

Urban, Brigitte [93] see *Bigga, Gerlinde [93]* see *Conard, Nicholas J.*

Urban, Thomas (University of Oxford) and Doug Anderson (Brown University)

[7] *Multi-method Geophysical Investigations at Igliqtisugvigruaq, Kobuk River Valley, Alaska*
Situating on the bank of the Kobuk River, the village site of Igliqtisugvigruaq in northwest Alaska boasts a number of large house pits and storage pits. In 2010, an electromagnetic survey was undertaken across most of this large site revealing several important features. Additional surveying was undertaken in 2011 with magnetic gradiometry and ground penetrating radar, revealing the locations of hearths and the internal structures of select dwellings. These non-invasive strategies were used to supplement and guide excavation and geochemical prospecting at the site. The results of these investigations are presented here.

Urban, Thomas [7] see *Wolff, Christopher B.*

Urton, Gary (Harvard University)

[262] *An Andean Genealogy of State Power: Wari and Inka Local Governance*

Theories of state formation tend to focus on a few key institutions and practices, such as: a standing army staffed through tribute/conscription; intensive agricultural production, storage and redistribution; a civil-religious hierarchy; production and display of objects (e.g., ceramics, architecture, textiles) bearing state ideology. What is often elided is a theorization of local administrative control. This paper addresses the nature and operation of local administrative procedures and discursive practices – control, surveillance, statistical accounting – in the Wari state and Inka Empire. The specific problem addressed is the relevance of Foucault's concept of "governmentality" for Wari and Inka khipu administrative practices.

Urunuela, Gabriela (Universidad de las Americas Puebla) and Patricia Plunket (Universidad de las Américas Puebla)

[73] *The Function and Meaning of Cholula's Earliest Civic-Ceremonial Structures*

Most scholars subscribe to the idea that Cholula's first monumental architecture was modeled on the style of its dominant neighbor Teotihuacan. Although both cities share some basic elements that come from a common tradition, the data presented here demonstrate that Cholula's building layouts and painted decoration use distinctive referents to construct and materialize political and religious power in its own way.

Uruñuela, Gabriela [73] see *Robles Salmerón, Amparo*

Utigard Sandvik, Paula [176] see *Denham, Sean Dexter*

Vail, Gabrielle (New College of Florida)

[269] *Eclipse Cycles and World Destruction: A Perspective from Postclassic and Colonial Maya Manuscripts*

Close correspondences have been documented in accounts of world destruction and renewal from the Postclassic Maya codices and colonial period texts deriving from various parts of the Maya area, including the Yucatecan Books of Chilam Balam and the K'iche'an Popol Vuh. Although various triggers can be identified, floods associated with eclipses, Venus agents, and earth monsters appear to be key components of narratives of world destruction in each of the sources examined. By incorporating references to these mythological episodes in divinatory texts, Maya daykeepers could protect against their recurrence by undertaking the appropriate ritual actions at times of celestial danger.

Valcarcel Rojas, Roberto (Universiteit Leiden) and Jago Cooper (Institute of Archaeology, University College London)

[193] *Cuban Archaeology within the Caribbean Archipelago: re-thinking space, place and power*

Recent fieldwork at the site of Los Buchillones provides some new archaeological perspectives on space syntax in late pre-Columbian ceramic age sites in northern Cuba. This research focuses on the unusual configuration of spatial organization at the site that further highlights the diversity of settlement structures in prehistoric Cuba. By re-evaluating the archaeological evidence for space, place and power at Los Buchillones and locating it within the context of ongoing research in Cuba, we suggest that the diversity of settlement forms and structures in Cuba can enhance our wider understanding of pre-Columbian archaeology in the Greater Antilles.

Valdez, Fred (University of Texas At Austin)

[61] *Two Decades of Research Among the Ancient Maya of Northwest Belize*

Two decades of research by the Programme for Belize Archaeological Project (PfbAP) has led to several significant findings concerning the prehistoric Maya of northwest Belize. Field research has employed various surveys, site testing, and excavations as methods for understanding Maya activities in the region. Landscape and site-specific modifications reveal activities beginning in the Preclassic and continuing through the Terminal Classic. The PfbAP has also produced a model concerning settlement selection and interaction among the numerous communities documented on the research property.

Valdez, Lidio [121] see *Jennings, Justin*

Valdez, Stephany (University of Texas at San Antonio) and Jason B Lee (University of Texas at San Antonio)

[15] *Peripheral Vision: The Role of Cha'an Hol Rockshelter in Pacbitun's Periphery*

As part of the Pacbitun Regional Archaeological Project's 2011 field season, the ancient Maya site of Cha'an Hol was excavated in the periphery of Pacbitun. Research focused on determining who had access to the rockshelter, the purpose and temporal extent of utilization by the ancient Maya, and the site's relationship to the

core of Pacbitun. During the investigation, alteration of the natural environment was noticed and a range of artifacts were uncovered including freshwater snails (jute), ceramic sherds, and lithic material.

Valente, Maria Joao (Universidade do Algarve) and Rebecca Dean (University of Minnesota Morris)

[75] *A Shellfish Dilemma: Mesolithic and Early Neolithic in Western Algarve*

The Portuguese Mesolithic is internationally known for its Atlantic age, when the broad spectrum Tagus and Sado valley shell-middens were in use. In the southwestern part of the country (western Algarve), we have no records of such broad spectrum sites. From the Pre-Boreal to the Atlantic period (10-5.5ky BP), Mesolithic sites here seem to be coastal and highly specialized in shell and flint collecting. From their features—size, location, taxa representation and structures—we can infer Mesolithic dietary and settlement information, as well as the main changes operated in the Early Neolithic.

Valentine, Benjamin (University of Florida), Vasant Shinde (Deccan College Post Graduate and Research Institute) and John Krigbaum (University of Florida)

[217] *Mobility on the Margins: Immigrant Experience at the Indus Civilization Frontier*

We present an isotopically informed mortuary analysis from the eastern margins of the Indus Civilization that highlights the interdependence of regional social networks and broader economic opportunities. Strontium and lead isotope data from Farmana burials suggest kinship relations were established with non-Indus groups living in copper-rich regions to the south. Further, differences in isotope data and associated grave goods suggest cultural affiliation influenced how immigrants from different regions were perceived and incorporated into the community. Such relationships helped shape the social context of a regional system of resource exchange with socioeconomic consequences for the broader Indus Civilization and neighboring cultures.

Vallieres, Claudine (IPFW)

[166] *Feasting, Daily Culinary Practices, and Hospitality at Tiwanaku*

Recent discourse on the ancient cosmopolitan urban center of Tiwanaku and its widespread influence often emphasizes the role of feasting and hospitality in the negotiation of a common identity, uniting disparate social groups. Research on Tiwanaku culinary practices at the neighbourhood level reveal that conflicting ideas on being Tiwanaku were expressed through food choices within the context of household consumption. Yet Tiwanaku residents still framed these diverging practices within a pan-Tiwanaku hospitality etiquette. This paper suggests that the theoretical dichotomy between feasting and daily meals is blurred in contexts such as Tiwanaku where hospitality was a shared value.

Van Buren, Mary (Colorado State University) and Catherine Cameron (University of Colorado)

[120] *Technology Transfer and Social Inequality: Recognizing the Role of the Subaltern in Culture Change*
Technological change has been closely examined by behavioral archaeologists as well as ethnoarchaeologists, Darwinian archaeologists, and scholars interested in migration. Here we investigate the

contributions of social actors who have been overlooked by these approaches: coerced laborers forced to engage in production for the benefit of others. Building on Schiffer's concept of "technocommunities" we examine the effects of power disparities on technological differentiation. The potential of subaltern actors to innovate and the degree to which design decisions can be shaped by social inequality are illustrated by the history of small scale smelting technology in southern Bolivia.

van der Plicht, Hans [93] see Kuitens, Margot

Van der Sluis, Laura [176] see Denham, Sean Dexter

Van Dyke, Ruth (Binghamton University)

[198] *The Center Place Emerges: Early Outlier-Chaco Relationships*

We think of Classic Bonito phase Chaco Canyon as the center of a polity, with outliers as tentacles extending into surrounding areas of northwest New Mexico. But in AD 900, the early Type 1 great houses of Chaco – Penasco Blanco, Pueblo Bonito, and Una Vida – were three among many scattered over the western and southern San Juan Basin. Some of these new communities represent migrants moving south of the San Juan River after aggregated 9th century sites in the Four Corners imploded. As these communities sought to reformulate social, economic, and ritual relationships, Chaco Canyon emerged as the center place.

Van Gijseghe, Hendrik (Université De Montréal) and Verity H. Whalen (Purdue University)

[26] *Mining, Ritual, and Social Memory: Can place-names reveal ancient attitudes toward landscape?*

Mining in the Andean past was considered a dangerous transgression against supernatural beings, mediated by specific ritual acts. Place names, a key manifestation of social memory, link the natural landscape with world view, religious ideology, and shared history. We present data from the south coast of Peru that illustrate the intersection between prehispanic mining, ritual, and toponymy. These preliminary data indicate a qualitative distinction between the names of mining locations and those of other places within the natural landscape. The toponyms linked with places where the earth yields minerals for human use reveal a distinct ethnocategory of landscape cognition.

Van Gijseghe, Hendrik [26] see Vaughn, Kevin J. [29] see Kellner, Corina M.

van Hengstum, Peter [41] see Reinhardt, Eduard G.

Van Keuren, Scott (University of Vermont)

[47] *Going Red: Pueblo Pottery in the Late Pre-Hispanic Period*

This paper discusses the creation of color through ceramics in eastern Arizona during the late pre-Hispanic Pueblo period. By the late thirteenth century, the manufacture of black-on-white pottery waned and red-slipped bowls went into style. This transition coincided with changes in the ways that painted containers transmitted meaning in ritual activities and other social contexts. Using White Mountain Red Ware and contemporaneous wares, I examine the ways in which

color symbolism was "rebundled" with other connotations, including new identities and power relationships in post-migration communities.

Van Keuren, Scott [274] *see* Roos, Christopher I. [216] *see* Agostini, Mark R.

van Kolfshoten, Thijs [93] *see* Kuitens, Margot [93] *see* Conard, Nicholas J.

Van Norman, David [14] *see* Gray, Alexis A. [14] *see* Goralski, Craig T.

Vanderpool, Emily (M.A. Student - Georgia State University), Bethany Turner and Hugh Matternes [168] *Bioarchaeological Investigations of Community and Identity at McArthur Cemetery, Bibb County, Georgia*
This paper primarily focuses on concepts of community and identity at McArthur, a recently discovered Emancipation-era African American cemetery near Macon, GA. By performing stable isotopic analysis on tooth enamel and viewing the results in tandem with osteological and mortuary analysis, I have been able to gain insight to the diets and demography of this specific population which more accurately frames the notion of community at McArthur Cemetery and how it was reconstituted after Emancipation. This research not only informs ideas of community and identity at McArthur, but can also contribute to the larger history of the Reconstruction South.

Vanderpot, Rein [35] *see* Rainey, Katharine D.

VanderVeen, James (IU South Bend) and Joshua Wells (Indiana University South Bend) [250] *Why Lecture Halls Should Be TEAL: The Use of Technology for Active Learning in Introductory Human Evolution and Archaeology*

A series of introductory courses in anthropology at a public university tested the capacity for technology-enabled active learning (TEAL) strategies to help students comprehend, retain, and actualize new information. Developed for hard sciences at MIT, the TEAL approach involves students' use of computers to explore, assess, and analyze information from a variety of sources, provides directed digital feedback by the instructor and peers, enables multiple visualizations and reproductions of abstract concepts, and facilitates collaborative work throughout the semester. Previous efforts showed that student performance improved and engagement within the topic was higher than in typical lecture-based classes.

VanderVeen, James M. [240] *see* Gibson, Rebecca

VanDerwarker, Amber (UCSB), Gregory Wilson (UCSB), Kristin Hoppa (UCSB) and Amy Gusick (UCSB)

[166] *Culture Contact, Earth Ovens, and Persistent Foodways: Archaeobotanical Analysis of a Failed Corn Roast from the C. W. Cooper site in the Central Illinois River Valley*

The early Mississippian expansion of Cahokian peoples, practices and ideas had a major impact on the lives of native groups living in the Central Illinois River Valley (CIRV). New research has revealed that CIRV groups

adopted select Cahokian practices while retaining others rooted in localized Woodland traditions. Earth oven cooking, in particular persisted in the CIRV, long after it fell out of use around Cahokia. Recent excavations at the CW Cooper site uncovered an earth oven filled with burned corn cobs with kernels intact, a cooking accident that allows us to examine the details of this traditional cooking technique.

VanDerwarker, Amber [198] *see* Wilson, Gregory D.

VanEssendelft, Willem

[62] *Deciphering the Aztec Tizoc Stone: A GIS and Epigraphic analysis*

The riddle of Nahuatl writing has been deepened recently by the 2008 publication of Alfonso Lacadena's proposed syllabary. I examine his proposal in the context of the Tizoc Stone, which provides a wealth of toponymical data regarding the late pre-Contact Aztec Empire. By performing both epigraphic and iconographic analyses of the place names on the massive stone document, I address the structural issues of an enigmatic script and clarify the toponyms on this iconic artifact. A GIS analysis of the resulting toponyms tests the translations and provides contextual evidence of Aztec writing.

[258] *First Chair*

VanEssendelft, Willem [258] *see* Santini, Lauren M. **[267]** *see* Hutson, Scott R.

VanPool, Christine (University of Missouri-Columbia) and Todd VanPool (University of Missouri) [132] *Fifty years of "Archaeology as Anthropology" as Reflected in American Antiquity*

We consider Lewis Binford's impact as illustrated in American Antiquity. Binford's publications in American Antiquity and elsewhere inspired archaeologists to study technomic functions of artifacts. This initiated many spirited debates over the nature of evolution and adaptation. We also consider how Binford's category of socio-technic functions was put on the backburner until it was pulled forward by scholars such as Braum and Plog and as a result of "postprocessual" research. Finally Binford's ideo-technic function was lost in the mix by postprocessualists, despite Binford's 1962 suggestion that archaeologists could systematically study ideology.

VanPool, Todd (University of Missouri) and Michael O'Brien (University of Missouri-Columbia) [123] *From Chaco to Paquimé: The Bow, Arrow, and Political Complexity*

The bow and arrow contributed to the development of complexity in the North American Southwest, but in an uneven manner. In the northern Southwest, bow and arrow technology facilitated changes in warfare and class differentiation that both caused and reflected political complexity. To the south, though, the shift to bow and arrow technology did not encourage significant political complexity for centuries, if at all. We examine the factors underlying this variation, focusing specifically on the nature of warfare and social interaction prior to and after the introduction of the weapon system.

VanPool, Todd [132] *see* VanPool, Christine S.

VanValkenburgh, Nathaniel (Harvard University)

[200] *Regional Archaeology in Coastal Peru: Adapting New Approaches to Solve Old Problems*

Since Gordon Willey's pioneering work in the Virú valley, coastal Peru has held an important place in the history of regional archaeology. However, survey methodologies in coastal Peruvian environments have yet to fully address the implications of changes in floodplain geomorphology for the recovery of regional datasets. I discuss the Proyecto Arquelógico Zaña Colonial's development of "semi-siteless" survey strategies to improve data recovery during of our study of colonial forced resettlement (reduccion) in the Zaña and Chamán valleys. I also discuss ongoing development of integrative approaches to coastal Peruvian survey, incorporating remote sensing, phosphate sampling, and ethnohistorical research.

Varien, Mark (Crow Canyon Archaeological Center), Scott G. Ortman (Santa Fe Institute-Crow Canyon Archaeological Center), Donna M. Glowacki (Notre Dame) and Dylan Schwindt (Crow Canyon Archaeological Center)

[272] *Ancestral Puebloan Settlement in Southwestern Colorado, AD 600-1280*

The Village Ecodynamics Project (VEP) is well known for its use of agent-based modeling, but our efforts to model the occupational histories of archaeological sites in our study areas are equally important. This paper presents a preliminary assessment of the sites in the expanded VEP II study area in southwestern Colorado, which is four times larger than the VEP I study area. This expanded area allows us to compare settlement trends between the Great Sage Plain, in the northern half of the study area, and Mesa Verde National Park, in the southern half, for the first time.

Varien, Mark [17] see Lightfoot, Ricky R.

Varney, R. (PaleoResearch Institute, Inc.), Linda Scott Cummings (PaleoResearch Institute, Inc., Golden, Colorado), Amanda Evans (Louisiana State University) and Patrick Hesp (Louisiana State University)

[113] *Vegetation Associated with PaleoIndian Occupation on a River Terrace on the Continental Shelf Offshore from Galveston, Texas*

Pollen analysis was conducted on samples collected from a river terrace on the offshore continental shelf approximately 52 and 102 feet below mean sea level off the coast of Texas. This area was inundated an estimated 7,700 to 10,000 years ago. Pollen signatures are typical of a meadow at HI-178 and a pine/oak wooded wetland with trees increasing through time at GA-426. Samples are associated with evidence for fire features that appear to represent PaleoIndian occupation.

Varney, R.A. [113] see Cummings, Linda Scott

Varoutsikos, Bastien (Harvard Univ.)

[63] *Obsidian distribution in the Neolithization of the Near East : a GIS perspective.*

Since the first physico-chemical characterisation of obsidian, archaeologists have quickly realized the potential of such a material, and its ability to expose ancient exchange networks. Looking at the evolution of

these networks from a diachronic perspective while including other features such as lithic technology, and GIS modeling of distribution allows us to shed light on the role and place of obsidian exchange in the process of Neolithization. This study presents results of GIS least-cost path analysis of obsidian distribution from 2 sources, Golludag East, and Bingol B, to Near Eastern sites from the Natufian to the PPNB.

Vasquez, Javier [20] see Holliday, Vance T.

Vasquez, Jose (TRC Environmental), David Carmichael (University of Texas at El Paso) and Vance Holliday (University of Arizona at Tucson)

[100] *Preliminary Archaeological Investigations At Sierra Diablo Cave Site: Paleoindian And Archaic Occupations In Hudspeth County, Texas*

Sierra Diablo Cave is a stratified dry cave in far eastern Hudspeth County, Texas within the West Texas Trans-Pecos region. The cave measures approximately 20 m in diameter with subsurface deposits extending to a depth of >3.00 m below the surface. Recent investigations (J. Vasquez 2010; UTEP Field School 2011) have revealed a wealth of cultural resources, including intact and well-preserved perishables, spanning temporally from the Late Archaic presumably to Paleoindian time periods. Faunal remains include several extinct Late Pleistocene species. Additionally, the overall contextual integrity of the site is exceptional. Ongoing excavations intend to expose the earliest occupations.

Vasquez, Victor [156] see Burger, Richard L.

Vaughn, Erika [214] see Bell, Alison

Vaughn, Kevin (Purdue University), Hendrik Van Gijsegheem (Université de Montreal) and Moises Linares Grados (Arqueocare)

[26] *Ritual Practice and Mining in Nasca*

In this paper we evaluate ritual practice within the poorly understood context of prehispanic mining. Ethnographic and ethnohistoric evidence from the Andes clearly demonstrate the importance of ritual propitiation in mines. In this paper, we present evidence from Mina Primavera, a hematite mine in the Nasca region exploited primarily during the Early Intermediate period, that demonstrates ritual practice within a prehispanic mining context. We document the archaeological evidence for ritual practice, and propose some possible changes in how ritual was practiced during the mine's history of exploitation.

Vaughn, Kevin [29] see Kellner, Corina M.

Vawser, Anne (National Park Service) and Steven de Vore (National Park Service)

[9] *The Bear and the Wildcat: Geophysics and the Re-Discovery of Mounds at Effigy Mounds National Monument, Iowa*

The Midwest Archeological Center conducted geophysical investigations at Effigy Mounds National Monument in an attempt to relocate mounds recorded by Orr in 1902. By 1931, after years of cultivation, these mounds were reported to have been destroyed. An earlier success with remote sensing in other areas of the monument provided the framework for attempts to

relocate these mounds. The results of a magnetic survey of the meadow revealed several anomalies but no pattern emerged. High resolution LiDAR data was used to georeference Orr's 1902 map and this effort led to the discovery of the intaglios of the original mounds.

Vazquez, Andrea (Columbia University)

[188] *Exhibiting the Latina/o Past*

Does it make sense for modern Latinas/os to identify with the Precolumbian past? Museums sometimes exhibit Precolumbian artifacts alongside modern objects, glossing over several centuries of momentous change and implying continuity from the ancient to the modern era. The Peabody Museum at Harvard displays modern Maya textiles beside Classic Maya artifacts. Similar problems arise at El Museo del Barrio with their choice to display Taino objects in an exhibition space otherwise devoted to contemporary artworks. This paper seeks to examine the ways in which museum exhibitions represent the trajectory of the Latina/o past and whether or not this representation makes sense to Latina/o museum visitors.

