

assessed with specific concentration on the ways in which movement affected site location as well as site orientation.

Ryan, Karen (Canadian Museum of Civilization) and Janet Young (Canadian Museum of Civilization)

[79] *A Possible Example of Shamanistic Healing Amongst the Sadlermiut Inuit of Arctic Canada*

The existence of shamans (angakkuit) and a shamanistic belief system are widely reported in historic Inuit society. Angakkuit acted primarily as mediators between the spiritual and physical worlds and were often tasked with performing healing rituals. While certain details of these events are well reported, others (particularly the use of shamanistic paraphernalia) are conspicuously absent. The present study discusses a human figurine found in a Sadlermiut grave which was modified to mirror illnesses evident on the grave occupant's skeleton. We examine how this unique burial provides an opportunity to explore concepts of illness, healing, and spirituality in Inuit society.

Ryan, Susan (University of Arizona and Crow Canyon Arch. Center)

[128] *The Vertical Continuum: Ritual Termination and Renewal of Late Pueblo III Kivas*

Dry-laid masonry shrines, constructed within the depressions of decommissioned kivas dating to the late thirteenth-century, have been identified in Ancestral Pueblo villages located in the Mesa Verde region of southwest Colorado. Using Shields Pueblo as a case study, this paper examines ritual termination and renewal behavior as a means of creating a ritually-charged vertical space continuum. Shrines physically identified and commemorated structures imbued with ritual significance, perpetuating that significance despite the structures decommissioned status. Additionally, the shrines evoked memories and cued subsequent generations into recalling the significance of place, a place that was depopulated shortly after the shrines were constructed.

Ryzewski, Krysta (Brown University)

[255] *The Iron Age of America: Learning Metalworking in the New England Frontier*

Manufacturing processes based on European models, (e.g. the Saugus Ironworks), mark some of the greatest industrial and entrepreneurial failures in early colonial America. Colonial metalworking is poorly documented and therefore assumed to involve primitive technologies and unspecialized labor. Recent archaeology in southern New England demonstrates that a thriving metals industry existed during the colonial period, one that involved multicultural laborers, tight networks of production, innovative techniques, and complex manipulations of natural resources in otherwise unfamiliar environments. The development of these technologies over several generations, and the cross-craft techniques involved in production are discussed using historical, archaeological, and metallurgical examples.

[123] see Urban, Thomas M.; [255] First Chair

Sabloff, Jeremy (Santa Fe Institute) [119] Discussant [208] Discussant [178] Discussant

Sabo III, George (Arkansas Archeological Survey)

[115] *A Comparison of Braden and Craig Style Birdman Motifs from the Spiro Ceremonial Center*

James A. Brown and colleagues have argued for the chronological priority of a Cahokia-derived Classic Braden style and its generative relationship to regional derivatives including the Craig style at Spiro. Brown also examined in some detail the Classic Braden "Birdman" motif, linking it to the Morning Star/Red Horn character prominent in nineteenth century myths preserved among several Siouan-speaking tribes. This paper compares thematic and contextual associations of Braden and Craig style Birdman images from Spiro, and suggests that the latter images reflect key characteristics of religious and ceremonial syncretism.

[115] Third Organizer

Safi, Kristin (Washington State University), Christopher A. Kiahtipes (Washington State University), Dave N. Schmitt, Jean-Paul Ndanga and Karen D. Lupo (Washington State University)

[53] *Neglected Pots: Compositional Analysis of Ceramics from the Northern Congo Basin*

Ceramics are the most ubiquitous archaeological remains in the Central African rain forest. Despite their abundance, little is known about the compositional variability of these materials across space and through time. Variation in the temper type, temper amount, and the number of clay sources used by prehistoric potters can clarify the degree to which the production process differed across communities. This preliminary study incorporates high and low tech analyses to evaluate the degree of compositional patterning in ceramics collected from excavations and surface contexts at Lumbomba and Poteme located in the northern Congo Basin in the Central African Republic.

Sagarbarria, Ryan (Antiquus Archaeological Consultants Ltd.)