Vazquez De Agredos Pascual, María Luisa, Linda Manzanilla (UNAM), Cristina Vidal Lorenzo (Universidad de Valencia) and María Teresa Domenech (Universidad Politécnica de Valencia)

[58] *Cosmetic Materials Discovered in the Burials of Teopanazco, Teotihuacan*

Recently, a multi-technique approach based on the combination of several non-destructive and micro-destructive instrumental techniques, namely, light microscopy (LM), scanning electron microscopy-X-ray microanalysis (SEM-EDX), transmission electron microscopy (TEM), voltammetry of microparticles (VMP), UV-vis spectrophotometry, FTIR spectroscopy and gas chromatography-mass spectrometry (GC-MS) has been developed to identify the minerals finely powdered found in miniature vessels that were placed in several burials of Teopanazco (AD 200-650), a multiethnic neighborhood center located in the southeastern sector of the archaeological site of Teotihuacan, excavated by L.R. Manzanilla. The results obtained in this research represent the first evidence, scientifically characterized, of the use of cosmetic materials in funerary rites of ancient Mesoamerica.

Vázquez de Ágredos Pascual, María Luisa [58] see Lorenzo, Cristina Vidal

Venter, Marcie (Missouri State University), Jeffrey R. Ferguson (MURR) and Michael D. Glascock (MURR)

[68] *Ceramic Production and Caribbean Interaction: A View from Trinidad's Northern Range*

Previous studies of ceramic production and exchange regarding the island of Trinidad have emphasized external connections and interisland interactions. In this poster, we examine the paste recipes and chemical compositions of ceramics collected from La Reconnaissance, a multicomponent Amerindian site in Trinidad's Northern Range, and compare them to locally available raw materials. We discuss the applicability of exchange models emphasizing external contacts and cultural developments and question whether local

production and intraregional interaction should receive greater consideration in archaeological reconstructions of island prehistory.

[68] *First Chair*

Vesteinsson, Orri [86] see Dugmore, Andrew J. [263] see McGovern, Thomas H.

Veth, Peter [255] see Steelman, Karen [273] see Zeanah, David W. [273] see Coddling, Brian F. [273] see Basgall, Mark E.

Vialou, Agueda [158] see Vialou, Denis [231] see Bueno, Lucas

Vialou, Denis (MNHN Paris France) and Agueda Vialou (Museum National d'Histoire Naturelle (France) and University of São Paulo (Brasil))

[158] *Peopling of the South America's center: Santa Elina (Brasil) a site in late Pleistocene*

The two main hydrographic basins, Amazon and Parana, cross the geodesic center of the South America. There, inside a limestone and sandstone precambrian range, the Santa Elina shelter offers a long sequence of human occupations from the late Pleistocene to the beginning of our era. The more ancient, dated about 25 ky BP asks for the first routes of dispersion in South America. An axis of entrance would be localized between the oriental side of the Andean mountains and the springs of the amazonian rivers.

Vicent, Juan [265] see Gilman, Antonio

Victoria Pérez, Arturo Ismael [58] see Martín Medina, Geiser G.

Vidal Guzmán, Cuauhtémoc [70] see Antonelli, Caroline E.

Vidal Lorenzo, Cristina [58] see Vazquez De Agredos Pascual, María Luisa

Villamil, Laura (University of Wisconsin - Milwaukee) and Jason Sherman

[22] *Recent Investigations at Margarita, Quintana Roo, Mexico*

Excavations conducted at Margarita, a Maya center located in south-central Quintana Roo, in 2010-11 uncovered the remains of several Late to Terminal Classic residential and ritual structures. The data collected shed light on the Classic-period occupation at Margarita, the abandonment of the urban core at the end of the Late Classic, and the "post-collapse" reoccupation of the site during the Terminal Classic. Analyses are being undertaken to refine the ceramic sequence for Margarita, and to examine the relationships between the local ceramic economy, shifting ceramic-sphere affiliations, and trade networks that linked Margarita with other regions of the Maya lowlands.

Villamil, Laura [70] see Robinson, Lindsay K.

Villaseñor, Amelia [96] see Du, Andrew

Villaverde, Valentin [135] see Barton, C. Michael

Villela, Khristaan (University of New Mexico)

[205] *Nothing Beside Remains: Photographs and Casts from the Excavation of Quirigua, Guatemala, 1910*
 For five years beginning in 1910, the School of American Archaeology and the Museum of New Mexico undertook archaeological investigations at the ancient Maya ruins of Quirigua, Guatemala. Although few formal publications resulted, the project generated a large documentary corpus, photographs by Jesse L. Nusbaum, and casts of the sculptures made by Neil Judd and others. The documentary evidence of the Quirigua excavations was especially influential in two arenas: the decipherment of Maya hieroglyphic writing, and the dissemination of archaeological knowledge to the general public at the Panama California Exposition, held in 1915 in San Diego.

Vining, Benjamin (Boston University)

[175] *Systems-scale, change thresholds, and resilience in the settlement and climatic history of the Lake Suches Highlands, Peru*
 Recent research around Lake Suches provides additional insight into the complex socio-environmental dynamics of the central Andes. In contrast to the adjacent Titicaca and Moquegua regions, Suches shows minimal evidence of major perturbations in palaeoclimatological or archaeological records. Lacustrine climate proxies indicate fluctuating early-Holocene conditions rapidly transitioned to markedly stable late Holocene conditions. Archaeological settlement patterns document an early and constant focus on perennial wetland resources. These data suggest that smaller-scale environmental and social systems sustained higher thresholds before changes-in-state occurred. They were resilient to dramatic perturbations, creating stability during periods when regional systems underwent stress.

Vitelli, Giovanna (St Mary's College of Maryland) [48]
Discussant

Vitousek, Peter [177] *see Ladefoged, Thengn*

Vogel, Gregory (Southern Illinois University Edwardsville) and Lucas Leady (Southern Illinois University Edwardsville)

[271] *3D Point Clouds and Spatial Analysis of Artifact Locations From Koster Horizon 11*
 Koster Horizon 11 excavation techniques included debris plots, where features and large artifacts (> 1 inch diameter) were plotted on a map for each level of each square. The resulting paperwork has not received a great deal of attention, in part because it was beyond the capabilities of earlier computers to operationalize. This paper outlines procedures used to generate 3D point clouds for each artifact type plotted, and explores methods of combining these plots with square level artifact counts to gain a fuller picture of the three-dimensional structure of the archaeological record and site taphonomy.

Vogel, Kristen (Texas A&M)

[148] *The Myth and Reality of Treasure Hunting: Treasure Hunting for Steamboats on U.S. Western Rivers*
 This paper examines the history of the search for and salvage of western river steamboats in the nineteenth and twentieth centuries. It explores the appeal of riverine

treasure hunting, including the desire to make a profit (especially from whiskey and specie), the thrill of adventure, and the wish to contribute to historical record. Also, this paper examines the negative consequences of treasure hunting. Artifacts with market value are not recovered. The archaeological context of artifacts is disturbed, and treasure hunters have used destructive techniques that can destroy artifacts. This study advances the argument for protective legislation for historically significant shipwrecks.

[148] *First Chair*

Volta, Beniamino [128] *see Gunn, Joel [22]* *see Folan, William J.*

von Nagy, Christopher, Mary D. Pohl and Kevin O. Pope (GeoEcoArc)

[167] *Baskets of fish / Fields of ... Modeling what we know and wish we knew about Tabasco Olmec agroecology and subsistence economics*
 The Tabasco Olmec lived in one of the largest and most significant contiguous wetland, deltaic landscapes of Mesoamerica, a landscape that required specific, at times novel, agroecological and cultural patterns that were well-developed prior to the rise of the La Venta polity at ca 800 BCE. We review the state of knowledge concerning evolving agroecological / subsistence systems of the Tabasco Olmec and their forebears. We present evidence from La Venta and affiliated sites, including San Andrés, coupled with local and regional data to develop a model of the current state of knowledge and discuss directions for future research.

von Nagy, Christopher [242] *see Pohl, Mary*

Voorhies, Barbara (University of California, Santa Barbara)

[87] *An Archaic Period Offshore Casino?: Dice Game Boards at the Tlacuachero Shellmound*
 At the Tlacuachero shellmound on the outer coast of Chiapas Mexico there are several superimposed clay surfaces bearing multiple enigmatic features consisting of small holes that form an open circle. Strong ethnographic analogies from across the North American continent and dating from Colonial to modern times suggest that these features were game boards used by ancient Archaic Period people to play dice games. If correct, gaming, and possibly gambling was a very ancient tradition in Mesoamerica.

[54] *Discussant*

Voyatzis, Mary [274] *see Mentzer, Susan M.*

Waber, Nicholas (UBC)

[207] *Risky Business: The Development of Microblades as Risk Avoidance Tools on early Holocene Haida Gwaii, British Columbia, Canada.*
 On Haida Gwaii, off British Columbia's north coast, at c.8750 BP, microblade technology replaced bifacial projectile points as the primary hunting weapons in the toolkit. The Richardson Island site in southern Haida Gwaii boasts a highly defined stratigraphic profile covering the transitional period. Recent research into the Richardson Island microblade assemblage, paired with an experimental project, suggests that microblades may have developed at the site as a response to shifting

ecologies and increasingly risky hunting activities. This paper presents the results of this research and a discussion of the Haida Gwaii microblade tradition as a risk avoidance strategy.

Wack, Lynn (University of Texas San Antonio)

[18] *Analyzing Animal Remains from the Historic Perez Ranch Site (41BX274).*

Excavations conducted in 2008 at the historic Perez Ranch site (41BX274) by the Center for Archaeological Research at UTSA yielded a substantial amount of faunal remains. This site is one of the longest continually worked ranches in Texas. Comparing the remains from this site with those from several Spanish Colonial Mission sites reveals differences in dietary habits. One major difference is in exploitation of wild resources. This suggests a difference in lifestyle between inhabitants of privately own ranches and those who lived within the Mission ranch system.

Wagner, Fritz, E. [215] *see Wagner, Ursel*

Wagner, Gail (University of South Carolina)

[238] *Maize Rising*

Maize has been linked to the rise of chiefdoms in southeastern North America. Present as a minor component in the diet for generations, did maize rise to dietary preeminence when emerging elites symbolically and literally adopted it, as hypothesized by Hastorf and Johannessen (1994)? In this paper I examine the archaeological implications of and evidence for such a scenario in the Southeast outside of the Mississippi Valley.

Wagner, Mark (SIU Center for Archaeological Investigations), Mary McCorvie (Shawnee National Forest) and Heather Carey (Shawnee National Forest)

[101] *Graven Images: A Possible Historic Period Petroglyph Site in the Illinois River Valley*

Illinois has long been known to contain historic period (post-AD 1673) Native American pictograph sites. In 2010 the first possible petroglyph site consisting of a boulder with engraved human and avimorphic images was discovered in central Illinois. These images were subsequently documented by SIU archaeologists through mapping and side light photography. Several lines of evidence including the location of the boulder adjacent to a ca. AD 1800 Native American village, method of manufacture (engraving), and the similarity of the boulder images to those found on portable historic period Native American objects suggest a ca. AD 1650-1800 date for the site.

Wagner, Teresa (Trent University) and Paul Healy (Trent University)

[15] *Ancient Maya Shell Use at Pacbitun: The Late Preclassic and Classic Periods*

Mollusks were important to the ancient Maya. Some species were employed as sources of food, while others were highly prized for their hard, durable shell used in the manufacture of elite goods. This paper focuses on the shell remains at Pacbitun dating from the Late Preclassic to the Terminal Classic periods. The assemblage for this 1200 year time span is large and diverse. An examination is made of the site contexts and uses of these mollusks and how this exploitation by the Maya

changed over time at Pacbitun. Examples of carved shell artifacts are also provided.

Wagner, Ursel (TU-Muenchen), Gabriela Cervantes (University of Pittsburgh), Werner Häusler (Physik Department E15, TU-München, Garching, Germany), Fritz, E. Wagner (Physik Department E15, TU-München, Garching, Germany) and Izumi Shimada (Southern Illinois University)

[215] *Miniature Vessels from the Sicán Burial Site of Huaca Loro studied by Mössbauer Spectroscopy*

Grave offerings in a 1000 year old Middle Sicán elite tomb excavated at the Huaca Loro mound in northern Peru included many handmade miniature vessels of poor artistic and technologic quality. Presumably they were made hastily by funeral attendees, causing the observed formal and material variation. This hypothesis was tested by Mössbauer and XRD analyses of miniature samples and local clays. The Mössbauer spectra exhibit five characteristic patterns reflecting substantial differences in firing history rather than raw materials. These patterns do not correlate with the formal vessel types, suggesting that the miniatures were made with little care, perhaps in bonfires.

Wake, Thomas [122] *see Eronat, Kristina S.*

Wakefield, Robyn (University of Pittsburgh)

[138] *Subadult Limb Bone Growth and Environmental Stress in a Medieval British Sample*

Growth trends have been used as a means to evaluate differences in health status between past populations in anthropological studies. Research suggests that populations exhibiting stunted growth experienced high levels of environmental stress. Limb bones of subadults (n=126) from 3 late Anglo-Saxon/Early medieval British cemeteries were assessed for nonspecific indicators of stress: cribra orbitalia, enamel hypoplasia, and fluctuating dental asymmetry. Diaphyseal limb bone lengths for stressed and unstressed subadults were compared to trends from growth curves. Statistical analysis revealed no significant differences in limb bone growth between stressed and unstressed individuals in the sample.

Walde, Dale (University of Calgary)

[123] *The Bow and Cultural Complexity on the Canadian Plains*

Some two thousand years ago, Canadian Plains hunter-gathers organized themselves into tribes in response to the incursions of Woodland groups. This change in social organization was accompanied by the widespread adoption of the bow. Limited use of the bow on the Canadian Plains was present long before its adoption. It seems unlikely that superiority of function in hunting or warfare was a major factor in the adoption of the bow. Earlier interpretations emphasizing the symbolic unity engendered through adoption of a new technology and the unifying influence of specialist arrowhead producers working in male pantribal sodalities should also be considered.

Walder, Heather (University of Wisconsin-Madison)

[240] *Examining Historic Trade Networks of the Upper Great Lakes through Glass Bead Compositional Analysis*
A chemical analysis technique, Laser Ablation—

Inductively Coupled Plasma–Mass Spectrometry (LA-ICP-MS), was used to investigate regional differences among glass trade beads from nine different French contact-era archaeological sites in Wisconsin. Geographic proximity and temporal period of assemblages contribute to the degree of artifact compositional similarity. Therefore, the analysis reveals details about both exchange of trade goods and dynamic population movement characteristic of this period of culture contact. Similar appearances of particular glass trade bead types among sites may indicate a social or ethnic affiliation of groups in trade networks or the movement of displaced people on the landscape.

Walker, Chester and Kent Reilly (Texas State University - San Marcos)

[97] *Sacred Bundles, Cult-Bearers, and Ideological Exchange In the Early Mississippian Period*

Motifs and other components of Mississippian period regalia suggest that certain figural representations are associated with ritual items as specific aspect of identities. The usage patterns of such objects suggest a common understanding of both ritual and regalia not only within a specific temporal period but also across a large and specific geographic distance. The spread of Braden style objects within this geographical corridor strongly suggests that such objects were the visualization of specific cults that traveled along a route of ideological exchange that was based on the movement of sacred bundles and their accompanying ritual practices and practitioners.

[226] *Discussant*

Walker, Chester P. [70] see LeCount, Lisa J. **[76]** see Lydecker, Andrew D W

Walker, Karen J. [232] see Marquardt, William H.

Walker, Lakeisha [109] see Ryzewski, Krysta

Walker, Leslie (Arkansas Archeological Survey)

[252] *Art, Agency and Cultural Transformation at the Dawn of Protohistoric Arkansas*

The recent study of the remarkable material culture left behind by the people of Carden Bottoms has provided us with a wealth of new knowledge about life during this turbulent time in the Southeast. These objects, and in many cases, the artistic imagery on them, tell us even more about how a multiethnic community reacted to the rapidly changing socio-cultural environment. On an even broader scale, this example illustrates the ways in which objects, people and culture interact with one another in the face of unforeseen, life altering events – such as the arrival of Europeans in the New World.

Walker, Steven (The University of Cape Town)

[226] *Wellcome's initiative: kite aerial photography in the service of archaeological survey*

Sir Henry Wellcome was the first to utilize aerial photography in archaeology. He did so by novel method of suspending cameras from box-kites. In the hundred years since, a variety of methods have been employed to obtain a bird's eye view of the archaeological landscape. Low-level aerial photography has proven to be useful for site identification, site mapping, and contextualizing sites in the landscape. This paper presents examples of kite

aerial photography being used to better find and understand archaeological sites.

Walker, William (New Mexico State University)

[154] *Ritual Behavior, Communication and Artifact Agency*

Schiffer's artifact-centered theory of communication highlights--the possibility that behavioral data such as artifact performance characteristics and life histories can be transformed into flows of information between people and objects. This symmetry between behavioral and communication data facilitates new approaches to study of ritual site formation processes, artifact agency, and exploration of religious change. To illustrate these approaches I explore explanations such as mortuary practices, shrine- activity, ceremonial storage, and ritual discard for the deposition of weapons, sandals, and "tablitas" in caves in Southwest New Mexico and West Texas during the late prehistoric period (A.D. 1000-1450).

[120] *Organizer*

Waller, Kyle (University of Missouri-Columbia) and Robin Yim (University of Missouri-Columbia)

[139] *Paleopathology and Social Inequality: A Case Study from the Late Mississippian*

Evidence of social inequality may be obscured in circumstances where grave furniture is either absent or evenly distributed throughout the population. Analyses of inter-individual differences in indices of skeletal health and physical activity from the Late Mississippian Campbell Site (23PM5) demonstrate that paleopathological data can be used to identify social inequality where none was evident from other archaeological indicators. Statistical comparison of pathological indicators and types of burial furniture indicate an age and sex dependent relationship. This study demonstrates the utility of osteological data in creating nuanced interpretations of prehistoric mortuary variability.

Walley, David [127] see Gramly, Richard M.

Walling, Stanley (Community College of Philadelphia), Christine Taylor (Rio Bravo Archaeological Survey), Travis Cornish (Rio Bravo Archaeological Survey), Iakov Doumanoff (Rio Bravo Archaeological Survey) and Chance Coughenour (University of Seville)

[131] *The Commoner Ballcourt at Chawak But'o'ob, Belize: Myth, Ritual, and Hydrology at a Rural Maya Site*
Investigations at Chawak But'o'ob have revealed two ballcourt buildings, the largest freestanding constructions at this Late Classic commoner community. These and other structures in the ballcourt complex occur in a distinct and symbolically rich natural setting, well away from the community's residential areas. The complex was carefully integrated with local caves, bedrock exposures, water drainage features and topography in a manner that references Mesoamerican myth. Such referencing suggests commoner symbolic priorities distinct from those in evidence in urban ballcourts and in so doing, contributes to our understanding of the complexity of ancient Maya commoner lives.

Wallis, Neill (Florida Museum of Natural History)

[97] *Connecting Two and Three-Dimensional Fields of Ceremonial Interaction: Swift Creek Enchainment and Weeden Island Animacy*

This paper illustrates connections among the iconographic representations in two different kinds of late Middle Woodland pottery implicated in exchange and ceremonial interactions: Late Swift Creek Complicated Stamped and Weeden Island effigy vessels. Although commonly separated in archaeological taxonomies, these pottery "types" are contemporaneous and found on many of the same Gulf Coastal Plain sites. My analysis of these forms shows that both types reference the same concepts but have different semiotic emphases, one indexical and the other iconic. I argue that these differences signify shifting participation in ceremonial interactions and changing significance of objects in mortuary contexts.

Walsh, Matthew [132] *see* Prentiss, Anna Marie

Walter, Brittany (University of Central Florida) and John Schultz (University of Central Florida)

[36] *Mapping Dispersed Skeletal Remains in Obstructed Environments Using a Portable Differential Global Positioning System*

Unlike standard Global Positioning Systems, portable Differential Global Positioning Systems (DGPS) can provide decreased positional error suitable for mapping skeletal dispersals. With the use of DGPS, one is able to maintain a precise geospatial record of remains at the scene. However, structures and tree cover are obstructions frequently encountered, as remains are generally deposited away from detection. The utility of DGPS for scene mapping in obstructed areas was evaluated by constructing two simulated scenes mapped using offsets, lowered precision and increased collection time. Maps were compared using Geographical Information Systems to evaluate the most efficient recordation methods.