[203] *New Perspectives on Slinging Stones: Persuasive Evidence of Sling Projectiles in the Pitt Polder of British Columbia*

An ongoing large-scale CRM project, implemented to test the majority of a 10,000-acre parcel of land in the Lower Fraser drainage, British Columbia, has identified persuasive evidence for sling hunting projectiles. A sample of 148 "sling stones," bi-conical/ovoid stones, homogenous in dimension, weight, and shape, have been collected from clusters found in the uppermost clay deposits of extinct marshlands adjacent to known pre-contact archaeological sites. This contribution aims to jointly apply ethnographic accounts, Salish oral narratives, and comparative statistical analyses to a large, reliably sourced sample providing a baseline study of this presently obscure hunting technology.

Sagarbarria, Ryan [203] see Eng, Jordan J.

Sain, Doug [90] see Smallwood, Ashley M.

Saitta, Dean (University of Denver)

[167] *Ludlow Massacre Archaeology in Community Context*

Archaeology at the Ludlow Massacre Memorial has an interesting social context. Fieldwork began against the backdrop of a local steelworkers strike that used the memory of Ludlow as important symbolic capital in the public battle for hearts and minds. Subsequent vandalism of the Memorial's stone monument increased the site's visibility and ignited a quest for more protected status. Recent designation of Ludlow as a National Historical Landmark illustrates what can happen when scholars and citizens make common cause. This paper reflects on what made the Ludlow project's community outreach a singularly rewarding experience for those who were involved in it.

Sakai, Sachiko (UC Santa Barbara)

[253] *Change in Production and Distribution Pattern of Olivine-tempered Ceramics in the Arizona Strip and Adjacent Areas in the American Southwest*

Olivine ceramics are widely distributed in the Arizona Strip and adjacent areas between A.D. 300 and 1300. Previous compositional analyses using LA-ICP-MS and INAA suggest that at least five clay sources were used in olivine-tempered ceramics found in various areas. In this paper, I will examine how selection of clay sources for olivine-tempered ceramics changed over time and why. To understand the diachronic change in clay source selection, I will use Luminescence dating to all ceramic samples examined by the compositional analyses. The ultimate goal for this study is better understanding of the production and distribution pattern of olivine-tempered ceramics.

[161] see Lipo, Carl P.; [253] First Organizer

Salas Carreño, Guillermo [18] see Mannheim, Bruce

Saldana, Melanie (California State University Los Angeles)

[148] *Speleothem Complexes as Sacred Space: An Analysis of Operation III, Lot Two in Actun Yaxteel Ahau*

The survey of the upper level of Actun Yaxteel Ahau, conducted during the spring of 2009, documented four elaborate speleothem complexes that present a very similar structural layout. All appear to have been heavily utilized in much the same way. This paper presents the first analysis of speleothem complexes as sacred space. The ancient Maya are known to have employed architecture to create enclosed space. It appears, however, that they gravitated to these natural features because of the special importance of the drip-water formation matrix.

Salinas, Harlen Tzuc [212] see *Lizama Aranda, Lilia Lucia*

Salomon, Frank (University of Wisconsin-Madison)

[96] *Ritual-Administrative Control of Goods in an Andean Village Storehouse*

Until the mid-20th century, the village of Rapaz managed its communal sector (fields, terraces, pastures, and herds) through a ritual-administrative complex seated in a walled precinct. The precinct's two buildings are a *qulka* or Andean storehouse, and a still-used sacred meetinghouse, the home of a collection of *kipus*, where traditional authorities govern the common sector. Ethnographic information clarifies the relationships among storage, governance, ritual, and communal economy. This paper emphasizes harvest collection and disbursement through the storehouse, an administrative system with a marked feminine symbolic association.

Salsgiver, Amy (Indiana University of Pennsylvania) and Kristin Swanton (Indiana University of Pennsylvania)

[180] *Educating the Educators: Introducing Sensitive Issues Through Archaeology*

Controversial issues in America's history have been avoided, softened or ignored during the elementary years. Twenty-first century archaeologists are relying on new techniques, data recovery and technological advances that are allowing them to expand knowledge on many aspects of American history including the effects of colonization on Native American people. The aim of this paper is to discover age appropriate techniques that teachers can implement into their existing curriculum using archaeology as a foundation to introduce a more holistic picture of this time in our history. This can ultimately provide a foundation for secondary educators to build upon.