Wandsnider, LuAnn (University of Nebraska)

[241] *The Notion Site Redux*

In 1992, Robert Dunnell offered a typically-Dunnellian analysis, incisive and comprehensive, of the site concept in archaeology, finding it wanting across most dimensions. Current archaeological practice differentially acknowledges this analysis, often admitting select deficiencies in the site concept but continuing dependence on some version of it for information management purposes. This paper reviews the status of this critical concept in archaeology today.

[132] *Discussant*

Wandsnider, LuAnn [110] *see* Napier, Tiffany

Wang, Fuqiang [163] *see* Jin, Guiyun

Wang, Xintian

[163] *New investigations of the late Neolithic Shuangfendian site in middle Yangtze River*

Middle Yangtze River's Late Neolithic period was marked by a series of social, cultural and economic changes. The mechanism of these transformations has long been a debated issue. Our recent investigations at the Shuangfendian site in Hubei Province have discovered new evidence to understand the economic and cultural

patterns of the late Neolithic Middle Yangtze River.

Wang, Xintian [163] *see* Ge, Wei

Ward, Timothy (Millsaps College), Jiyan Gu (Millsaps College), Michael Galaty (Millsaps College), Christopher Horne (Millsaps College) and Erin Redman (Millsaps College)

[119] *Analysis of Albanian Artifacts in the W. M. Keck Center at Millsaps College: An Instrumental Approach to Comparative Archaeology*

The applications of modern analytical instruments for Albanian artifacts will be presented. Applications of instrumental analysis in our laboratory includes total digestion with ICP-MS to analyze the elemental composition of pottery samples, analysis of cherts by LA-ICP-MS using silicon as an internal standard, analysis of glass/glaze from the site of Byllis, located in south-central Albania, and the use of LC/MS methods to analyze pottery vessels for wine residue. The capabilities, limitations and possible pitfalls of these various analytical instrumental methods will be addressed. Supported by grants from the W. M. Keck Foundation and NSF MRI.

Ward, Timothy [220] *see* Gu, Jiyan [201] *see* Bey, George J. [114] *see* Horne, Christopher

Warinner, Christina (University of Zurich), Enrico Cappellini (Center for GeoGenetics, University of Copenhagen, Denmark), Matthew Collins (University of York, UK), M Thomas P Gilbert (University of Copenhagen, Denmark) and Frank Rühli (University of Zurich, Switzerland)

[145] *Dental Calculus: A Novel Biomolecular Reservoir of Ancient Dietary and Health Indicators*

Archaeologists have long been interested in the dietary and health histories of ancient peoples. However, reconstructing these histories using conventional tools can be difficult, indirect, and imprecise. Recent microscopy investigations of dental calculus have shown that this mineralized biofilm is a long-term reservoir of food remnants and oral bacteria. In this paper we present new data demonstrating that dental calculus is also a robust reservoir of ancient biomolecules. Given the near ubiquity of dental calculus in the archaeological record, the discovery of well-preserved biomolecules within dental calculus promises to greatly expand our understanding of human diet and health in antiquity.

Warmack, Aleithea [168] *see* France, Christine

Warmlander, Sebastian (3Division of Biophysics, Stockholm University), Sabrina Sholts (University of California, Berkeley), Rose Drew (Mary Rose Trust UK) and Elin Sundman (Osteoarchaeological Research Laboratory, Stockholm University)

[176] *Creating a biological profile of the skeletons from Cronan, the Swedish 17th century flagship*

The sinking of the flagship Cronan in 1676 remains one of the greatest naval disasters in Swedish history, with more than 800 lives lost in the Baltic Sea. Although certain aspects of the Cronan sinking have been extensively documented, osteological analyses of the human skeletal remains from the ship suggest more demographic diversity than indicated by historical records. Together with additional information on health,

diet, and geographical origins, our efforts to produce a detailed biological profile of the people aboard the Cronan provide new insights into maritime societies of medieval Europe and avenues of further research on this remarkable collection.

[176] *First Chair*

Wärmländer, Sebastian [164] *see Sholts, Sabrina B.*

Warner, John

[106] *Examining the Norcosteño Model at the Late Formative Period North Coast Site of Jatanca, Jequetepeque Valley, Peru*

Recently, archaeologists have begun to elucidate critical sociopolitical developments that occurred during the transition between the Late Formative and Early Intermediate Periods along the Peruvian North Coast. These studies have resulted in the development of the "Norcosteño" model of sociopolitical development and organization. In this model, numerous politically independent polities that shared a common ethnic identity developed along the North Coast during the Early Intermediate period. Using architectural and ceramic data, this paper will examine the Norcosteño model from the perspective of the Late Formative Period site of Jatanca, located within the southern edge of the Jequetepeque Valley.

Warner, Mark (University of Idaho) [48] *Discussant*
[48] *First Chair*

Warren, Graeme [46] *see Cooney, Gabriel*

Warren, Matthew (University of Texas at San Antonio) and Sonia Alconini (University of Texas at San Antonio)

[52] *Beyond the Southeastern Inka Frontier: Population Dynamics of Trans-border Guarani and Arawak Populations*

Beyond the Southeastern Inka frontier lay a number of populations with distinct Guarani and Arawak origins. Spread along different ecologies, these trans-border groups maintained complex relations with the empire, ranging from privileged alliances, open rebellion, and unequal participation in the Inka prestige-goods economy, aimed at promoting tributary relations. Using archaeological and ethnohistoric information, in this paper I will explore: (1) the changes in the existing exchange networks before and after the Inkas, (2) the shifts in the ethnic affiliation of such populations including processes of ethnogenesis, and (3) the effects of the empire in the native sociopolitical structures.

Waselkov, Gregory (University of South Alabama)
[192] *Discussant*

Waterman, Anna (University of Iowa), Marta Díaz-Zorita Bonilla (Durham University), David W. Peate (University of Iowa) and Kelly J. Knudson (Arizona State University)

[138] *At home or abroad: An investigation of human migration patterns in Copper Age Spain using strontium isotopes*

This study uses strontium isotope ratios ($87\text{Sr}/86\text{Sr}$) in dental enamel from burials at the Copper Age sites of Valencina de la Concepción and La Pijotilla in

southeastern Spain to distinguish migrant individuals. The Copper Age constitutes a dynamic time period in southeastern Spain with evidence of increasing social complexity and strong regional interactions. It is assumed that population migration and long distance trade played an important role in this region's development. However, our knowledge of the migration patterns of individuals or groups is still limited. This study seeks to improve our understanding of human mobility in Late Prehistoric Iberia.

Waters, Gifford (Florida Museum of Natural History)

[136] *Franciscan Foundations: Recent Research at the Mission of Nombre de Dios, St. Augustine's Oldest Mission*

Recent excavations conducted by the Florida Museum of Natural History at the Nombre de Dios mission site uncovered coquina and oyster shell foundations outlining a building measuring approximately 26 by 10 meters. The mission, established in 1587 and enduring until 1763, was one of the earliest and longest-lasting missions in Spanish Florida. Based on historical documents and recovered artifacts, it is believed that the foundations are the remains of the church built in 1677 by the Spanish Governor of Florida. This was the first stone church in Florida and offers insight into mission life during the late-17th and 18th centuries.

Waters, Michael (Texas A&M University)

[225] *The Emerging Archaeological Pattern in North America from 13,000 to 15,500 cal yr B.P.—A viewpoint from the Debra L. Friedkin Site, Texas and Manis Site, Washington*

Recent work at the Debra L. Friedkin site, Texas, and Manis site, Washington, combined with evidence from other sites show that people were present in North America from 13,200 to 15,500 cal yr B.P. These early inhabitants of North America possessed biface, blade, bladelet, and osseous technologies. The empirical archaeological evidence meshes well with genetic estimates and with other proxy data for the timing of the arrival of the first Americans.

Waters, Michael [100] *see Carlson, David L.*

Waters, Michael R. [169] *see Jennings, Thomas A.*

Watkins, Christopher [270] *see Abbott, David R.*

Watkins, Joe (University of Oklahoma)

[209] *Teaching "Indigenous Archaeology" to Indigenous non-Archaeologists, non-Indigenous Archaeologists, and non-Indigenous non-Archaeologists: Hitting the Important Points"*

Teaching archaeology in a Native American Studies program carries with it challenges beyond those faced by archaeologists who teach in an archaeology program. Questions of pedagogy in an archaeology classroom are compounded in situations where there are people who believe that archaeology is the "handmaiden of colonialism;" that archaeologists are at worst grave-robbers and treasure hunters; or that ALL histories (real or imagined) are equivalent. The challenge in working in a Native American Studies environment is to accurately present the methods and theories within which archaeology operates while giving value to non-

archaeological approaches to the past.

Watkins, Trevor (University of Edinburgh, Scotland)
[228] *Neolithic, neolithisation – chronology versus process*

The biggest obstacles to writing culture history for the early prehistory of southwest Asia are (a) that we use polyvalent terms (Natufian, Neolithic, PPNA, PPNB) ambiguously, and (b) we are dealing with a process (neolithisation – another polyvalent term) that took place over time, which we slice up into a multiplicity of two-dimensional blocks in a chronological table. We need neutral labels for a sequence of chronological periods. And we should abandon the unpronounceable 'neolithisation', replacing it with new terms (plural) that describe the process in which we are interested.

Watrall, Ethan (Michigan State University) [3]
Discussant

Watson, Adam (American Museum of Natural History) and Elizabeth Bollwerk (University of Virginia)

[164] *Chemical Compositions, Microwear, and Geospatial Data: Lessons Learned and Insights Gained from the Application of Modern Analytical Techniques in Collections-Based Research*

Although archaeological excavation is often an inherently destructive enterprise, curated collections provide an opportunity rarely available to the archaeologist in the field: the ability to initiate and replicate analyses as new methods and technologies are introduced. Increasingly, archaeologists are turning to collections-based studies as a way of expanding our understanding of the past. Highlighting two recent projects, this paper explores the benefits of employing inter-disciplinary techniques such as archaeometry, microscopy, and GIS in collections-based research and examines the challenges specific to analyzing assemblages recovered during the late nineteenth and early twentieth centuries.

Watson, Adam [164] *see Martin, Worthy N.*

Watson, April [128] *see Brown, Clifford T.*

Watson, James (Arizona State Museum, University of Arizona) and Rachael Byrd (University of Arizona)

[116] *Mortuary Practices of the Early Agricultural Period (2100 B.C.-A.D. 50): Early Farming Communities in the Sonoran Desert*

Mortuary rituals at Early Agricultural period (circa 2100 B.C.-A.D. 50) sites, the earliest permanent agricultural villages in the southwest US/northwest Mexico, were one mechanism employed to mitigate social tensions generated by balancing public cooperation for irrigation and private property interests among households. Normative mortuary practices include single, flexed primary inhumation, the application of red mineral pigment, and limited funerary objects. These practices functioned to incorporate a shared community identity, while placement within sites legitimized household interests through descent and inheritance. However, a great deal of variability is also observed throughout the period, including numerous body configurations, multiple burials, and cremation.

Watson, Jessica [141] *see Bovy, Kristine M.*

Watson, Lucía (Centro de Investigaciones Arqueológicas del Museo), Bastien Llamas (Australian Centre for Ancient DNA. School of Earth and Environmental Sciences The University of Adelaide), Krzysztof Makowski (Pontificia Universidad Católica del Perú - Programa Arqueológico Valle de Pachacamac) and Wolfgang Haak (Australian Centre for Ancient DNA. School of Earth and Environmental Sciences The University of Adelaide)

[156] *Mitochondrial DNA of the individuals from an elite funerary chamber in the Inca site of Pueblo Viejo-Pucara at the Lurin Valley, Peru*

The distribution of collective human burials in the Late Horizon-Contact Period settlement of Pueblo Viejo-Pucara, at the Lurin Valley (Peru), suggests that the pre-Hispanic population of the area was organized in four main ayllus, with members of extended families buried in chambers in each of their residence units. The results of mitochondrial DNA analysis and 22 Single Nucleotide Polymorphism of the coding region of 12 bones samples, half of which belong to 3 individuals of Pueblo Viejo-Pucara, show that the persons buried in the same funeral chamber don't have a biological maternal link, opposite to what was expected.

Watson, Rachel [172] *see Spann, Tamara*

Wattenmaker, Patricia (University of Virginia)

[229] *Power of the House in Ancient Mesopotamia*

The focus on elites, temples and palaces in Mesopotamian archaeology has directed attention away from the role of the house in legitimizing social hierarchies. This analysis of third millennium houses from central Mesopotamia challenges the prevailing model of the sacred temple precinct and the secular house. Findings suggest that houses represented material expressions of cosmological beliefs. Factors such as the locations of houses, their architectural plans, and the features found within them highlight variability in the sanctity of houses. Through building practices, rituals, and daily practices, residents made houses central to the process of hierarchy construction and maintenance.

Watts, Christopher (Royal Ontario Museum)

[251] *Introductory Comments*

This paper provides introductory comments on the symposium theme by highlighting how relational ways of being in and knowing the world can be gleaned from non-Modern approaches to the archaeological past. It also serves to introduce the various contributed papers and to show how recent advances in material culture studies, ethology and ecological anthropology increasingly acknowledge the positional nature of humans, animals and things within various networks or 'meshworks' of engagement. That we can talk about a relational archaeology in terms of architectural contexts, landscape features, trade activities and depositional practices further serves to underscore the importance of the topic.

[251] *First Chair*

Watts, Elizabeth (Indiana University) and Susan M. Alt (Indiana University)

[239] *Trading Traditions: Interactions Between*

Yankeetown and Cahokia in Southwestern Indiana

In Southern Indiana the Angel Site was founded as a Mississippian Mound center while the Yankeetown site remained a vibrant Late Woodland Center. Evidence is ever more convincing that people who were interacting with Cahokia, and becoming Mississippian lived alongside people who remained engaged with more traditional (Yankeetown) life ways. But this coexistence wasn't without effect, and it is quite possible that Yankeetown people also interacted with Cahokians. New data from excavations at the Dead Man's Curve site combined with a reanalysis of legacy data from the Yankeetown site provide an opportunity to better understand Mississippian transitions and what proximity to Mississippians meant for those who tried to remain more traditional.

Watts, Joshua (Digital Antiquity - Arizona State University) [257] Discussant

Wayman, Joseph (Independent Researcher)

[44] *Foot Cutters: A New Hypothesis For The Function Of Acheulian Bifaces And Related Lithics*

Hypothesis explains the function of Acheulian bifaces and related tools and similar lithics from later eras as emplaced trap-blades, deployed with edges or points in position to disable prey animals by damaging their feet and legs. Analogous modern use of gamestakes to damage prey explains deposits of these lithic devices in large numbers, often in like-new condition. Perishable materials used for gamestakes is documented ethnographically and historically and archaeologically. But evidence for such use in archaeological sites such as Star-Carr and Blackwater Draw has been overlooked. In North America, large bifaces accompany gamestake like devices at Richey-Roberts.

Weatherby, Shannon [242] see Pohl, Mary

Weaver, Eric (University of Cincinnati), Nicholas Dunning (University of Cincinnati) and Michael Smyth (Foundation for Americas Research)

[22] *Preliminary investigation of a ritual cave site in the Puuc region of Yucatán, Mexico: Actun Xoch*

Within the Lowland Maya site of Xoch is a cave first described by John Lloyd Stephens. The cave's central location at the Xoch site and placement at the base of a pyramid indicate that the cave played an important role in replicating Maya cosmology. Initial exploration revealed examples of the oldest ceramic known in the Yucatán. Later mapping revealed a cave heavily used for ritual purposes. Throughout its reaches are broken ceramic vessels and the lowest chamber, which contains a pool of water, has piles of ceramic meters deep. It is evident that this cave was an important religious site.

Weaver, Guy [10] Discussant [45] see Blazier, Jeremy W. [173] see Cyr, Howard J.

Webb, William (University of New Brunswick), Matthew Litvak (Mount Allison University) and Susan Blair (University of New Brunswick)

[141] *Recent Investigations into the Role of Sturgeon in Pre-Contact Mi'kmaq Economies*

The archaeological record for northeastern North America indicates that Pre-Contact economies were

strongly oriented towards both coastal and riverine fisheries. Although the Miramichi River in northeastern New Brunswick, Canada is renowned for its modern salmon fishing, archaeological fish bone assemblages from the Metepenagiag Mi'kmaq First Nation are dominated by sturgeon remains. This poster will present some preliminary results from a collaborative project between university researchers and the community-run Metepenagiag Heritage Park, involving an interdisciplinary team of archaeologists, biologists, and Metepenagiag community members, on exploring this ancient sturgeon fishery and its implications for the lives of ancestral Mi'kmaq people.

Weber, Jennifer

[15] *Calculated Motivations: The Road Network at the Ancient Maya site of Pacbitun, Belize*

Pacbitun displays a unique connection between the site center, various structures in the periphery, and caves. This connection is displayed in form of a causeway system in some parts of the periphery, but also in form of an absence of a road system in others. An investigation of all these interconnected nodes is necessary to understand the connecting links and, consequently, trace the socio-political development in and around Pacbitun. Through the application of Geographic Information Systems and Agent Based Modeling, we will systematically assess and discuss to what extent testable predictions can be made about the built environment linking the site center to its hinterland caves.

[15] *Second Organizer*

Weber, Sarah [191] see Zidar, Charles M.

Webster, Andrew (University of Notre Dame) and Mark R. Schurr (University of Notre Dame)

[67] *Slicing through Our Past: Knives and Other Tableware at the Collier Lodge Site*

The Collier Lodge in Northwest Indiana served many functions in its diverse history, including a restaurant and inn near the private hunting grounds of the famed Kankakee Marsh. Among the material culture there are many knives and other types of tableware. Through stylistic analysis and comparison, as well as research of historical tableware available through publications and collections, this poster seeks to use the tableware of Collier Lodge to shed new light on the importance, origins, and use of tableware in a local and regional context, providing new insight into nineteenth century life in the rural Midwestern United States.

Webster, David (Penn State University) [102] Discussant

Webster, Laurie (University of Arizona)

[47] *The Colors of Prehispanic Southwestern Dress*

Thousands of textile fragments have survived from prehispanic sites in the Southwest. Kiva murals also contain rich depictions of ceremonial dress. What do these data convey about the color palettes of clothing worn by prehispanic Southwestern people? What colors were available to people in the past, and which colors were most often selected? This paper explores the pigment and dye sources available to prehispanic Southwesterners, regional and temporal patterns in the uses of color, and some ideas about the possible

symbolism of these color choices.

Weeks, Rex (University of Arkansas), W Fred Limp (University of Arkansas), Angie Payne (University of Arkansas) and Katie Simon (University of Arkansas)

[194] *Chaco Petroglyphs in 3D: A Preliminary Report*
A group from the University of Arkansas conducted a pilot research project in the amphitheater area between Pueblo Bonito and Chetro Kettl of Chaco Culture National Historic Park using advanced geospatial technologies. Their purpose was to evaluate state-of-the-art instruments, particularly scanners and survey-grade GPS, to collect three-dimensional data of the north canyon walls, panels, and petroglyphs along the trail. Preliminary data are expected to demonstrate the possibilities of multiple applications for conservation, documentation, and interpretation, such as visualization for monitoring, virtual exhibitions, and simulation of light-and-shadow effects and acoustics, and replicable qualities of phenomenological experiences.

Weinstein, Laurie (Western Connecticut State University) and Diane Hassan (Danbury Historical Society)

[280] *The Revolutionary War Indian Soldiers of Redding, Connecticut*

This paper looks at some of the Indian men who fought in the Revolutionary War in Redding Connecticut during the winter of 1778-79. The Natives who served in Redding came from all over New England and they were ordered to various posts throughout the area as well. This paper chronicles the lives of some of these men both before and after the war. We seek to place their personal histories within the larger context of native struggle and survival.

[280] *First Chair*

Weisman, Brent R. [124] see Pluckhahn, Thomas J.

Weisskopf, Alison [35] see Kingwell-Banham, Eleanor

Weiss-Krejci, Estella (University of Vienna, Austria)
[236] *Archaeology beyond La Milpa: Excavations at an ancient Maya reservoir*

This talk summarizes research which continues the work of Boston University's La Milpa Archaeological Project and was conducted between 2007 and 2011 under the auspices of the Programme for Belize Archaeological Project. The focus of field work is the area east of the La Milpa ceremonial center, a distinctive upland landscape characterized by bajos, the small ceremonial center La Milpa East, large basal platforms, many small housemounds, numerous field walls and several aguadas. This presentation focuses on the results of excavations in Aguada Lagunita Elusiva, a small ancient artificial Maya water reservoir which still holds water part of the year.

Weiss-Krejci, Estella [131] see Martinez, Maria M. [32] see Lillios, Katina T.

Welch, Daniel (Texas A&M University) and Suzanne Eckert (Texas A&M University)

[211] *Towards An AMS Radiocarbon Chronology Of Plain Ware Pottery Recovered In The Samoan*

Archipelago

The current chronology for pottery production in the Samoan Archipelago is debated. Limited means of directly dating pottery and disagreement regarding the subjective application of charcoal dating impedes further progress. Our research forms a practical methodology of sample selection that allows us to date the soot on cooking pots recovered from archaeological contexts. A comparison of dates obtained from soot on pottery and dates from associated charcoals suggest that the technique yields viable results. We will discuss criteria for sample selection of pottery, site formation processes and the implications that our new dates have for the Samoan ceramic chronology.

Welch, Kristen (University of North Carolina-Greensboro), Charles P. Egeland (UNC- Greensboro) and Christopher M. Nicholson (University of Wyoming)

[96] *Experimental determinations of cutmark orientation and their implications for reconstructing prehistoric butchery behavior*

The orientation of cutmarks can potentially reveal aspects of prehistoric butchery behavior. In this study, the limbs of white-tailed deer (*Odocoileus virginianus*) were subjected to butchery under controlled conditions and the orientation of the resulting cutmarks measured using ArcGIS. These data are used to determine if cutmark orientation can distinguish remains butchered by one individual from those butchered by several individuals.

Wells, Christian (University of South Florida)

[274] *Anthrosol Analysis of Ballcourt Surfaces in Ancient Southeastern Mesoamerica*

Masonry ballcourts in southeastern Mesoamerica provided stages for ritual performances that connected participants and spectators in the reenactment of cosmic dramas. Ethnohistorical, iconographic, and archaeological data demonstrate that variation in the size, shape, and decoration of ballcourts accommodated a wide range of activities in and around these structures. This paper reviews the literature on ballcourts from the region, suggests testable implications for soil chemical research on earthen and plaster surfaces aimed at better understanding ballgame activities, and presents the results of an anthrosol study from the ballcourt at El Coyote, a Classic period settlement in northwest Honduras.

[274] *Second Organizer*

Wells, E. Christian [37] see Mihok, Lorena D.

Wells, Emily, Christine White (University of Western Ontario), Michael Spence (University of Western Ontario) and Fred Longstaffe (University of Western Ontario)

[139] *Isotopic Bioarchaeology of Childhood at the Sacred Heart Cemetery in Ingersoll, Ontario, Canada*

In this study we use carbon, nitrogen, and oxygen isotopic compositions of bone and enamel along with gross skeletal morphology to recreate the lived experiences of childhood diet and health relative to adults who came to Ontario as part of the great 19th century diaspora. Preliminary results indicate that infant feeding behaviour was consistent with the contemporary

St Thomas, Ontario population (Herring et al. 1998), and that adult diet is uniform but varies more among females than males.

Wells, Joshua (Indiana University South Bend) [3]
Discussant [3] Second Chair

Wells, Joshua [250] *see VanderVeen, James M.*

Wendrich, Willeke (UCLA)

[129] *Publication and Virtualization: The Cotsen Digital Archaeology Series*

The Cotsen Institute of Archaeology Press is developing an online platform through which authors will be able to publish their primary data and media files by integrating these with online or printed text publications.

Archaeological data formats range from spreadsheets, texts, photographs, spatial data to read-outs of analytical instruments. They also vary in density: spatial data from manual survey measurements might overlap with the plethora of coordinates from three-dimensional scanners; qualitative recording using limited and standardized terminology exists next to thick descriptions. All data have chronological and spatial coordinates, which form the key to data aggregation in a virtual environment.

[12] *Second Organizer [12] First Moderator*

Wendt, Carl (Cal State University - Fullerton) [253]
Discussant

Wengrow, David (University College London) [12]
Discussant

Weniger, Gerd-Christian, Isabell Schmidt (University of Cologne), Marcel Bradtmöller (Neanderthal Museum), Martin Kehl (University of Cologne) and Bernhard Weninger (University of Cologne)

[135] *Was Iberia a "Garden Eden" in the Late Pleistocene?*

Various studies suggest that the human population on the Iberian Peninsula was directly affected by the extremely variable climatic conditions of the Late Pleistocene – especially during Heinrich Events (HE). Southern Iberia has been frequently proposed as a refugium for hunter gatherer populations during these phases of climatic deterioration. A closer look at the archaeological evidence for human presence from the late Middle Palaeolithic to early and middle Upper Palaeolithic reveals strong regional differences between Northern and Southern Iberia – from both, an isochronic as well as diachronic perspective. From the late Middle Palaeolithic until the onset of the Solutrean, human presence is significantly lower in Southern Iberia compared to Northern Iberia. At the same time, Southern Iberia apparently served as a refugium for several plant species. This obvious contradiction requires explanation. We will take a closer look firstly at the term “refugium” and secondly at possible implications of very short and strong climatic oscillations for the idea of refuge habitats. We assume that a major disintegration of habitats must have occurred during HEs, resulting in various but strictly isolated, patchy refugia. The topography of Southern Iberia is extremely well suited for this kind of microrefugia pattern. According to our proposed scenario, the cultural landscape would have had the appearance of a leopard coat. We argue that this patchiness might have created a

situation in which short and intense climatic events pushed the carrying capacity of habitats below the threshold for stable hunter gatherer subsistence. This model unravels the mystery of a conflicting environmental and archaeological record.

Weninger, Bernhard [135] *see Weniger, Gerd-Christian*

Wentz, Rachel (Florida Public Archaeology Network) [24] *Getting "In the Dirt" Without Getting Dirty*

As Regional Director of the Florida Public Archaeology Network tasked with public outreach and education in an 8-county region, I wanted to develop a program that would emphasize the multidisciplinary nature of archaeology. I developed the “In the Dirt” lecture series that focuses on the vast specialties within our discipline. The series runs year-round and features lectures by specialists discussing their research and fieldwork, providing an opportunity for the public to ask questions and interact with archaeologists. With 33 lectures and over 2,000 attendees, the series has been both educational and social and has become integral to our public outreach.

Wenzel, Jason (University of Florida) and Kevin Gidusko (Central Florida Anthropological Society)

[250] *Central Florida Anthropological Society: Raising Archaeological Awareness Through Community Partnerships*

As the Greater Orlando area grows, cultural resources become increasingly threatened. With growth comes the necessity to help shape public awareness of archaeological sites to foster a shared sense of stewardship among academics and the interested public. The Central Florida Anthropological Society works as a chapter of the statewide Florida Anthropological Society to meet the needs of education and provide volunteer efforts to protect and preserve these valuable resources, serving as a bridge between professionals and the public. This poster outlines our efforts and seeks to show how small-scale volunteer efforts can make a major impact in the community.

Wernecke, D Clark (The Gault School of Archaeological Research) [225] *First Chair*

Werness-Rude, Maline (Humboldt State University), Ronald L. Bishop, Dorie Reents-Budet, Osvaldo Gómez and M. James Blackman [242] *Sacaba Pottery and the Terminal Classic Fine Paste Tradition in the Maya Lowlands*

Distributed throughout the Maya lowlands, Terminal Classic (780-880 CE) Pabellón ceramics suggest many inter-site connections. Until recently, most molded-carved, fine-paste orange wares were identified as the archaeological type Pabellón Modeled (or Molded)-Carved of the Altar ceramic group. Stylistic and chemical analyses indicate multiple groupings, however, including the focus of this paper, the Sacaba type. Despite similarities shared with Pabellón examples, variations in paste composition and pictorial narrative show that Sacaba pottery pertained to a different region of production and distribution. Together, both of these fine paste types reflect the complexity of the Terminal Classic lowland Maya socio-economic and socio-political milieu.

[242] First Chair**Wernke, Steven (Vanderbilt University)****[92] *Improvising Order at the Edge of Empire: Co-Colonization in the Peri-Historical Andes***

While post-colonial scholarship originated in the representational politics of self and other, archaeology, with its material evidentiary basis, is better suited to investigate what people do (or did). This calls attention to analysis of the experience of colonialism in situ, and thus to the necessary collusions of colonial rule. Even as colonialist ideologies were founded on radical othering (per cultural and colonial discourse studies) the pragmatics of colonial policy produced co-colonization—the mutual colonization of cultural practice. This process is traced out through exploration of change and continuity in mortuary practice at an early colonial doctrinal complex in highland Peru.

Wesler, Kit (Murray State University)**[90] *A Century At Wickliffe Mounds, Kentucky: Evolving Goals, Methods, And Prospects***

The Wickliffe Mounds site (15Ba4) has experienced excavations in three episodes over the span of the twentieth century. A pioneer of Southeastern U.S. archaeology visited the site briefly in 1915-1916. In the 1930s, two teams of archaeologists applied two different approaches to excavation, the second team introducing innovations of gridded recording in three dimensions. Excavators in the 1980s and 1990s applied methods based on, though refined from, strategies standardized half a century before. Analysis of the site continues in an era of digitization and remote sensing. Would the conclusions be different if we found the site in pristine condition today?

Wesley, Daryl [138] see Fenner, Jack**Wesp, Julie (UC Berkeley)****[267] *Bioarchaeological Perspectives on the Materiality of Everyday Life Activities***

This paper will examine the relationship of people as a type of material object. The activities of everyday life influence not only the extrasomatic material world, but also the material properties of our own bodies. Living bone tissue is a dynamic material that responds to external and internal stimuli to alter its size, shape, and structure. The repetitive actions from daily life performances result in many of the material changes to both soft tissue and the skeleton of the human body. Bioarchaeological analyses provide a unique perspective to the study of the materiality of everyday life in the past.

Wesson, Susanna [264] see Westmor, Colleen J.**West, Antoinette (Howard University)****[69] *The Voice Of New Philadelphia: Reconstructing The General Store***

New Philadelphia, IL, represents a diverse community with a rich history. A key part of this history is the General Store, which provided many goods used by the inhabitants. By drawing on historical evidence from stores in the surrounding Pike County commercial centers and on archaeological evidence from New Philadelphia, this poster attempts to provide an accurate account of the merchandise the General Store would

have carried during the township's prime in the 1840's. Merchant catalogues, ledgers, and artifacts all combine to suggest the popular merchandise the store may have stocked and offer a new perspective on the town's past.

West, Catherine (University of Maine) and Torben Rick (Smithsonian Institution)

[157] *A View from the Coast: Stable Isotope and Zooarchaeological Analyses of Canid and Human Diets*
This paper compiles dietary data for dogs and humans in coastal archaeological sites to provide insight into global coastal ecology and human-animal interactions. Studies in the northeastern and tropical Pacific and the North Atlantic have investigated the relationship between ancient dog and human diets through a combination of stable isotope and zooarchaeological analyses. These data document the diversity of human and dog diets in coastal areas, where people and animals had access to terrestrial and marine foods. When compared to other canids (i.e. foxes), our analysis illustrates the variability in human-canid relationships and helps to explain broader human-animal interactions.

West, G. James [164] see Johnson, John R.**Wester Davis, Sharon (University of North Florida)****[59] *Working Beyond the Mode: Mortuary Practices at Salmon Ruin.***

Salmon Ruin was an 11th century pueblo built on the banks of the Animas River in New Mexico. Excavated in the 1970s, field crews uncovered a series of "unusual" human burials. From the remains of a woman, lying as if she had fallen asleep, to five burials in elaborately-trimmed cloth and fur robes, these atypical burials diverge from modal funerary treatments seen in the pre-historic Puebloan world. Working beyond the modal pattern, unusual burials give us an opportunity to highlight how mortuary behavior can be an active way that groups negotiate cosmological concerns, social orders, and cultural and environmental pressures.

Westmont, Camille [267] see Hutson, Scott R.**Westmont, V (University of Kentucky)****[78] *Discoidals: Fort Ancient Gaming, Decoration, and Identity***

Fox Farm, a 15 ha Fort Ancient village (A.D. 1200-1650) located in northern Kentucky, has yielded a very large assemblage of sandstone discoidals. Analysis of this assemblage identified examples of all eight of the known Fort Ancient discoidal types. The Fox Farm assemblage also is distinguished by a great deal of decoration, consisting of incised lines and drilled punctuations. This decoration may be related to social identity, as these objects are believed to have been used in community-wide games that resembled chunky.

Westmor, Colleen, Sean Winter (University of Western Australia), Courtney Bobik (Mount St Mary's University) and Susanna Wesson (Cuesta College)**[264] *A Seventh Century CE Industrial Oven Complex at Thmuis, Egypt***

Excavations in the summer of 2011 at the Greco-Roman site of Thmuis have uncovered a large collection of ovens in Egypt, dating to the 6th-7th century C.E. As of yet, no oven complex of this size has been published. Through

the interpretation of new archaeological data and a comparative analysis with similar sites throughout the Mediterranean, the complex has been interpreted as a bakery. This paper will briefly look at the possibilities for large scale food production in Thmuis suggested by these ovens.

Wetherington, Ronald (Southern Methodist University) and Catrina Whitley (Southern Methodist University)

[249] *Mortuary Practices at Hummingbird*

The excavation of three burials at the Hummingbird Site revealed several distinct elements of ritual practice not found throughout the Northern Rio Grande region. In this poster we discuss burial methods, associated artifacts, and perimortem/postmortem body treatment. Of particular importance are practices which apparently emphasize the separation of the dead from the living.

Wettstaed, James (Chattahoochee-Oconee NFs), Johannes Loubser (Stratum Unlimited) and Scott Ashcraft (Pisgah National Forest)

[97] *The Ethnographic and Landscape Setting of Petroglyph Boulders in the Southern Appalachians*
Cherokee accounts describe petroglyphs being produced by the Master of Game, Judaculla, and his close associates in at least three occasions. Several petroglyph sites have been documented that match these accounts or could represent similar ritual events. The placement of petroglyph boulders on trails and river courses on the way from inhabited valley bottom settlements to prominent natural features or even abandoned mound sites suggests that they too were placed on the verge of domains believed to have been inhabited by spirit beings. Petroglyph boulders likely represent a tangible physical reflection of the ceremonial landscape.

Whalen, Michael [216] see Britton, Emma L.

Whalen, Verity [29] see Kellner, Corina M.

Whalen, Verity H. [26] see Van Gijsegheem, Hendrik

Whallon, Robert (University of Michigan) [16] *Discussant*

Whallon, Robert [202] see Morley, Mike W.

Wheatley, David [32] see García Sanjuán, Leonardo

Wheelbarger, Linda (San Juan College)

[221] *The Point Community Center: An Ancestral Proto-Great House of the Chacoan Period, Middle San Juan Region, Northwest New Mexico*

Located on the B-Square Ranch in Farmington, New Mexico, the Point Site is a large ancestral puebloan community occupied from AD 800-1300. Recent San Juan College field school excavations have revealed architecture and ceramics representing an extensive Early Bonito phase occupation including a great kiva exhibiting Chacoan Type II banded veneer. In this paper, I examine the site in terms of Ruth Van Dyke's Chacoan ritual landscape spatial dimensions of sacred geography, visibility, movement, memory, and cosmography. The

discussion includes analysis of the Point community as an ancestral proto-great house contrasted to the nearby Aztec and Salmon colonial great houses.

[221] *First Chair*

Wheelbarger, Linda [221] see Otto, Kristina

Wheeler, Derek [67] see Smith, Karen Y.

Wheeler, Kathleen (IAC, LLC)

[154] *The Opportunistic Midden in Post-Contact-Period New England Sites*

As my dissertation chair, Mike urged me to develop my own terms for the study of formation process of post-Contact sites. At three urban sites in Portsmouth, New Hampshire, "opportunistic middens" were a key element in the strategy for the disposal of household trash on small landholdings. This practice involved the backfilling of pits or trenches dug for one purpose, used secondarily for the disposal of trash. The opportunistic midden is the observable outcome of dealing with unwanted junk with minimal effort. It is often seen at the end of occupation cycles, when one female head of household replaces another.

Whelan, Carly (University of California, Davis), Jeffrey Ferguson (University of Missouri), Jeffrey Rosenthal (Far Western Anthropological Research Group) and Scott Jackson (Yosemite National Park)

[112] *Using PXRF and NAA to Reveal Prehistoric Mobility and Trade Patterns in Central California*

We have used portable X-ray fluorescence (PXRF) spectrometry in conjunction with neutron activation analysis (NAA) to source more than 1300 obsidian artifacts from archaeological sites spanning 6,000 years of Central California prehistory. By sourcing both small and large pieces of debitage in addition to formal tools, we have created a dataset that provides a more complete view of prehistoric obsidian use in the region than could be achieved by sourcing formal tools alone. This has important implications for the study of diachronic change in mobility patterns and trade relationships in the region.

Whelan, Mary (Arizona State University) [81] *Discussant*

Whitaker, Jason (University of Texas at San Antonio) [131] *Household Economy: An Example from Group E of the Medicinal Trail Community*

This paper summarizes the socio-economic organization and integration of Group E, a Terminal Classic (A.D. 700-900) household of the Medicinal Trail community in Northwestern Belize. Households are fundamental units of economic organization and integration in both past and present societies; thus, enabling archaeological investigators to situate micro-scale economic activities within larger societal contexts. Group E's economic efforts centered on agricultural production, however, data collected during the 2006 and 2007 field seasons indicates that the Prehispanic residents of Group E also participated in both community and larger economic networks that provided them with the necessities of their daily lives.

Whitbread, Ian (University of Leicester, UK) and Elisa Alonso Lopez (University of Leicester, UK)
[270] *Combining Ceramic Petrography and μ -XRF in the Analysis of Archaeological Ceramic Materials*
 Recent advances in instrumentation have produced a new generation of micro X-ray spectrometers (μ -XRF) capable of elemental mapping over surfaces that can be subsequently prepared as thin sections. This enables the traditionally versatile technique of petrographic analysis, with its focus on micromorphological and mineralogical examination, to be enhanced by major and minor element maps covering the area of the thin section. This combination of techniques opens new avenues of research in the study of ceramic materials and technology. Application of this approach will be demonstrated using examples of prehistoric and post-medieval pottery from England and hydraulic mortars from Sardinia.

Whitcher Kansa, Sarah [141] see Lau, Hannah

White, Andrea (University of New Orleans & Louisiana State University)
[13] *Reshaping the Urban Landscape in Early New Orleans*
 In 1788 and 1794, fires swept through colonial New Orleans destroying much of the town. These events provided the Spanish administration, who were in control of Louisiana, an opportunity to recreate the streetscape. One action by the Spanish government was to bolster the town's defenses to not only keep enemies out, but attempt to control the movement of people, goods, and ideas. Colonial New Orleanians enacted their own influence over the rebuilding of the city. This paper explores the changes to the urban geography of New Orleans and how human actions and events shaped the Creole urban landscape.

White, Andrew (University of Michigan)
[16] *Subsistence Economics, Family Size, and the Emergence of Social Complexity in Hunter-Gatherer Systems in Eastern North America*
 Data from over 450 prehistoric residential structures suggest that subsistence intensification and the emergence of social complexity among Archaic and Woodland peoples in eastern North America coincided with increases in mean family size. Results from an ethnographically-informed computational model indicate that lowering the "productive" age of children relaxes constraints on the size of individual families, making large, polygynous families economically viable and producing right-tailed distributions of family size consistent with those suggested by the archaeological data. Relationships between family size and social status are explored in the context of explanations for the emergence of social complexity in eastern North America.
[16] First Chair [16] Second Organizer

White, Chantel (Boston University)
[35] *Archaeobotanical Investigation of Food Storage Practices at the EBA Site of Numayra, Jordan*
 The southern Levantine Early Bronze Age (c. 3600-2000 BCE) involved large-scale population aggregation into fortified settlements, agricultural and horticultural intensification, and a focus on domestic food storage

practices. Excavations by the Expedition to the Dead Sea Plain at Numayra have revealed approximately 1700 square meters of an EB II-III town, offering a unique opportunity to explore food storage features and their charred contents. Archaeobotanical analysis indicates a variety of cultivated plant species were stored, including cereals and grapes, and provides information about the activities required to process these plant foods for both short- and long-term storage at the site.

White, Christine [124] see Morris, Zoe H. [235] see Pennycook, Carlie [139] see Wells, Emily E.