Sampeck, Kathryn (Illinois State University)

[218] *Ancient Quelepa, Colonial San Miguel: Waxing and Waning of Eastern El Salvador's External Connections*

Quelepa, in today's eastern El Salvador, does not conform to frontier or core-periphery models. Andrews' investigations revealed strong cultural ties in the Preclassic to Olmec phenomena and in the Terminal Classic to the Gulf Coastal material culture. The Postclassic is poorly known, but early colonial documents show the region to have risen to prominence with the inception of indigo dye trade. The seventeenth-century atlas drawn by William Hack shows the San Miguel region to be a vibrant locale of maritime activity. Changes in exchange networks reflect the history of a place that was at times both marginal and central.

Samson, Alice (Faculty of Archaeology, Leiden University)

[116] *The House that Higuanaamá Inherited: Trajectories of Social Life in El Cabo, eastern Dominican Republic*

The development of hierarchical polities documented by the Spanish in Hispaniola has focussed archaeological attention almost exclusively on a small, undocumented section of society, the cacique class, with scholars on a "wild goose chase" for that elusive paramount chief. This neglects the majority of social life. The reconstruction of houses, house groups and house groups within a community in the site of El Cabo, eastern Dominican Republic, focuses on indigenous sociality, aesthetics and a domestic identity. This perspective sheds an alternative light on how society was constituted on an everyday basis, and in longer, transgenerational cycles, over hundreds of years.

Sanchez, Guadalupe [199] see *Carpenter, John P.*

Sanchez Miranda, Guadalupe (INAH Subdirección de Laboratorios y Apoyo Académico), Becket Leason (Instituto Nacional de Antropología e Historia), Edmund Gaines (University of Arizona), John Carpenter (Instituto Nacional de Antropología e Historia) and Vance Holliday (University of Arizona)

[21] *Fin del Mundo Clovis site: Hunting, Land Use and Interactions during Late Pleistocene Times in northern Sonora*

The Fin del Mundo Clovis site was discovered in 2007. Investigations reveal that this site contains a Pleistocene elephant hunting/butchering location and at least one encampment. A quartz crystal quarry is located at about six kilometers from the site, raw material from which a Clovis point and other artifacts recovered at the site were made. The hunting locality revealed an intact deposit of Late Pleistocene/Early Holocene age, two juvenile Pleistocene elephants and the necessary tool-kit for hunting. The camp site reflects lithic artifacts suitable for a number of tasks, including scraping hides, cutting, and working wood or bone, as well as broken Clovis points and debitage. Here we will discuss the Clovis lithic technology from Fin del Mundo, interaction with other Clovis sites in Sonora and offer some insight about the settlement pattern of the Clovis groups that inhabited northern Sonora during late Pleistocene times.

Sanchez Romero, Margarita (University of Granada (Spain))

[143] *Women in Action: The Hidden Side of the Archaeological Record*

The concept of maintenance activities has been challenging and changing ideas regarding the analysis of women in the archaeological record of the Iberian Peninsula. This notion has enlightened how fundamental women's work is in foregrounding social dynamics in any community. Going further in our approach to prehistoric communities, we link these activities with women's bodies as a unique form of material culture, in order to understand women's experiences, behavior and identities.

Sánchez-Miranda, Guadalupe [235] see *Arroyo-Cabrales, Joaquín*

Sand, Christophe [206] see *Chiu, Scarlett*; [206] see *Kahn, Jennifer G.*

Sanders, Merritt (Tulane University), Christopher B. Rodning (Tulane University), David G. Moore (Warren Wilson College), Merritt M. Sanders (Tulane University) and Robin A. Beck, Jr. (University of Oklahoma)

[52] *Excavating Burned Structures at the Berry Site, Burke County, North Carolina*

Situated in the Western North Carolina Piedmont, the Berry site is the location of the Native American town of Joara and the Spanish settlement of Fort San Juan. This fort was established by Captain Juan Pardo in 1567, and it was attacked and abandoned in 1568. Five burned structures form a compound associated with Spanish occupation at the site. Fieldwork in 2007 and 2008 included excavations of one entire structure and half of another structure. This paper summarizes our structure excavation methods, including procedures for collecting artifacts and organic materials, total station mapping, and digital photography.

Sanders, Merritt [35] see *Horn, Sherman W.*; [35] see *Kettler, Kurtis H.*; [35] see *McCall, Grant S.*

Sanders, Merritt M. [52] see *Sanders, Merritt M.*

Sandgathe, Dennis (UPenn Museum of Archaeology and Anthropology), Harold L. Dibble (University of Pennsylvania), Paul Goldberg (Boston University) and Shannon P. McPherron (Max Planck Institute for Evolutionary Anthropology)

[8] *The Neandertal Child from Roc de Marsal: A Re-appraisal of its Status as an Intentional Burial*

Neandertal mortuary behaviour has long been a subject of debate. Among claims for intentional Neandertal burial in Europe, the child

skeleton from Roc de Marsal (RdM) has been one of the less contentious examples. This is due in large part to claims that it was recovered from an intentionally excavated pit and was associated with "grave goods". However, based on the actual original evidence on the context of the remains and on new data from recent excavations, no compelling evidence exists to show intentional burial. The original published and unpublished evidence and data from the recent excavations will be presented here

Sandgathe, Dennis [8] see *Aldeias, Vera I.d.*; [8] see *Dibble, Harold L.*; [8] see *McPherron, Shannon P.*; [8] see *Turq, Alain*; [8] *First Chair [8] Second Organizer*

Sanger, Matthew (American Museum of Natural History)

[217] *Vacant Quarters and Rising Tides: Visible Shifts in the Relational Landscape along the Georgia Coast (USA)*
Combining data from coastal islands, hammocks, and near coast mainland this paper investigates the dynamic relationships between people, experienced environment, and conceptualized place over a span of 5,000 years. Environmental factors and socio-historical events, the most recognizable of which include sea-level changes during the Archaic and the establishment of a vacant quarter between competing chiefdoms during the Mississippian, produced archaeologically visible affects on settlement which relate to shifts in sociopolitical organization as well as inter and intra group relations. The changing relation between people and surrounding landscape is also theorized as various aspects of mobility suggest variable conceptions of space.

Sanhueza R., Lorena [123] see *Giesso, Martin*

Santarone, Paul

[210] *New Insights into the Simon Cache, Idaho*
This paper presents new analysis and insight into the Simon Cache, a cache of bifaces and fluted points first discovered in 1961 on the Big Camas Prairie near Fairfield, Idaho.

Sarjoughian, Hessam [184] see *Bergin, Sean M.*

Sasaki, Randall (Texas A&M University), Jun Kimura (Flinders University (Australia)) and Le Thi Lien (Vietnam Institute of Archaeology at Hanoi)

[189] *The Original Vietnam War: The Mongol Invasion of 1288*
The Mongol Invasion of Vietnam in 1288 ended in a climactic battle at Bach Dang River. The resistance forces secretly planted wooden stakes set into the riverbed at low tide; the invading fleet was then lured into the trap and destroyed. The preliminary survey of 2009 identified hundreds of these wooden stakes which delineate the battlefield and the likely locations of hull remains. The newly discovered sites may possess a potentially rich archaeological record of historically undocumented Chinese/Mongolian ships, as well as clues for clarifying the naval battle tactics employed in the battle.

Sassaman, Kenneth E. [61] see *Randall, Asa R.*

Sasso, Robert (University of Wisconsin- Parkside), Dan Joyce (Kenosha Public Museum) and James R. Yingst (Heartland Archaeology Research Program)

[219] *The History and Archaeology of the Vieau Site (47Ra90), an Early Nineteenth Century Fur Trade Post in Racine County, Wisconsin*
The Vieau site at Franksville, Wisconsin, is a multi-component prehistoric and historic site including an early nineteenth century fur trade post and Potawatomi village. Historic records show the site as continuously occupied since the 1820s, eventually becoming a farmstead in the late 1830s. UW-Parkside and the Kenosha Public Museum have conducted archaeological field research from 2002 to the present. While much disturbance has occurred since the time of the post, remains encountered provide information on a variety of aspects of material culture of nineteenth century life in this locality. The authors provide an introduction to site history, contexts, and

archaeology.