White, Christine D. [141] see Booth, Laura

White, Devin (Integrity Applications Inc.)
[272] *Exploration of possible migration corridors between the Mesa Verde and Northern Rio Grande regions*
 While there are clear cultural connections between the Mesa Verde and Northern Rio Grande regions due to migration, especially during the transition between the Pueblo III and Pueblo IV periods, the physical routes that enabled communities to migrate from the former to the latter are unknown. Recent advancements in high performance computing, geospatial data fusion, least cost analysis, and human biodynamics research have made it possible to explore the vast landscape between the two regions in ways that can highlight the most likely travel corridors based on the locations of potential origin and destination sites, terrain type, and community demographics.

White, Nancy (University of South Florida)
[97] *Middle Woodland Interaction, Ritual, and Connections Through Time in Northwest Florida*
 Middle Woodland in northwest Florida's Apalachicola/Lower Chattahoochee Valley is characterized by large numbers of unusual and ritual materials, with wider interaction networks than in previous times. Both mounds and domestic sites have typical exotics and both Swift Creek and early Weeden Island ceramics, dating as late as 650. The traditional "sacred vs. secular" dichotomy is discarded. New data from Pierce and Chattahoochee Landing mound complexes, at each end of the valley, show re-use of Woodland ceremonial space by later Fort Walton groups, whose distinctive material culture suggests both maintenance of a specific identity and links with Middle Woodland traditions.

White, Paul (University of Alaska Anchorage)
[99] *Archaeologists and Abandoned Mine Land Remediation Programs: Developing a New Protocol*
 Over the last few decades, federal and state agencies have surveyed abandoned mining lands increasingly as a first step in remediating environmental and safety hazards. With 500,000 abandoned and inactive mines estimated in the United States, the task is a monumental one. It is also a task conducted predominantly by environmental scientists. This paper identifies attendant problems in how historical resources are being documented and discusses the different results of a collaborative project in Alaska between the Bureau of Land Management and two universities where cultural resource practitioners are taking the lead in assessing safety hazards.

White, Randall (Center for the Study of Human Origins, New York U) and Raphaëlle Bourrillon (Université de Toulouse II - Mirail)

[11] *Graphic imagery and otherwise modified rock surfaces in Aurignacian sites of the Vézère Valley: symbolism, context and technique*

Aurignacian graphic representations on modified rock surfaces were discovered at Abri Blanchard and Abri Castanet in the Dordogne region of SW France in 1910-12. Engraved "vulvar" images, engraved/painted animal figures, as well as pecked cup-marks and stone rings, were inscribed by Aurignacians onto free-standing blocks and rockshelter ceilings. Since WWI, the number of Vézère Valley sites yielding such evidence has risen to fifteen. In this paper, we present an entirely new analysis of this rich record of early human symbolism and technology, including newly discovered and dated works from our own re-excavation of Castanet and Blanchard since 1994.

Whitehead, Jane [90] see *Thieme, Donald M.*

Whitehead, Michael [170] see *Beyer, Renate*

Whitehead, William (Ripon College) and Matthew Sayre (University of South Dakota)

[238] *Household versus Ritual plant use at Conchopata - A Hauri, Middle Horizon, Administrative Center in Ayacucho, Peru*

The results of multiple years of paleoethnobotanical, artifact, and contextual analysis will be presented to show how three major economic plants (maize, molle, and quinoa) are distributed and by extension used at the site of Conchopata. Several analytic techniques will be presented showing the interactions between species presence/absence, ubiquity, and density. This work will also demonstrate the influence that Hastorf has on paleoethnobotanical analysis as well as her continued practice of using multiple lines of evidence.

Whitehead, William [104] see *First, Darcie L.*

Whitley, Catrina (Office of Archaeological Studies, Museum of NM)

[116] *Taos Valley Mortuary Practices: A Regional and Diachronic Perspective*

Mortuary practices for the Taos Valley in the Northern Rio Grande are presented in a diachronic perspective. Assessment focuses on the pithouse to pueblo transition, emphasizing the distinct difference in mortuary practices between these periods. Identification of broader patterns in mortuary practices may be significant in identifying migratory groups, religious systems, ritual, and group identity since mortuary ritual tends to be conservative. The mortuary practices are weighed against other sub-regions of the southwest in order to elucidate comparison between the regions, including diachronic differences. The paper will also highlight challenges to regional and diachronic comparisons.

[72] *Second Chair*

Whitley, Catrina [249] see *Wetherington, Ronald K.*

Whitley, David (ASM Affiliates, Inc.) and Robert Moore (deceased)

[101] *Faunal Analysis, Petroglyphs, and Bighorn Sheep Hunting in the Cosos*

Coso petroglyph interpretations are divided between a hunting cult, partly supported by Great Basin faunal analyses exhibiting a big-game hunting emphasis during the Late Archaic, and shamanistic vision questing, based on ethnographic data. None of the faunal analyses cited in favor of hunting magic are in fact from the Cosos. An analysis of ~100,000 faunal elements from CA-INY-2284, an Elko-Rose Springs site which includes a Coso style petroglyph panel, is presented. This suggests broad-spectrum hunting in the Cosos during the Late Prehistoric Period and fails to support the hunting magic hypothesis.

Whitley, Tamara (Bureau of Land Management)

[53] *Elkhorn, Temblor and Bitter Water: Early Life on the Carrizo Plain*

The details of the early settlement and historical period occupation of the Carrizo Plain National Monument is contained within a wealth of historical documentation and physical remains, consisting of early 20th century homestead patents, census records, genealogical records, personal accounts, archaeological sites and oral history. This presentation will show how this information can be compiled to provide a landscape level historical context for early settlement of the Carrizo Plain. In addition, the interpretive and preservation values gained through this understanding will be presented.

Whitney, Bronwen [39] see *Iriarte, Jose*

Whitridge, Peter (Memorial University of Newfoundland)

[199] *Inuit placenames and the persistence of memory*

Although placenames would appear to be relatively ephemeral, in arctic Canada they have proven to be fairly resilient tags that not only facilitate verbal reference, remembrance and landscape navigation, but index cultural knowledge. Places represent hinges between the real and the imaginary, and their designation helps to archive oral history by cueing myths and personal histories that may be more important than the surficial geographic detail. The persistence of toponyms across at least several centuries of Inuit history represents the persistence of significance elements of the Inuit lifeworld in the face of massive acculturative pressures.

Whittaker, John (Grinnell College)

[89] *Projectile Behavior: Flex, Spin, and Beveled Points*

Beveled retouch on stone projectile points has been often considered as a device to spin a projectile. However, atlatl darts spin quite independent of point form. Their spin is related to their flexibility, a necessary condition for spearthrower function. Beveled points are probably not related to spinning either darts or arrows, and present a good example of why we need to have both theoretical understanding and experimental observations of details of projectile behavior before interpreting artifacts.

Whittaker, William [67] see *Doershuk, John F.*

Whittington, Stephen (Wake Forest University) and Nan Gonlin (Bellvue College)

[102] Mapping Teozacoalco in the field, in the classroom, and for the public

Some archaeological projects lend themselves to dissemination of research results through more than just scholarly publications and presentations. The Teozacoalco Archaeological Project in the Mixteca Alta of Oaxaca is one of these. The project is based on a famous and visually striking map/genealogy from the 16th century, which provides a portal for non-specialists to gain an appreciation for the discipline of archaeology, the history of the Mixtec people, site stewardship, and human geography. We present examples of how project personnel use data from Teozacoalco to teach undergraduates, inform indigenous people about the past, and plan for a community museum.

Whittle, Alasdair (Cardiff University)

[32] Ghosts of memory, lines of descent: remembering and categorising in the early Neolithic collective burials of southern Britain

Based on recent Bayesian chronological modelling for the Early Neolithic in southern Britain and the more precise timescales which this provides, this paper explores possible developments through the first half of the fourth millennium cal BC in how societies remembered. Drawing in the first place on the collective burials of long barrows and related monuments, but also on a range of other evidence, diverse memory work is first of all suggested. The possibility of tracing lines and kinds of descent is also explored. A longer-term trend to the tighter control of memory by emergent, socially preeminent groups is also suggested.

Whittlesey, Stephanie (Harris Environmental Group) and J. Jefferson Reid (University of Arizona)
[120] Behavioral Archaeology: Assessing the Impact of Michael Brian Schiffer

In our book, *Thirty Years into Yesterday: A History of Archaeology at Grasshopper Pueblo*, we discuss the years from 1979 to 1992 as the era of Behavioral Archaeology, but earlier landmark events take the program back to 1973. In that year, Reid was acting director, Schiffer was assistant director, and Whittlesey was a crew chief. A 1974 issue of *The Kiva* titled "Behavioral Archaeology at the Grasshopper Ruin" and Whittlesey's 1978 dissertation further document early contributions of behavioral archaeology to research and interpretation at the field school. This paper summarizes the development at Grasshopper of Strategy 1 of Behavioral Archaeology.

Wholey, Heather (West Chester University)

[174] Modeling Hunter Gatherer Population Ecology in the Eastern Woodlands

Among the least accessible elements of the prehistoric archaeological record, population can ideally provide an evolutionary context for formulating and testing hypothesis concerning the relationships between population size and growth, and technology, subsistence, behavior and social organization. Generalized population curves, however, often project impressionistic observations that become embedded in culture history narrative. The Gardner legacy challenges us question such types of entrenched knowledge through multidisciplinary approaches that are both empirical and interpretive. An evaluation of long-standing notions

regarding the population history of the Middle Atlantic Archaic indicates that population density and growth vary locally with respect to culture and ecology.

[174] Second Organizer

Wiant, Michael (Illinois State Museum--Dickson Mounds) and Jane Buikstra (Arizona State University)

[271] Return to the Fountain: Drawing on the Koster Site Record Again

There are perhaps a few dozen archaeological sites that continue to be the subject of intense long-term research. Most tend to be fonts of information about complex societies. The Koster site provides a long, stratified, well-preserved record of the development of Native American culture in the Illinois River Valley between ca. 9000 and 4000 years ago. Current research explores the context of evolving strategies of plant use.

Wiant, Michael [157] see Widga, Chris

Wibisono, Sonny [256] see Ueda, Kaoru

Widga, Chris (Illinois State Museum, Landscape History Program), Stacey Lengyel (Illinois State Museum) and Michael Wiant (Illinois State Museum)

[157] Chronological and Morphological trends in North American Dog domestication

Newly-dated canid remains indicate multiple evolutionary trajectories for dog domestication in early/mid- Holocene North America. We present new 14C results of dog burials from the Koster site, IL (Horizon 11; 10,100-9700 calBP), and 14C dates associated with dogs from Itasca, MN (7970-7790 calBP), Simonsen, IA (Level 3: 7430-7270 calBP), and Smilden-Rostberg, ND (6190-5730 calBP). Koster dogs are morphologically similar to medium-sized dogs in the southeastern U.S. However, middle Holocene dogs from the eastern Great Plains are larger and morphologically variable. Biogeographic patterns in the morphology of middle Holocene dogs suggest independent trajectories of domestication and/or differences in eco-cultural selection pressures.

Widmer, Randolph (University of Houston) and Rebecca Storey (University of Houston)

[102] The Archaeology of Reconstruction at 8N-11, Copan, Honduras

One issue with excavating Classic Maya sites with complex architecture is that there is a requirement to restore the excavated buildings. Restoration is extensive requiring the complete dismantling and rebuilding by architects and masons rather than archaeologists. This often precludes excavation below the level of the ultimate architectural phase. Important information on earlier construction phases, offerings, and burials are lost. At the classic Maya site of 8N-11, Copan, Honduras, restoration was monitored by archaeologists for burial, cache and earlier architectural features which were excavated, yielding important information that would be lost without the close collaboration of restoration and archaeology.

Wieser, Anna (University of Kansas)

[173] Soil Science in Southeastern Archaeology: a Discussion of Its History and Preliminary Results of Soil Studies at Crenshaw (3MI6)

This paper presents an overview of soil studies in Southeastern Archaeology and a brief discussion of its recent application at the archaeological site of Crenshaw (3MI6), located on the Red River in Arkansas. Soil science is applied to archaeological research throughout the Southeastern United States, and such research complements traditional methods of excavation and environmental research as well as more recently developed geophysical methods. Using these approaches together in a contextual framework strengthens archaeological interpretation. This discussion demonstrates the importance of site-specific soil studies in understanding past occupation in such a dynamic environment.

Wiewall, Darcy (Antelope Valley College) and David D. Earle (Antelope Valley College)

[278] *A Mano, a Metate and a Hare or Two: The Moody Springs Survey Project*

In 2010-2011, an intensive surface survey was undertaken at Moody Springs located in the Western Mojave Desert. The purpose of the project was to explore newly exposed occupational surfaces in order to situate them in the landscape and to gain some understanding of site chronology and nature of occupation. We present information on 50+ occupation areas featuring an unusual abundance of ground stone, hearths and associated fauna, shell beads and lithic material. Comparisons with other known settlements will be presented to place this occupation chronologically and to provide insight into the development of hunting-gathering focused procurement systems in the region.

[278] *First Chair*

Wiewall, Darcy [137] *see Stanchly, Norbert*

Wiewel, Adam [186] *see Wiewel, Rebecca*

Wiewel, Rebecca (University of Arkansas) and Adam Wiewel (University of Arkansas)

[186] *Welcome to the Neighborhood: New Discoveries at Fort Clark State Historic Site, North Dakota*

Multi-instrument geophysical surveys were performed at Fort Clark State Historic Site in 2011, covering the entire Mandan/Arikara village. Electrical resistance data provide evidence of houses not visible on the ground surface, presumably related to the earlier Mandan occupation (1822-1837). Magnetic results confirm these findings and reveal the presence of rectangular anomalies thought to be remnants of the later Arikara occupation (1838-1861) and possible early fur trade structures. Fortification features, hearths, and ferrous trade items are also visible. Combining these geophysical data with aerial thermal imagery provides the clearest visualization yet of this important historic site.

Wiggins, Kristina (University of Nevada, Reno), Geoffrey Smith (University of Nevada, Reno) and Stephen LaValley (University of Nevada, Reno)

[161] *XRF Sourcing of Obsidian Artifacts from Paiute Creek Shelter, Nevada*

Paiute Creek Shelter is located in the Black Rock Desert of Nevada. Occupation there began during the late Holocene ~4700 years ago and continued through Euro-American contact. Occupants deposited numerous lithic artifacts including obsidian projectile points, bifaces, and

debitage. Over 100 artifacts were submitted for geochemical sourcing and the results indicate that groups acquired toolstone from varied and often distant sources. Furthermore, the results suggest that groups utilized toolstone sources differently, depending on distance to source, raw material quality, and functional requirements. We consider these data using current models of prehistoric mobility and land-use in the western Great Basin.

Wiggins, Kristina [100] *see Smith, Geoffrey M.*

Wigley, Sarah

[203] *"Vacant Terrain": Exploring the Issue of Empty Space*

This paper examines the issue of non-architectural space and human-environmental relationships at the site of Wari Camp in northwestern Belize. Soil chemistry and systematic shovel testing were used to understand the spatial patterning of gardens, pathways, activity areas, and other non-structural spaces at the site of Wari Camp. Spatial associations between architecture and ecology have been found at Wari Camp; exploring the issue of vacant terrain reveals human-environmental relationships and the production of landscape at Wari Camp. A significant issue in this research is the importance of understanding the role of non-architectural space at pre-hispanic Maya sites.

Wilcox, Michael (Stanford University)

[25] *Abandonment as Social Strategy: The Consequences and Causes of Spanish Colonial Violence on the Northern Frontier of New Spain*

What were the causes and consequences of colonial violence on the Frontier of New Spain? Since the inception of Borderlands history in the early 20th Century, discussions of Spanish colonial violence- its causes and consequences- have been taboo. Disease based population crashes were emphasized as a more politically neutral agent of destruction in the Pueblo World. In fact social violence and disease imply a very different set of consequences. There is almost no evidence for disease among the Pueblos until the 18th century. This paper examines how mobility and abandonment were used by Indigenous peoples as a social strategy.

[125] *Discussant*

Wilcox, Timothy (Stanford University) and Lindsay Montgomery (Stanford University)

[125] *Looking Beyond Theory: How to Practice "Indigenous Archaeology" in the Real World*

Our experiences as Native archaeologists range from contract to academic archaeology. Although federal law mandates consultation, in our experience, contract archaeological practice precludes collaboration or cooperation. A critical examination of the way we do archaeology and the social contexts of archaeological practice within indigenous communities is needed. This paper will examine how to arrive at relevant research designs, roadblocks to the process of collaboration, and how indigenous communities can become empowered in the process of archaeological research. Finally, how Native archaeologists, pursuing advanced degrees, can be a positive influence on the intersection of archaeology and indigenous community interests.

Wilhide, Anduin [209] *see* Hayes, Katherine H.

Wilk, Richard [236] *see* Pyburn, K. Anne

Wilke, Sacha (University of British Columbia)
[259] *Constructing and re-constructing burials: An example from El Rayo Nicaragua.*

The construction of burials are rarely single moment events, they involve specialists, rituals, grieving, pre-internment treatments, burial, and visitation of the individual at later times. These processes all come together to form the 'burial' as we see them in the archaeological record which are then again constructed when we uncover and subsequently interpret. Each of these processes are complex, ongoing, and historically determined. The case study is a site in Pacific Nicaragua which will be compared with ethnographic descriptions and archaeological interpretations to address discrepancies between these and the archaeological data recovered from the site.

Wilkens, Barry [6] *see* Schmich, Steven

Wilkerson, Emily (Sunstone Archaeological Consulting)

[207] *Salvage Archaeology and Lithic Analysis: An Assemblage Analysis Approach for Understanding Site Deposits*

Salvage archaeology rarely affords archaeologists time for planning research designs often required for academic approaches to archaeology. Sites are often excavated with machines and shovels using arbitrary levels with little time for intensive, detailed unit and trench mapping. While this approach removes important deposits in an efficient manner, important information can be lost in the process. I suggest using an assemblage analysis approach for lithic artifacts as a complimentary method to other data analysis techniques for the purpose of understanding site temporal and spatial deposition. DhRp-16 and DhRp-52 from the Northwest Coast are used as examples.

Wilkins, Andrew (University of Tennessee), Crystal Ptacek (University of Tennessee) and Barbara Heath (University of Tennessee)

[133] *Where's What at Wingo's? Artifact and Soil Chemical Distributions at Wingo's Quarter Site, Bedford County, Virginia*

A primary concern of plantation archaeology has been the physical remains of slave houses and their associated domestic artifacts. Within the last decade, increasing attention has been paid to quarter landscapes. Archaeologists have combined evidence from yard-related features, faunal, botanical, and chemical analysis, and artifact distributions to look for evidence of how enslaved people structured yard spaces, what activities they undertook within them, and how yards served them as community spaces and places of resistance. This paper uses evidence from plowzone artifact and soil chemical distributions as a principal means for reconstructing the 18th-century landscape of a piedmont Virginia quarter.

Wilkins, Jayne (University of Toronto)

[142] *Quantifying Lithic Raw Material Availability and*

Distribution during the Fauresmith (~500ka) and Acheulean occupations of Kathu Pan 1 (KP1), Northern Cape, South Africa

To assess the argument that the unique characteristics of Fauresmith lithic assemblages (i.e. blades and small handaxes) are the consequence of local raw material quality, a study of raw material availability and distribution in primary and secondary sources in the region surrounding KP1 was conducted. Nine locations that represent the range of raw material availability for KP1 were systematically sampled from outcrops and stream and river beds. Lithology, metrics, form, and workability were recorded for sampled materials within each location. The geological distributions are compared to the archaeological assemblage from the Fauresmith and Acheulean levels of KP1.

Wilkinson, Brenda (Bureau of Land Management, Socorro)

[53] *The Trail to the Rail: A Case History of Stock Driveway Designation Under the Stock Raising Homestead Act*

Emphasis on the study of homesteading is increasing, but to date little has been written about the Stock Driveways that were designated under the authority of the Stock Raising Homestead Act of 1916. This study explores the history of the Magdalena Stock Driveway, the third to be designated in New Mexico and the ninth in the nation. Through examination of government documents the history of the trail emerges, and oral history interviews provide first-hand accounts of the use of the trail.

Wilkinson, Darryl (Columbia University)

[262] *The Problem with Sacred Landscapes*

This paper considers the problems that can arise from the deployment of universal anthropological categories in historically specific contexts, based on a case-study of the notion of the 'sacred landscapes' as it has been used in Andean archaeology. It suggests that is important to find ways to describe the human past in ways that are not grounded in dichotomous comparisons with Western modernity, but rather challenge the ontological assumptions within which such binaries are ultimately grounded.

[262] *Second Chair*

Wilkinson, Tony [103] *see* Lawrence, Dan E.

Willerslev, Eske [20] *see* Jenkins, Dennis L.

Willey, P. [94] *see* Kendell, Ashley

Williams, Eduardo (COLMICH)

[98] *The Exploitation of Aquatic Resources in the Tarascan Heartland (Michoacán, Mexico): An Ethnoarchaeological Study*

The ethnographic, archaeological, and ethnohistorical data discussed in this paper help shed light on the cultural processes, and the resulting archaeological correlates (i.e. artifacts and features) linked with aquatic subsistence in the Pátzcuaro and Cuitzeo Lake basins, at the heartland of the Tarascan state in Michoacán, México during the Protohistoric period (ca. AD 1450-1530). This information is vital for interpreting the archaeological record not just in the study area, but also in all those

parts of West Mexico and elsewhere in Mesoamerica where lakes, rivers, marshes, and streams offered a natural bounty for human exploitation.

Williams, Justin (Washington State University)

[160] *Templates, Types, and Transmission: Examining Hafted Biface Typologies*

This study makes use of Archaic and Paleo period hafted bifaces to evaluate the validity of the types previously defined by archeologists. This research focuses on two fundamental questions. Did prehistoric people actually transmit templates similar to the hafted biface types as we conceive of them? Or instead, did prehistoric peoples, think of hafted biface style as a continuum? This paper uses hafted bifaces from the state of Wisconsin to evaluate whether there is more stylistic variability between or within projectile point types. These data reveal that within stylistic studies, traditional hafted biface types may lead archeologists to false conclusions.

Williams, Michael [250] see Lieb, Pamela Edwards

Williams, Michele, Ramiro Garcia Vasquez (Director del Departamento de Investigaciones Antropológicas del Museo Nacional de Nicaragua), Sandra Espinoza Vallejos (Directora del Museo Chorotega Nicarao) and Clifford Brown (Florida Atlantic University)

[259] *The Archaeology of Chinandega, Nicaragua: An Initial Report*

We report results from the first systematic archaeological survey and excavation in the Department of Chinandega, Nicaragua. We identified 14 sites and excavated at 3 of them. We found major habitation sites, including one with stone architecture, and a possible chert mine. The Estero Real seems to have a high density of sites probably related to salt-making. The artifacts differ from those of the Gran Nicoya subregion, displaying instead close affinities to those from Honduras and El Salvador. Ceramic cross-dating suggests the occupations we excavated are probably Classic period. Chinandega exemplifies the processes of Mesoamerican border dynamics and migration.

Williams, Nina (New Mexico State University)

[137] *La Noria: A Hydrologic Technology of Yucatán*

This paper explores the variation among norias (or water wheels) and offers insight into how technology transfer reengineered Yucatán's landscape. Norias were introduced to Yucatán after the Spanish Invasion (1511-1546). Cenotes (depressions that reach the water table) were a reliable fresh water source and were accessed using the new hydrologic technology. Mechanical and morphological variations of the noria occur throughout the Northern Yucatán peninsula. I provide a timeline for how and when the noria changed.

Williams, Patrick (Chicago Field Museum)

[104] *An Overview of the Moquegua Middle Horizon*

The Middle Horizon in Moquegua (600-1000 AD) was a dynamic period of interaction between multiple state colonies and local populations. I review the players and the landscapes of interaction as it changed through time. I argue that multiple ethnicities and political complexes were able to maintain contemporary presences due to different economic goals and divergent political

structures.

Williams, Sarah (Washington State University) and John G. Jones (Washington State University)

[38] *Palynological Investigation of the Johnston Site: Settlement and Environmental*

The Johnston Site (36IN2) is a Middle to Late Monongahela village located in Indiana County, Pennsylvania. Investigations of this site began in the 1950s and continue today. Archaeologists from Indiana University of Pennsylvania have excavated the site three times gathering new information. Until recently, palynological analysis of this site has not been performed. Presented here are the results of the examination of a suite of pollen samples, collected at different locations within the site. The results of this study provide insights into past environmental conditions and prehistoric human activities.

Williams, Tom (University of Exeter)

[84] *Blade Technologies and Cultural Trajectories: Analysing American and European blade assemblages from 22,000 to 10,000 BP.*

The Solutrean-Clovis connection is arguably the most controversial theory on the first human presence in the Americas. Bradley maintains that this connection does not represent the whole scale migration, but the transmission of certain technological ideas. By focusing on the blade technologies from the Clovis, Solutrean and Magdalenian industries, and specifically examining traits in platform preparation and core maintenance, this research aims to identify cultural trajectories in Clovis and Magdalenian assemblages from their supposed route in the Solutrean. Comparative studies, such as this, will help contribute to the archaeological record and preliminary results will be presented for discussion.

Williams, Veronica (CONICET- UBA)

[52] *Social Landscape During INCA Dominion In Northwest Argentina*

Among the methods the Inca Empire adopted to rule its territory there were actions in diverse spheres, which explains in part the diversity and disparity of state presence. Constructions like roads, tampus, pukaras, administrative, agricultural, and storage buildings, among others, were common throughout the annexed areas, but it is evident that the features, dimensions, monumentality and spatial density of these constructions show contrasting regional differences. New evidence regarding Inca occupation in Northwest Argentina shows different situations during the period of Inca conquest and domination, and exemplify the complex processes of population assimilation in Northwest Argentina.

Williams-Beck, Lorraine

[19] *Northern Lowland Maya Postclassic Political Practices*

The northern Maya lowlands offer a unique staging area to assess diverse kinds of Postclassic political practice. Several variants revolve around cuchcabal-batabil-cuchteel classificatory schemes with corresponding centralized or decentralized strategies of political practice derived from ethnohistoric sources. Another model, based on multiple data sources, provides a distinct charter, when compared with the former genres, for suggesting rotational ritual religious practice that also

may have had political undercurrents in two adjacent pre-Conquest period autonomous provinces in modern-day Campeche, Mexico. All may trace antecedents back to earlier political strategies prevalent throughout the Maya Lowlands.

Williamson, Ronald [192] *see Carnevale, Andrea*

Willis, Anna (Australian National University) and Marc Oxenham (Australian National University)

[60] *Oral health at An Son*

This paper will discuss the oral health of the individuals from An Son, a Neolithic site dated to c. 2100-1050 BCE in Southern Vietnam. This period reflects the Neolithic Demographic Transition and the site provides the first look at the oral histories of this rice consuming community. The prevalence of caries, antemortem tooth loss and alveolar abscesses are investigated. The results indicate that An Son had high levels of oral pathologies. The discussion will focus on the possible contributing factors within the context of this transition, the implications will be explored regionally and within the wider context of Southeast Asia.

Willis, Lauren (University of Oregon) and Andrew Boehm (Southern Methodist University)

[96] *How a Butcher's Experience Impacts Experimental Results: A Study of Fish Butchery*

There are a myriad of experimental studies that examine the effects of butchery practices on the production of cut marks on bone. However, many of these studies use novice butchers (i.e. the researcher) or indigenous butchers who use only modern technology (i.e. knives, machetes, saws). This study tests the effects of butchery experience on the time to butcher a salmon, the relative meat weight removed, and the number, location, and quality of the cut marks produced. The results have implications for the methodology of future butchery experiments, and how archaeologists (re)interpret the results of previous butchery experiments.

Willis, Lauren [96] *see Boehm, Andrew [126]* *see Reeder-Myers, Leslie A.*

Willis, Mark (Blanton & Associates, Inc.)

[226] *Recent Innovations in Kite Aerial Photography and Structure from Motion Mapping*

Structure from Motion (SfM) technologies have revolutionized three dimensional mapping and are especially well suited for creating high resolution digital elevation models and aerial maps from Kite Aerial Photography (KAP). Several projects where maps and other GIS data was created from SfM and KAP will be presented. The evolution of the SfM technologies and its practical uses as an innovative and inexpensive means for site documentations will also be discussed.

[226] *First Chair [226] Second Organizer*

Willis, Mark [101] *see Goodmaster, Christopher*

Willis, Samuel [225] *see Davis, Loren G.*

Wilshusen, Richard (History Colorado), Gregson Schachner (UCLA) and James Allison (Brigham Young University)

[85] *Social Variability in the Emergence of the Pueblo*

World

Between A.D. 650 and 950, there was a near total reorganization of society in the northern Southwest. In some areas, intensive agriculture, high population growth rates, and large villages appeared. In others, diverse mixes of subsistence strategies enabled the creation of aggregated communities and semi-sedentary settlements within the same landscape. A third pattern of high mobility and seasonal use of smaller settlements defined much of the periphery. In many areas, people pursuing more than one of these patterns resided simultaneously. We propose that the patterns established by A.D. 800 were integral in the shaping of later Pueblo history.

[48] *Discussant*

Wilshusen, Richard [17] *see Lightfoot, Ricky R.*

Wilson, Ashley [250] *see Jones, Sharyn R.*

Wilson, Douglas (Portland State University/National Park Service) and Elizabeth A. Horton (Washington State University/National Park Service)

[90] *Why we dug . . . Why we dig: Archaeological Field Methods at Fort Vancouver*

Since 1947, archaeologists have explored Fort Vancouver. Not surprisingly, methods to excavate the same site have varied substantially. This paper explores the developmental trajectory of fieldwork at Fort Vancouver as a case study in historical archaeological techniques. I detail variation in recovery techniques including excavation units, mesh size, remote sensing techniques, mapping, and levels of recording. Research questions, CRM concerns, and developments in field methodology, are seen as guiding fieldwork practice. Current techniques taught at the field school attempt to maximize data potential, while teaching fundamental field skills and addressing a more integrated cultural resources program.

Wilson, Gregory (UC-Santa Barbara) and Amber VanDerwarker (UCSB, Santa Barbara)

[198] *Merchants, Missionaries, or Militants? A Critical Evaluation of Cahokian Contact Scenarios in the Central Illinois River Valley*

Recent theoretical cross-fertilization among archaeologists studying the ancient Southwest, Southeast, and Midwest has served to advance our understanding of identity politics in these regions. These advancements derive from nuanced considerations of ancient styles, traditions, and agents from a practice theoretical perspective. This paper explores the issue of Cahokian culture contact in the Central Illinois River Valley. Newly generated data from ongoing excavations and the analysis of old collections cast doubt on some older perspectives while revealing a culture contact scenario more complex than previously considered.

Wilson, Gregory [166] *see VanDerwarker, Amber M.*

Wilson, Jeremy (Indiana University-Purdue University, Indianapolis)

[184] *The Paleodemography of Angel Mounds: Booming, Busting or Just Getting By?*

Late Pre-Columbian peoples of the Ohio Valley settled at Angel Mounds during the late 11th and early 12th centuries, resulting in a large village that lasted into the

15th century. Though Mississippian settlements provide evidence for immigration and aggregation, these phenomena should not be confused with true population growth. Previous research suggests growth for Mississippian settlements may have been negligible or even negative, with large settlements constituting population sinks. The current research utilizes recent advancements in paleodemography to provide a comprehensive analysis of population dynamics for Angel Mounds that indicates high fertility rates were offset by elevated age-specific mortality.

[184] First Chair

Wilson, Jeremy [184] see *Krus, Anthony M.*

Wilson, Joseph (High Point University)

[27] *The Ethnohistorical Reconstruction of Athapaskan Migrations using Complex Archery Technology*

Many Athapaskan languages possess words derived from the root meaning "sinew-backed bow". Yet evidence from glacial ice in southeastern Alaska and western Canada reveals late (post 800-CE) adoption of archery in much of the reputed proto-Athapaskan homeland. But similarities between Athapaskan-made sinew-backed bows in older ethnographic collections reveal profound continuities in weapons designs originating in Alaska, Arizona, British Columbia, and New Mexico. This suggests rapid Athapaskan expansion out of western (not eastern) Alaska after 800-CE, with arrival in the Southwest prior to 1400-BP, in contrast to more gradualistic migration models.

Wilson, Nathan (Arizona State University) and Alanna Ossa (University of Pittsburgh)

[54] *Interregional Interaction from a Gulf Coast Perspective: Revisiting Stark's Models*

Barbara Stark's 1990 article "The Gulf Coast and the Central Highlands of Mexico: Alternative Models for Interaction" is an influential contribution to studies of interregional interaction. Stark provides a comprehensive list of interaction forms and their archaeological indicators derived from comparative studies and applied using intensive regional survey. This paper revisits Stark's approach using recent survey data from the Mexican Gulf Coast. This departs from previous studies that applied economic geography models that were not as scalable to understanding local economic organization. Here we identify forms of interregional interaction for a few study areas, highlighting occurrences of highland-lowland interaction.

[54] Second Chair [54] Third Organizer

Windham, Jeannine (New South Associates, Inc.)

[107] *Zooarchaeology in the Tennessee River Valley: Insights from 40MI70*

The zooarchaeological study of 40MI70 is, in many ways, typical and comparable to other Archaic and Woodland sites of the Southeastern United States and within the Tennessee Valley region of northeast Alabama and south-central Tennessee. However, several zooarchaeological variables suggest that regional sites types can be differentiated. These variables include differences in the proportional representation of prey species, discard of faunal debris, formalized tools, presence of nonlocal species, and mortuary contexts. Therefore, this study places 40MI70 within the context of

these variables and comparative sites to better define differences between regional site types.

Winemiller, Terance (Auburn University at Montgomery), Virginia Ochoa-Winemiller (Auburn University at Montgomery) and Rosemary Joyce (University of California, Berkeley)

[191] *Testing for Standardization: the Application of Laser 3D Technology in the Study of Ceramic Figurine, Stamp, and Whistle Production in Honduras*

Over the years, several archaeological studies have focused on figurine studies. One daunting question encountered by researchers involves the relationship of figurine to mold and whether production could be demonstrated through traditional ceramic analysis. To demonstrate standardization and production, a correlation must be established between mold and figurine, whistle, or stamp. We analyzed a sample collection from Honduras and report on the integration of data derived from laser 3D scanning technology with software applications developed for remote sensing and metrology to test goodness of fit among ceramic artifacts and molds. Methods described in this paper have implications for modal analyses.

[191] First Chair

Winemiller, Terance [172] see *McKillop, Heather*

Wingard, John (SONOMA STATE UNIVERSITY)

[102] *Complementarity and Synergy: Stones, Bones, Soil and Toil in the Copán Valley*

Over the years, researchers from Penn State carried out an impressive breadth of research projects. Notable is the complementarity between conclusions reached by various researchers largely working independently of each other. Though components of this research have been subjected to intense scrutiny and speculative criticism, it is difficult to refute the mutually reinforcing conclusions reached by these researchers. This paper will summarize one component of this research—simulations of agricultural productivity—and show how the synergistic relationships between the results of this research and those of other researchers enhanced our understanding of the Classic Maya of Copán.

Wingfield, Laura

[195] *Balanced Power c. 300-800 CE in Southwestern Nicaragua and Northwestern Costa Rica?: An Analysis of Ancient Nicoyan Dress, Body Decoration, and Jewelry and Possible Roles for All the Sexes During the Florescent Period*

An initial review of Nicoyan figures suggests strong female power for the indigenous cultures of the region. However, more in-depth study reveals a shift from greater power for females and the gender-ambiguous during earlier periods (c. 800 BCE-300 CE) to more balanced power for all sexes during the Florescent period (300-800 CE), a time of great environmental and commercial change with an expansion of roles for these various sexes: female, male, gender-ambiguous, intersexed. Differentiation and analysis of dress, body decoration, and jewelry will be presented, particularly in relation to suggested sexual and politico-religious identities for Nicoyans of c. 300-800 CE.

Winghart, Stefan [93] see *Hillgruber, Kurt Felix*

Winsborough, Barbara [175] *see Shimada, Izumi*

Winsemann, Jutta [93] *see Lang, Joerg*

Winter, John [165] *see Gerace, Donald T.*

Winter, Sean [264] *see Westmor, Colleen J.*

Winters, Judith [129] *see Richards, Julian D.*

Winzenz, Karon (University of Wisconsin-Green Bay) [87] *The Symbolism of Cloth and Clothing in the San Bartolo Murals*

The San Bartolo murals (ca.100 BCE) reveal a highly developed symbolic vocabulary in which cloth, garments, and adornments appear to be supernaturally charged. Some articles of clothing are marked with symbols denoting breath as if they are alive; others carry markers denoting a sacred quality. Most significantly, a diagonally placed woven cloth band that binds deities, objects, and numinous locations appears to function as a marker denoting a sacred quality. Such examples suggest that cloth and garments played a central role in the development of the visual vocabulary denoting the sacred, one that would continue into the Classic period.

Wise, Sarah [103] *see Rogers, J. Daniel*

Wismer, Meredith (University of Iowa), François Lanoë (Département de Préhistoire, Muséum National d'Histoire Naturelle, Paris (France)) and Alain Tuffreau (Université des Sciences et Technologies de Lille (France))

[141] *Taphonomy Examined: New Investigations at La Adam Cave (Romania)*

La Adam cave, located in the karstic region of Dobrogea, near the Black Sea, is known to be one of the landmark sites of the Romanian Palaeolithic. New excavations led by Prof. A. Tuffreau since 2008 aim to provide a better understanding of the prehistoric human settlements. This poster presents the results of an analysis conducted on the faunal remains. The taphonomy of the specimens was studied to establish the origin of accumulation for the assemblage. Considering numerous carnivore modifications and the large presence of cave bear remains, the assemblage is considered mainly the result of carnivore activities.

Witt, David (SUNY Buffalo)

[221] *Lithic Utilization in the Middle San Juan Region*

Lithic artifacts have been recovered from the Tommy Site, the Point Site, and the Sterling Site, neighboring communities south of Farmington, New Mexico, along the San Juan River. The artifacts were analyzed according to raw material, reduction strategy, and use wear and illustrate differences in utilization between the three sites. Statistical patterns are compared to those derived from artifacts recovered from Salmon Ruins, a Chacoan Outlier to the east, and sites within Chaco Canyon. Observed differences in lithic industry and utilization between the sites are interpreted through Sackett's theory of isochrestic style and implications are discussed.

[221] *Second Chair*

Witt, Rachel (Vanderbilt University), Christine Pink (University of Tennessee) and Rebecca Bria (Vanderbilt University)

[5] *Testing the Nature of Wari's Presence in the North-Central Highlands of Peru: A Bioarchaeological Perspective*

This study examines the skeletal health profile of a Middle Horizon (600-1000 AD) population from Hualcayan, north-central highlands of Peru. In particular, we examine how limited Wari influence may have structured the health experience of local peoples. The Hualcayan skeletal data are compared to other contemporary populations as a way to evaluate how policies and practices of autonomous polities versus those of the Wari Empire may have similarly or differentially affected morbidity, physical activity patterns, and exposure to violence. The results provide a new viewpoint from which to approach the debate of Wari influence and impact in north-central Peru.

Woldekiros, Helina (Washington University in Saint Louis)

[142] *The Afar Caravan Route: Insights into Aksumite (150 C.E.-C.E 900) Trade and Exchange from the Low Deserts to the North Ethiopian plateau.*

The Aksumites controlled Red Sea trade between 150 C.E.-C.E 900 and traded ivory, gold, and slaves; they also engaged in local and regional trade in consumable commodities such as salt. This ethnoarchaeological study of Afar salt caravan routes in Northern Ethiopia provides evidence on material correlates of exchange activities linking distribution centers. Excavation of ancient caravan sites reveals topographic and material similarities, including bread cooking stones similar to those characteristic of modern caravaners. Aksumite pottery and obsidian distinctive of the Afar were also identified, suggesting local and regional exchange in commodities from the Afar lowlands to the Ethiopian plateau.

[142] *First Chair*

Wolff, Christopher (SUNY-Plattsburgh), Thomas Urban (University of Oxford) and Luke Brown (SUNY-Plattsburgh)

[7] *A Geophysical Investigation Of The Old Whaling Site, Cape Krusenstern, Alaska*

Since its discovery in 1958, the Old Whaling Site has interested researchers who study coastal adaptations and historical relationships of prehistoric Alaskan peoples. New research at the site investigating those relationships, utilizing primarily non-invasive techniques, was conducted in the summer of 2011. This included a combination of radar, magnetometry, and test excavation. The preliminary results are presented, confirming the existence of buried cultural deposits that may predate the roughly 3000-year-old houses excavated in the 1960s, and providing new data concerning the environmental context during human occupation.

Wolff, Christopher [232] *see Holly, Donald H.*

Wolff, Nicholas (Boston University)

[274] *Depositional practice and "ritual" behavior at home: some examples from Bronze Age southern Italy*

This paper considers aspects of depositional practice in

the context of residential space during the South Italian Bronze Age. Despite the traditional interpretive separation between the pragmatic concerns of the domestic sphere and more overtly ceremonial behaviors, I present several micro-stratigraphic sequences that illustrate the ways in which the ritual and the mundane may become blurred. The use of high resolution geoarchaeological methods (in this case, micromorphology) thus assist not only in clarifying modes of site formation, but can also contribute to the broader anthropological issues that structure how we conceptualize everyday life in prehistory.

Wolff, Sarah (University of Arizona)

[99] *Protecting a National Icon: The First Use of the Antiquities Act of 1906 to Declare Devils Tower National Monument*

Devils Tower, Wyoming, was the first national monument declared through the presidential use of the Antiquities Act of 1906. This proclamation is unusual because the Antiquities Act was designed for the protection of archaeological remains, and no archaeological resources of great prominence are found at Devils Tower. Historical records relating to the declaration suggest that the decision was based on President Theodore Roosevelt's personal interests, and greatly influenced by prominent Wyomingites including former Governor Warren A. Richards at the General Land Office who drew up the list of proposed proclamations for national monuments.

Wolyne, Renata (Edinboro University of Pennsylvania)

[115] *Surprise! Democracy AND Looting of Egyptian Antiquities?*

As Egyptians protested against their government as part of the so-called "Arab Spring" in 2011, some archaeological chat rooms heated up with allegations of looted antiquities and corruption in Egypt. This paper examines print media coverage of aspects of looting of antiquities associated with the "Pro-Democracy" protests in Egypt starting in early 2011 with special emphasis on patterns of coverage which emphasized the looting of antiquities and government corruption associated with protection of antiquities.

Wood, Amy [9] *see Hargrave, Michael L.*

Woodfill, Brent (University of Louisiana at Lafayette)

[151] *Elite Control of Basic Resource Production and Exchange at Salinas de los Nueve Cerros, Guatemala*
Salinas de los Nueve Cerros, located at the base of the highlands along the Chixoy River, was a major production center for salt and other goods from the Preclassic through the Classic collapse. While most contemporary models of the production and exchange of nonelite goods posit that the elites were largely uninvolved, the presence of wealthy elite tombs and large administrative structures throughout the salt production zone strongly suggest that it was tightly controlled by the city's elites, at least during the Classic period. In addition, its role along the larger Chixoy-Pasión-Usumacinta trade network will be considered.
[151] *First Chair [151] Third Organizer*

Woods, Alexander [83] *see Putt, Shelby S.*

Woodward, Jamie [202] *see Morley, Mike W.*

Woollett, Jim (Université Laval), Céline Dupont-Hébert (Université Laval), Uggi Aevarsson (Minjavordur Sudurlands) and Gudrun Alda Gísladóttir (Fornleifastofnun Islands)

[263] *Marine resources as part of an Icelandic farm's economy: seal hunting practices at Svalbard, northeast Iceland.*

The marine ecosystem is of tremendous potential importance to tethered herding economies as a source of supplementary resources. In Iceland, the use of fish as a buffering resource as well as a market commodity is well known. Sea mammals are however less frequently reported. This paper examines the role of seals in the subsistence economy of the estate of Svalbard (northeast Iceland, 11th to 19th century), in light of recent research. A reconstruction of seal hunting practices at Svalbard, is presented, focusing on demographic and seasonality studies. Other marine resources are also discussed.

Work, Abigail (University of Wisconsin-Madison)

[88] *Of Manos and Metates: Patterns of Subsistence in Prehistoric Roswell, New Mexico*

Previous researchers have argued that the diverse lifeways of groups living in the Puebloan Southwest and the Southern Plains fostered mutualistic trade relationships. Evidence from these areas demonstrates increasing levels of interaction and trade between these groups beginning in the mid-to late thirteenth century. In this study I investigated the impact of trade systems at three sites on the periphery of both the Puebloan world and the Southern Plains in Roswell, New Mexico. My analysis of ground stone artifacts recovered from all three sites demonstrated complex changes in patterns of subsistence during the earliest period of the Plains-Pueblo trade network.

Worman, F. Scott (University of New Mexico) and Patrick Hogan (Office of Contract Archeology, University of New Mexico)

[112] *Relatively Useful: Applications of Obsidian Hydration in the Northern Rio Grande*

Using obsidian hydration (OH) to derive absolute dates has proven problematic in many respects. Most problems with the technique can be overcome, but doing so is costly and complicated. However, XRF geochemical sourcing and optical measurements of hydration band width are rapid and inexpensive. This poster presents the results of two projects completed in the northern Rio Grande area of New Mexico in which OH was used as a relative dating technique. With large sample sizes, the technique proved useful to address a range of problems including site formation processes, the timing of occupations, site re-use, and resource procurement strategies.

Worthington, Brian [193] *see Colten, Roger H.*

Woywitka, Robin (Archaeological Survey of Alberta) and Darryl Bereziuk (Archaeological Survey of Alberta)

[9] *Using digital terrain analysis and LiDAR data in archaeological survey design: An example from the Rocky Mountain foothills of Alberta, Canada*

Most archaeological sites in forested regions of Alberta occur on small landforms near water sources. Many of these landforms are not detectable in conventional digital elevation models. LiDAR DEMs can be used to depict terrain in finer detail, frequently at scales consistent with landforms of archaeological interest. Manual and digital terrain analyses (DTA) were conducted to test whether high resolution LiDAR data could improve survey design. Results indicate that the use of LiDAR improves survey efficiency, and that DTA methods can be used to reflect conceptual models used by archaeologists in survey design.

Wren, Linnea (Gustavus Adolphus College), Travis Nygard (Ripon College) and Kaylee Spencer (University of Wisconsin, River Falls)

[275] *To Face or to Flee from the Foe: Women in Warfare at Chichen Itza*

Although rarely represented in the militaristic art of Chichen Itza, women were targets of, and sometimes combatants in, warfare in Yucatan. The murals of the Upper Temple of the Jaguars not only depict battles, but also present villages before and during conflict. In this presentation, we focus upon images of women gesturing in alarm and grief, attempting to resist capture, making preparations for flight, falling to the feet of captors, and perhaps joining in the defense of their villages. We offer interpretations of the roles played by women and of the purpose for their inclusion in conquest scenes.

Wreschnig, Andrew (Washington University in St. Louis), Fiona Marshall (Washington University in St. Louis), Stanley Ambrose (University of Illinois at Urbana-Champaign) and Jennifer Smith (Washington University in St. Louis)

[37] *Pastoral Neolithic Settlements and the Formation of Nutrient Hotspots in Southwestern Kenya*

African pastoralists have known environmental impacts, however, modern legacy effects of Neolithic pastoral populations have not been well constrained. Livestock penning leads to the accumulation of large, nutrient-rich dung deposits that can be preserved in the archaeological record. These dung deposits may create areas of persistent nutrient enrichment. As part of a larger project soil samples were collected from Neolithic occupations in the Kenyan Rift Valley both with and without visible dung layers to explore this possibility. Nitrogen and carbon isotopic data helps determine site-use history, and total soil nitrogen analysis allows inter and intrasite assessment of nutrient enrichment.

Wright, Alice (University of Michigan)

[97] *"Artifacts Writ Large": Ditch Enclosures and Middle Woodland Interaction in Southern Appalachia*

Small but notable exotic artifact assemblages from Middle Woodland sites across the southern Appalachians have long implicated local inhabitants in the Hopewell Interaction Sphere. Using these data, archaeologists have explored the economic and ceremonial relationships that linked these communities to groups in the Midwest. Recent geophysical survey and excavations at the Garden Creek site in North Carolina have revealed a locally unprecedented ditch enclosure that promises to further elucidate such relationships. The architectural history this feature and its associated artifact assemblage suggest that the Appalachian Middle Woodland involved

more intensive and impactful Hopewellian interactions than have previously been considered.

Wright, David (Seoul National University), Steven L. Forman (University of Illinois at Chicago), James M. Pierson (University of Illinois at Chicago) and Jeaneth Gomez-Mazzocco (University of Illinois at Chicago)

[254] *Changes in Holocene Lake Levels and Human Settlement Patterns in Southeast Turkana, Kenya*

Human settlement of the Lake Turkana Basin during the Holocene has shifted from lakeside fishing villages (prior to 5000 BP) to transhumant pastoralism (5000 to 50 BP) and most recently to government/missionary outpost villages (after 50 BP). We correlate oscillating lake levels with human settlement along the Turkana strand plain northwest of Loiyangalani, northern Kenya. Using OSL and radiocarbon dating of beach ridges, we present a high-resolution lake level curve for Turkana that spans the last 7600 years. Archaeological data is also reported that show corresponding shifts from high-density LSA villages to transhumant pastoral occupations with lower-density archaeological assemblages.

[254] *First Chair*

Wright, Joshua (Stanford University) and William Honeychurch (Yale University)

[237] *The Trials of a Fodder Lord: Dispersed Settlement Zones and Political Authority in the Bronze Age of the Eastern Steppe*

During the Early and Middle Bronze Age of Mongolia settlement zones and central places in North Gobi developed in a selective pattern along an ecotonal border. This heterogeneous pattern is a break from preceding homogeneous Epi-paleolithic landuse pattern. Explanations for this include the emergence of a charismatic nomadic pastoralist elite strong enough to act locally, and either powerful enough to strip populations from other areas or not strong enough to extend their authority completely throughout the region in the face of resistance.

Wright, Katherine (Durham University) and Danielle S. Kurin (Vanderbilt University)

[5] *A possible case of cancer in the late prehispanic Peruvian Andes*

Archaeological investigations of Chanka Period (AD 1000-14000) cave burials in highland Andahuaylas, Peru, found evidence of an isolated cranium of a male between 35-40 years old with several pathologic lesions intersecting the left supraorbital margin, and on the cranial vault. Based on 1) the osteolytic characteristics of these lesions, 2) their size, shape, and number of lesions, and 3) the age and sex of the individual, we suggest that the lesions may be the result of metastatic carcinoma. Although metastatic carcinoma is not a rare disease among archaeological findings, this diagnosis would be unique for the time period and region.

Wriston, Teresa (University of Nevada, Reno) and Gary Haynes (University of Nevada, Reno)

[173] *Sediments, Soils, and the End of the Stone Age: A Geoarchaeological Analysis of Mid-to-Late Holocene Environments in Zimbabwe*

The influence of climate change on mid-to-late Holocene cultural adaptations is not well understood. In

northwestern Zimbabwe, hunting-and-gathering was replaced by agropastoralism during this time period. Sedimentation rates, erosion, and soil development in three drainage basins reveal the periodicity of regionally-specific environmental changes. Recent archaeological discoveries are paired with this environmental backdrop to analyze how specific conditions, which varied from basin-to-basin, resulted in a mosaic of cultural adaptation and change.

Wriston, Teresa [100] see Smith, Geoffrey M.

Wrobel, Gabriel [203] see Stewart, Caitlin E. [203] see Michael, Amy

Wu, Chunming [163] see Ge, Wei

Wu, Xiaohong (Peking University)

[163] *New isotope analysis of the diet in Neolithic China*
This presentation will discuss recent results of isotope analysis of both animals and humans uncovered in sites dated to late Paleolithic and Neolithic across China. The main goal of this study is to investigate the dietary changes during the transition from hunting-gathering to farming. We argue that the context of each site and its environment are critical to understand the transition of its subsistence patterns.

Wurst, Louann (Western Michigan University), Maria O'Donovan (Public Archaeology Facility) and Randall H. McGuire (Binghamton University)

[265] *Theoretical Dyspepsia: the Role of Marxism in Contemporary Archaeology*

Theory in archaeology has reached a point where polemics offer no fresh insights or major shifts in perspective. Contemporary debate either reiterates stale arguments or offers up old ideas disguised by new terminology. Taken to its extreme, polemic stasis can lead to the assumption that theory is irrelevant, a dangerous stance that ignores the political context of archaeology. Marxism offers an alternative to this fruitless situation through engagement in real world substantive studies that fosters critical public scholarship and praxis. Such praxis will lead to a more productive understanding of archaeology's role in the contemporary world than any polemic debate.

Wurst, LouAnn [265] see O'Donovan, Maria

Wyatt, Andrew (U of Illinois at Chicago)

[233] *Ancient Maya Household Resource Management and the Importance of Water Associations*

Studies of water management in the ancient Americas have received a resurgence of interest in the past decade, with much research focused on the roles of elites and non-elites in the management of this valuable resource. While some have suggested a high level of elite involvement in water management, survey and excavations at the site of Chan in western Belize have revealed water management systems operating at the household level with ancient Maya farmers retaining significant autonomy from nearby elites. Evidence further suggests that water use rights at Chan were organized into "water associations;" a common ethnographically documented form of social organization. Chan was likely home to multiple water associations centered on

reservoirs, springs, and irrigations systems which provided water for use by multiple households. The identification of ancient Maya water associations can help shed light on the organization of labor in households and on the relationship between farming households and non-agricultural elites.

Wygall, Brian (Adelphi University)

[27] *The Microblade/Non-Microblade Dichotomy: Climatic Implications, Toolkit Variability, and the Role of Tiny Tools in Eastern Beringia*

The earliest known lithic technology in eastern Beringia involved the systematic production of microblades, a technology that persisted throughout the Holocene and across many technological traditions. Thus, there is great interest in understanding why microblades appear in some sites but not others. In this study, the systematic evaluation of more than sixty archaeological components were compared to worldwide climatic conditions suggesting increased populations and decreased microblade use during warm climatic trends. Conversely, significant reductions in occupation events imply rough times for foragers in eastern Beringia regardless of toolkit composition during the onset of the coldest periods including the Younger-Dryas.

[27] *First Chair*

Wylde, Michael (University of Florida)

[79] *Recent Excavations at Mound 5, Pineland Site Complex, Pine Island, Florida*

In 2009, an opportunity presented itself to investigate Mound 5, a feature located on private property adjacent to the Randell Research Center's Calusa Heritage Trail on Pine Island, Florida. The excavations at Mound 5 have added to the overall temporal and spatial knowledge of the 63 acre archaeological site. This paper will situate the findings from Mound 5 in the context of other contemporary excavation units, with a focus on the faunal and ceramic assemblages uncovered in 2009 and 2010.

[79] *First Chair*

Wyllie, Cherra (University of Hartford)

[195] *Elite Women In The Mural paintings Of Las Higueras, Veracruz, Mexico*

Layered paintings, from the Classic Central Veracruz site of Las Higueras, exhibit changing styles, themes, palettes, and techniques. Artists increasingly depict women engaged in processions and as actors in political theatre, assuming roles traditionally held by men. This presentation examines the transition in ritual roles and performance, and considers how the juxtaposition of female costume with the accoutrements of power link Las Higueras with developments at neighboring El Tajin in the north and the Mixtequilla-Tuxtla region to the south.

Wyllie, Cherra [242] see Foster, Lynn V.

Wynne-Jones, Stephanie (University of York)

[229] *Sacred and mundane in the life of the Swahili stonehouse*

The Swahili stonehouse is an important institution for contemporary East African coastal society, understood mainly as a space for private activity, both ritual and mundane. This paper reports on excavations of 14th to 15th century stonehouses at Songo Mnara, Tanzania.

They date from the start of the architectural tradition in this region and suggest that spatial meanings in these early centuries were quite different. Results speak to somewhat contradictory priorities: the central role of hospitality and the elaboration of spaces for guests; and the use of protective ritual in the form of buried offerings in key locations.

Xie, Liye (the University of Arizona)

[159] *Why scapulae?: earth-working implements from the Hemudu culture, China*

Water buffalo scapulae were preferred as raw material for making earth-working implements in the early Hemudu culture dated to 6-7 k BP. Scapula tool use in the region appears to have declined after this period, however, possibly replaced with spades/shovels and plows of stone. To understand the circumstances under which scapulae may or may not be preferred over other materials such as stone and wood, the author compared raw material availabilities, conducted durability experiments, and determined the time and energy expenditures associated with using earth-working implements crafted from bone, stone and wood in a variety of soil contexts.

[159] *First Chair* **[159]** *Second Organizer*

Yaeger, Jason (University of Texas at San Antonio)

[131] *A Complex Countryside: Understanding Classic Maya Hinterlands*

Mayanists often claim that we know little about non-elite and hinterland populations, but a review of relevant scholarship reveals a robust body of data for understanding hinterland complexity. Hinterland villages were socio-politically and economically heterogeneous settlements, whose residents participated in economic networks that operated at multiple scales. They performed multiple identities, some of which crosscut villages and even polities, and they actively negotiated their places within larger political and political economic structures, albeit often from positions of relatively little authority. This paper contextualizes the session's papers by synthesizing our current understanding of hinterland social and political dynamics.

Yaeger, Jason [150] *see Kray, Christine A.*

Yan, Feiyan [35] *see Swarts, Kelly*

Yanchar, Kaitlin (Oregon State University) and Leah Minc (Oregon State University)

[235] *Ceramic Sources as Indicators of Trade in Pre-Incaic Northern Ecuador*

In northern Ecuador, pre-Incaic indigenous groups constructed clusters of mound sites, or tolas, which still stand today. These sites were likely constructed for chiefly or ritual sites and contain ceramics with serving, cooking, and storage functions. Using neutron activation analysis, the elemental compositions of more than 250 vessels from 9 sites were compared with the results of local clay surveys to determine whether certain types of vessels were imported to tola sites, or if all vessels were produced locally. The results of this study improve our understanding of trading and political relationships among groups in the Pichincha and Imbabura provinces.

Yang, Dongya [70] *see Thornton, Erin Kennedy [141]*

see Speller, Camilla F.

Yant, Anna Catesby (Vanderbilt University)

[22] *Power and Performance in Non-domestic Architecture at Kiuic*

This paper examines the strategies employed by Maya elites to legitimize and expand their power through architecture and ritual performance. The built environment, though traditionally overlooked in archaeology because of the difficulty in interpreting ideological messages encoded in architecture, both reflects and shapes sociopolitical organization. Access analysis and nonverbal communication can be used to explore the meaning of the changing patterns in non-domestic architecture and how these patterns reflect the sociopolitical ideology of their creators. Results from excavations of the Yaxche Group at Kiuic are used to explore the co-evolution of monumental architecture and ritual-power relations in the Puuc.

Yaquinto, Brian (Northern Arizona University)

[109] *Evaluation on Obsidian Hydration Dating and Lithic Scatters in the Owyhee Desert, Nevada*

Discerning habitation sequences of multi-component prehistoric lithic scatters in the Great Basin is often problematic. To better understand how lithic scatters are formed throughout time this poster will display the results on obsidian hydration of 26 flaked stone artifacts from a Middle Archaic Period site in the Owyhee Desert of north-central Nevada. The outcome of this project provides greater insight into hunter-gatherer mobility, lithic technology and land use strategies within the prehistoric northern Great Basin.

Yarborough, Michael [112] *see Speakman, Robert J.*

Yaroshevich, Alla (Alla Yaroshevich) and Dany Nadel (University of Haifa)

[89] *The scalene triangles from Ohalo II: evidence for 23,000 years-old composite projectile weapons in the Levant*

At Ohalo II, a 23000 years-old campsite on the shore of the Sea of Galilee, Israel, backed microliths comprise about 25% of the microlith assemblage. Scalene triangles outstand within this group in terms of standardized metric characteristics and distribution pattern. Furthermore, they have the highest frequencies and homogeneous appearance of projectile impact damage and adhesive remains. Fracture types, adhesive location and the standardized metric characteristics suggest that scalene triangles were hafted laterally in composite projectiles. Techno-morphological similarity between the Ohalo II scalene triangles and later types (Kebaran points and trapeze/rectangles), previously defined as lateral components of projectile weapons, supports this reconstruction.

Yasui, Emma (University of Toronto)

[256] *Reconsidering Lithic Technology in the Early Jomon Period: A Preliminary Examination of the Lithic Assemblage from the Yagi Site, Hokkaido, Japan*

For Jomon studies, the contribution from lithic analysis has yet to match that resulting from research involving pottery. The Yagi site lithic collection provides an excellent opportunity to examine an Early Jomon chipped stone tool assemblage at an intra-site level. Data gained

from a finer scale of analysis contributes to the previous work performed in northeastern Japan, which has primarily taken a broader view. I suggest that the lithic assemblage emphasizes the need to critically assess the application of hunter-gatherer theory to the Jomon Period, and that evidence from transitional periods leading to sedentary agricultural systems may be more appropriate.

Yates, Nancy M. [242] *see Kohut, Betsy M.*

Yatsko, Andrew (U.S. Navy) [74] *Discussant*

Yellen, John (National Science Foundation) [81] *Discussant*

Yerka, Stephen (U. of Tennessee, Archaeological Research Lab), David Echeverry (University of Tennessee), David G. Anderson (University of Tennessee) and D. Shane Miller (The University of Arizona)

[84] *Re-Designing PIDBA (The Paleoindian Database of the Americas): Enhancing the Accessibility of Information and the User Experience*

PIDBA is a two decade-long project to compile Paleoindian data from multiple sources. One goal of the project is to provide archaeologists a resource to conduct original research with raw data. PIDBA has been continuously growing over the past two decades, as new data is compiled, analyzed, and presented to users of PIDBA.org. PIDBA contains attribute data of Paleoindian points, maps of geographic distribution, radiocarbon dates, and images of artifacts. This presentation unveils the new design and features of PIDBA, to illustrate the information that is accessible at the site, and how the website is becoming more accessible to researchers.

[3] *Discussant*

Yerka, Stephen J. [90] *see Schroedl, Gerald F.*

Yerkes, Richard (Ohio State University)

[124] *What the Hopewell did – and didn't do – during the Middle Woodland period in the central Ohio Valley*

Ohio Hopewell are well-known, but poorly understood, and there are many misconceptions. Once viewed as sedentary maize farmers, some now believe they lived in dispersed farmsteads, and grew native weedy crops. Current evidence does not support either model. A mobile Hopewell lifestyle is more likely. Trips to earthworks for ritual and social interaction were followed by dispersal to small settlements. Ceremonies at earthworks were necessary to integrate mobile foraging populations. The Hopewell show us the degree of cultural complexity that can be achieved with the organizational flexibility of tribal societies, without real agriculture, food surpluses, and permanent settlements.

Yerkes, Richard [200] *see Parkinson, William A.*

Yim, Robin [139] *see Waller, Kyle*

Yoder, Cassady and Jake Fox (Radford University)

[39] *Formative Period Diet and Subsistence in the South Andean Altiplano: New Evidence from Stable Isotope Analysis*

This poster reports the results of stable isotope analysis

of remains from a sample of human skeleton material from four Formative Period sites in the Southern Andean altiplano. Stable isotope ratios of carbon and nitrogen from bone collagen are used as indicators of diet and subsistence practices, with the results interpreted in light of other archaeological evidence from the Wankarani Complex and the southern Andes in general. Alternative hypotheses to explain variation in isotope ratios and subsistence strategies are considered.

Yoneda, Keiko (CIESAS Golfo)

[150] *Planos indígenas de casas y tierras en el centro de México (siglo XVI)*

La posesión y la demarcación de tierras y territorios fueron motivos de la elaboración de documentos pictográficos de diferentes categorías en el siglo XVI en Nueva España, a saber: las pinturas catalogadas como historia-cartográfica de grandes dimensiones, los planos que abarcan un área amplio, como por ejemplo una ciudad o parte de una ciudad; y los planos elaborados en hojas relativamente pequeñas, aproximadamente de tamaño carta o doble carta que señalan tierras, construcciones y camellones con sus medidas, entre otros elementos. En esta ponencia me gustaría reflexionar sobre siguientes temas: la relación entre el sistema de tenencia de tierra prehispánica y colonial, y la propiedad privada; y acerca del sistema de registro de los planos de propiedad producidos en la época colonial temprana en México central.

Young, Chris

[162] *Lithic Sourcing in the Great Pee Dee River Region*

Lithics recovered from the Johannes Kolb Site (38DA75) provide archaeologists with information that can be used to address subsistence-settlement patterns for the southeastern Early Archaic Period. Knowing lithic sources can give a better understanding of hunter-gatherer mobility. Lithic samples and artifacts from the Kolb Site were analyzed through petrographic thin sections, X-Ray Fluorescence, and Neodymium (Nd) isotope geochemistry to help determine the source of the raw stone material. This paper presents the results of these analyses to illustrate how this may have influenced Early Archaic subsistence-settlement patterns the Carolinas.

Young, Craig [234] *see Hockett, Bryan*

Young, Janet (Canadian Museum of Civilization)

[129] *The Role of 3D Laser Imaging in Human Remains Repatriation*

The repatriation of human remains has prompted a heightened urgency to preserve data for the scientific record. Documentation through photography, metric and non-metric analysis has played an important role but these mechanisms only address a limited number of anticipated requirements of researchers. Laser imaging is a dynamic medium that creates a 'virtual collection' of interactive models providing researchers the flexibility to study the collection beyond what has been documented by conventional means. This paper will discuss the use of 3D laser imaging for the documentation of human remains in the context of repatriation at the Canadian Museum of Civilization.

Young, Lisa (University of Michigan) and

Claire Barker (University of Arizona)

[120] *Assessing the Value of Cracked Pots at Homol'ovi*
 Mike Schiffer instilled in his students the need to look at the complete life history of an artifact. A critical juncture in this life history occurs when an artifact breaks. At this point, the vessel can be discarded or reused. We examine cracked vessels that were repaired, and how the act of repair can be used to assess pots that ancient people considered valuable. Our analysis examines the ceramic assemblages from roughly contemporaneous pithouse and pueblo sites in northeastern Arizona. We evaluate how groups with differing domestic architecture chose to assign value to pottery produced in different areas.

Young, Lisa [216] see Barker, Claire S.

Young, Tatiana (PhD Candidate, Temple University)

[22] *A Change in the Settlement Pattern in the Cochuah Region, Quintana Roo during Terminal Classic Period*
 During the Terminal Classic Period many great sites in the Southern Lowland declined, contrasting with the Northern Lowland Maya's polities that flourished. The sites in the Cochuah region exhibited a change in the settlement pattern of occupation beginning with considerable increase to gradual decline and ultimate abandonment throughout time periods from the Middle Formative to the Spanish conquest. This paper will focus on the change in settlement occupation during Terminal Classic - the most occupied period in the Cochuah region. A number of hypotheses can be examined for comprehending possible mechanisms behind the changes in settlement pattern during this period

Younie, Angela (Texas A & M University) and Thomas Gillespie (Tanana Chiefs Conference)

[169] *Cultural Associations at the Linda's Point Site, Healy Lake, Alaska*
 During the 2010-2011 field seasons, work at the Linda's Point site at Healy Lake uncovered evidence of cultural occupations dating from the late Holocene to over 13,000 cal BP, with a paleosol separating the oldest component from the upper sediments of the site. Because the Linda's Point stratigraphic profile shows strong correlations to the Healy Lake Village site, continued investigations have the potential to answer questions of chronology and stratigraphic separation within the Chindadn complex preserved at both sites. Here we present the context and dating of the cultural components at Linda's Point, and an analysis of its lithic assemblages.

Younie, Angela [180] see Graf, Kelly E.

Yu, Pei-Lin (National Park Service--Rocky Mountains CESU)

[132] *Forager intensification and the development of agriculture in the Amazon Basin*
 Recent debates regarding ancient Amazonia range from ethnographically derived characterizations of mobile foragers to archaeologically based descriptions of sedentized agriculturists. Archaeological and ethnographic domains of knowledge are powerful tools for learning when used in combination to structure research problems. This paper uses ethnoarchaeological data about foraging and small scale horticulture, and

Lewis Binford's database of foraging groups, to develop a testable model statement that predicts conditions under which Amazon Basin foragers would (or would not) intensify subsistence to the threshold of food production. The archaeological and paleoenvironmental record can then be assessed for evidence of those conditions.

Zaragoza, Diana (INAH)

[62] *A glimpse over Caecilie and Eduard Seler in the Huasteca region*

For many years the studies concerning Eduard Seler were focused on his work in the Mexican Highlands; with the union of the two Germanys some files were located and I will now try to unravel some of the work they did in the Huasteca at the end of the 19th century. Their studies, the first scientific ones in this area, focused primarily in archaeological sites and their indicators, mostly ceramics, but they also made some ethnographic observations that can give us ideas of the people, through their paraphernalia, who inhabited the region.

Zarger, Rebecca (University of South Florida) and Thomas Pluckhahn (University of South Florida)

[209] *A Case for Incorporating Ethnographic Methods in Graduate Archaeology Curricula*
 Archaeologists have increasingly turned to ethnography as a tool for understanding the contemporary social context of material culture and archaeological practice. This work has produced significant insights, demonstrating research and collaboration potential at the interface of the two sub-disciplines. However, much of the research has relied on a limited range of ethnographic methods. We suggest that archaeologists would benefit from using a wider repertoire of ethnographic data collection tools, experiential training and consideration of ethical implications. In the long term, the most far-reaching solution may be to encourage ethnographic methods training for graduate students in archaeology.

Zaro, Gregory [61] see Houk, Brett A. **[61]** see Moats, Lindsey R.

Zarrillo, Sonia (University of Calgary)

[235] *Formative Period Agriculture in Highland Ecuador: Timing and Nature*

Plant domestication and horticulture make a precocious appearance in Coastal Ecuador before becoming well-established through the Formative Period. At what point is the use of domesticated plants visible in the archaeological record of Highland Ecuador? Did the stimulus to agriculture and sedentism in the highlands come from the Coastal Lowlands, the Amazon Lowlands, or was it an in-situ development? What role did maize play? This paper will review past and new evidence to explore these questions.

[235] *Second Organizer*

Zavodny, Emily (Penn State University), George Milner (Penn State University) and George Chaplin (Penn State University)

[123] *Temporal and spatial variation in late prehistoric warfare in eastern North America*

Wounds from arrows, among other weapons, and village defensive works are used to monitor geographical and temporal variability in the nature and conduct of late

prehistoric warfare in eastern North America. Among northern tribal-scale societies, conflicts increased over time, especially after the onset of the Little Ice Age. Violence among southern chiefdoms, however, peaked several hundred years before European contact. Although there were strong similarities in intergroup conflicts throughout this vast region in terms of who was killed and how that occurred, the need for strong defensive works varied across the Eastern Woodlands.

Zborover, Danny (University of Calgary/ US-MEX, UCSD)

[4] *Kingdoms on Cloth: David Kelley and the Lienzos of Oaxaca*

Among his colleagues and students, David Kelley was known for his continuous work on central-Mexican historical documents, much of which still remains unpublished. In particular, Kelley was engrossed with interregional interactions during the Epiclassic and the Postclassic. This paper will focus on the cloth document known as the 'Lienzo de Tecciztlan y Tequatepec', which interested Dave in the late 1990's and had later instigated my ongoing doctoral research. I will outline new advances made on this and other indigenous records from southern Oaxaca, and will dwell on the yet unresolved nature of the Toltec presence in this region.

Zeanah, David (California State University, Sacramento), Brian Coddington (Stanford University), Douglas Bird (Stanford University), Rebecca Bliege Bird (Stanford University) and Peter Veth (Australian National University)

[273] *Diesel and Damper: Disintensification among the Martu of Western Australia*

Intensification of forager diets to include small seeds is a hallmark of the broad-spectrum revolution. Such persisted in arid Australia into the twentieth century, when foragers dropped these staples from their diets. Explanations for this "de-intensification" have mixed ultimate (diet breadth contraction) with proximate (availability of motor fuel and milled flour) causes. The Martu used small seeds recently (ca. 1990) and their shift to a less "intensive" foraging economy was well observed. Here we examine foraging practices of contemporary Martu to evaluate the change. Results have implications for the emergence of seed-reliant economies and the nature of their predecessors

Zeanah, David [273] see Basgall, Mark E.

Zedeno, M. Nieves [43] see Ballenger, Jesse

Zedeño, Maria (University of Arizona)

[251] *Methodological And Analytical Challenges In The Practice Of Relational Archaeology*

Important strides have been recently made toward the development of a theory of relational archaeology that incorporates non-Western notions of nature and society. This development requires epistemological and ontological changes in the conceptualization and interpretation of the archaeological record. For relational archaeology succeed, principles derived from various theoretical arenas must be operationalized in research design, field methods, and artifact analysis. I target relational dimensions and scales at which research is formulated, data sources, formation processes, and

taxonomies. I suggest that multidisciplinary approaches to relational archaeology should incorporate ecology and paleoenvironment, traditional knowledge, and social science.

Zeder, Melinda (Smithsonian Institution), Guy Bar-Oz (Zinman Institute, University of Haifa), Scott Rufolo (Johns Hopkins University) and Frank Hole (Yale University)

[234] *The Role of Mass-Hunting in the Extirpation of Steppic Herd Animals in Northeastern Syria*

A deposit of gazelle bones at Tell Kuran, Syria provides evidence for the use of desert kites in the mass-slaughter of steppic game. The deposit's late 4th millennium BC date, long after livestock had replaced game as primary meat sources, suggests that this practice was directed at social rather than economic ends. Evidence for the use of kites in the mass-killing of steppe animals in the Khabur is examined and the possibility that not only gazelle, but onagers were hunted in this way is explored. The role of such socially driven practices in local extirpation of steppe species is discussed.

Zegarra, Edward (Binghamton University)

[104] *Roof Burning: A Wari Residential Abandonment Practice*

The intentional burning of rooftops as an abandonment practice has been documented throughout Andean prehistory. Middle Horizon examples of this ritualized destruction of domestic space have been documented at major Wari sites. This paper presents recent excavations of a domestic unit at the site of Cerro Mejia in the Moquegua Valley. It discusses archaeological evidence for roof burning at the site and considers the significance of a process that spanned the polity's apogee and ultimate collapse.

Zeidler, James (Colorado State University)

[29] *Populating Valdivia: The Neolithic Demographic Transition at Real Alto, Coastal Ecuador*

This paper examines paleodemographic evidence in support of a Neolithic Demographic Transition at the Valdivia site of Real Alto (ca. 3800-1800 B.C.), coastal Ecuador, similar to those proposed by paleodemographer Jean-Pierre Bocquet-Appel for Europe, North Africa, and North America. Through a comparative analysis of life tables derived from skeletal samples from the Preceramic Las Vegas site on the Santa Elena Peninsula and from Phase 3 burial contexts at Real Alto, a clear quantitative shift in the 5-19/+5 ratio can be seen in the transition between the two time periods. Other related paleodemographic indicators are also presented.

[29] *First Chair*

Zelevnik, W. Scott [102] see Reed, David M.

Zender, Marc

[118] *Ahk'ab: Night and Necromancy among the Classic Maya*

Ancient Mesoamericans regarded the night as a hostile alien landscape antithetical and inimical to human interests. The dualistic opposite and antagonistic counterpart of day, night embodied the absence of everything associated with the world of the sun, providing a liminal period fraught with danger. For the Classic

Maya especially, the night was peopled with predatory animals such as jaguars, bats and owls, all of which were marked in writing and art as "nocturnal," and associated with disease and sorcery. Night was a period to be passed in fearful watch and fitful sleep, itself an unnatural rehearsal of inevitable bodily death.

[4] *Discussant* [4] *First Chair*

Zidar, Charles (Missouri Botanical Garden), Sarah Weber (University of Illinois) and Taryn Pelch (Southern Illinois University)

[191] *The Construction of Ancient Maya Headdresses: Materials and Methodology*

This study of ancient Maya headdresses is an outgrowth of the authors' continued research on the plants and animals depicted in ancient Maya art, primarily on polychrome cacao vessels. Headdresses are an ever-present, highly important, and grossly understudied component of Maya art. This manuscript highlights the research and creation of nine headdresses (and related garb). Materials such as feathers, flowers, wood, and cloth were used in the creation of these objects. This research also investigates ceremony, social status and gender, and how these factors relate to what is worn. Royal scribes, warriors, elite men and women, ball players, and hunters were investigated.

Zilhao, Joao [135] *see* Barton, C. Michael

Zimmerman, Lisa M. [187] *see* Sharpless, Megan S.

Zimmermann, Mario (Universidad Autónoma de Yucatán), Luis R. Pantoja Díaz (CRY INAH) and Carlos Matos (Universidad Autónoma de Yucatán)

[58] *Chemical approaches to specific archaeological contexts: burials, offerings and deposits*

During the second half of the 20th century, archeochemical studies began to contribute greatly to the archaeological study of activity areas. More recently, advances have been made concerning the analysis of vessel contents. However, few attention was given to the exploration of potential inputs to on-site reconnaissance, intra-site comparison and functional analysis of specific types of contexts. Based on sediment samples taken at Candel, San Pedro Cholul and Sitpach, Yucatán, this work aims to demonstrate how chemical analysis augmented the perspective on several types of archaeological contexts regularly found in the northern Maya lowlands.

[58] *First Chair*

Zimmermann, Mario [58] *see* Fernandez Souza, Lilia [58] *see* Hernandez, Hector

Zipf, Gabriele [93] *see* Hillgruber, Kurt Felix

Zipkin, Andrew (The George Washington University) and Alison Brooks (The George Washington University and Smithsonian Institution)

[6] *On the formation and distribution of ochreous minerals in northern Malawi*

J. D. Clark's Middle Stone Age excavations in Karonga District, Malawi during the 1960's yielded incised and ground pieces of red ochre suggesting utilitarian and/or symbolic usage. Experiments demonstrate the potential for transformation of local yellow ochre into red by heat

treatment. The geographic availability of ochre has implications for landscape use, transport, and trade. Recent fieldwork shows that ochres are widely distributed as iron-stained clay nodules in the Chitimwe Beds and as bands of iron-rich clay in the Chiwondo. Petrography and XRD indicate that ochreous nodules in the Chitimwe are the product of an in situ feldspar weathering process.

Zolotova, Natalya [71] *see* Nado, Kristin L.

Zovar, Jennifer (Vanderbilt University)

[77] *Conquests, Colonialism and Catholicism:*

Investigating the Inca/Colonial Transition at a Bolivian Altiplano Site

Chaucha de Khula Marka is an Inca-Colonial site in Bolivia's southern Titicaca basin, which also figures prominently in local oral histories. It is located in close proximity to a prominent LIP hilltop settlement, and consists of a village area and an early colonial church with at least one burial under the church floor. Preliminary ceramic analyses and carbon dates suggest that the site was occupied during the Inca/Colonial transition, but abandoned shortly thereafter. As such, it provides an exceptional opportunity to investigate local efforts to transition between LIP, Inca and Colonial social orders.

Zuckerman, Molly (Mississippi State University) and George Armelagos (Emory University)

[105] *Translating between biology and society: Sex, gender, syphilis, and immunology*

While many of the long-standing medico-historic questions about syphilis approach resolution, one of the most compelling remains: why do males and females differentially manifest the disease, especially during the dangerous, destructive (and skeletally visible) tertiary stage? This study assesses whether these reported pathophysiological differences are partially due to male-female immune reactivity associated with the immunomodulatory effects of sex steroid hormones. However, results from an analysis of post-medieval English skeletal material and 19th and 20th century clinical data on untreated syphilis are ambiguous, suggesting that gendered differences in overall health and gendered prejudices among medical practitioners may instead be largely causal.

Zufah, Charles (CSU Long Beach)

[9] *Airborne Lidar Survey of Soconusco, Chiapas:*

Mapping Prehistoric Salt and Ceramic Production Sites

This poster will consist of the results of an airborne LiDAR survey of the Soconusco region of Chiapas, Mexico. The purpose of this survey was to create an inventory of estuarine sites thought to be used for prehistoric and early historic salt and ceramic production. Based on the LiDAR data collected, a high resolution DEM of a portion of the estuarine zone was created despite dense surface vegetation, resulting in the discovery of over 100 previously unidentified mound sites. Geospatial analysis, coupled with ground truthing survey and investigation of the mounds identified through the DEM will be presented.

Zurla, Lorenzo [233] *see* Domenici, Davide

Zych, Iwona [173] *see* Kotarba Morley, Anna M.

Zych, Lauren (University of Chicago)

[13] *Native Pots in European Spots: Intercultural Assemblages from St. Antoine's Garden*

In the current theoretical climate, native objects on colonial sites are routinely considered evidence for cultural creolization. However, this interpretation often neglects the specific historical contexts – the power relations, social processes, and behaviors – that produced mixed assemblages in the first place. Excavations at St. Antoine's Garden revealed an unusually robust array of practices and objects traditionally associated with Native Americans. This paper frames preliminary results of field and laboratory analyses within a historical and comparative context that suggests native people played a significant but changing role in New Orleans throughout the eighteenth century.

Zych, Thomas (University of Wisconsin-Milwaukee)

[196] *Co-opting Space and Constructing Memories: An Analysis of the Northeast Mound at the Aztalan Site in Jefferson County, Wisconsin*

In the Middle Mississippian world, construction of pyramidal mounds at hinterland sites both creates and links social memories to a distant place. At the Aztalan site in Jefferson County, Wisconsin, that distant place is the prehistoric city of Cahokia, near modern day St. Louis. This paper details the extant records and materials from Joan Freeman's 1964-1968 Wisconsin Historical Society excavations of the northeast platform mound at Aztalan. The construction of this monument is viewed as an act of co-opting existing space in an effort to create new narratives connected to a larger Mississippian worldview.

Zych, Thomas [187] *see Nicholls, Brian*

Zych, Thomas J. [187] *see Richards, John D.*