Saturno, William [64] see *Sharpe, Ashley E.*; [139] see *Storozum, Michael*

Saul, Bruce M. [250] see *Reitz, Elizabeth J.*

Saunders, Michael (Texas State University)

[99] *The Sacred Sites of San Jose Chacaya: Prehistoric Associations to Contemporary Ritual*
Indigenous religious beliefs still predominate in many Maya communities. Recent investigations in San José Chacayá, Guatemala, mapped the contemporary local sacred sites. While their distribution reflects patterning common in other Maya communities, the altar locations also reveal a relationship with an archaeological site around which they are clustered. As some of these altars are pre-Conquest stone monuments and others appear to establish the boundaries of the archaeological zone, it seems that these altars also held significance for the prehistoric community. The continuity exhibited in their utilization today can help to identify the means by which contemporary sacred geography is defined.

Saunders, Paula (City University of New York)

[97] *Up from the Ground: An Architectural Study of Enslaved Houses at a Nineteenth-Century Coffee Plantation in Jamaica*
This paper is an architectural study of houses in one enslaved African village community in nineteenth-century Jamaica. It examines the house form and features, materials used, and the innovations of African-descended peoples in developing solutions to their daily needs. Located near the Blue Mountain, Orange Vale was one of the largest coffee plantations in Jamaica during the peak of the coffee boom. By using naturally-occurring limestones and sandstones in constructing the foundation, steps, and thresholds of their dwellings, enslaved African peoples at this plantation demonstrate how the natural materials in their environment were transformed for both functional and cultural use.

Saunders, Rebecca (Museum of Natural Science, LSU) [251] *Discussant*

Savelle, James (McGill University)

[64] *Bowhead Whales, Logistical Organization and Social Inequality amongst Prehistoric Thule Inuit*
The centrality of the bowhead whale in the economy of prehistoric Thule Inuit in the Canadian Arctic has long been recognized. It is only recently, however, that attempts to determine the effects of the enormous surpluses generated by the hunting of these animals may have had on Thule social structure. This paper examines these effects through the related themes of the logistical requirements for successful bowhead harvesting, and the transformation of the resulting whale product surpluses into wealth and status, at both the intra- and inter-village levels.

Savoie, Brent [212] see *Luin, Luis F.*

Sayer, Camille (Salmon-Challis National Forest) and Sharon Plager (Salmon-Challis National Forest)

[43] *Prehistoric Galleries Revealed in Idaho's Rugged Camas Creek Drainage*
A formal inventory of the Camas Creek Trail was conducted on the Salmon-Challis National Forest. Camas Creek is a major tributary of the remote Middle Fork Salmon River in Idaho. Until the trail was punched through in the 1930's, the lower canyon presented a virtually impassable travel route from the river to upland resources. The few historic sites documented are associated with either trail construction or its subsequent use. The remaining prehistoric sites were the focus of our research. The density of pictograph sites found along Camas Creek is notable and their locations suggest interesting departures from simple economic explanations.

Sayers, Daniel [225] see *Riccio, Jordan M.*

Sayre, Matthew (UC Berkeley) [132] *Second Organizer*

Scaglione, Richard (University of Pittsburgh) and Maria-Auxiliadora Cordero (University of Pittsburgh)

[68] *South American Sweet Potato in Ancient Polynesia: Evidence for Trans-Pacific Contact?*

Research in the Cook Islands has established that the sweet potato, a new world cultivar, was introduced into Polynesia by AD 1000. But how did it get there? Here, we consider evidence supporting the possibility of human transfer. The words "comal" and/or "cumal", similar to the Polynesian "kumara", were used by the Cañari people of Ecuador, sweet potato cultivators whose territory once stretched from the Gulf of Guayaquil to the Andean highlands. In addition to the sweet potato evidence, this paper considers other factors pointing to the Gulf of Guayaquil as a possible locus of trans-Pacific contact.

Scarborough, Vernon (University of Cincinnati) [153] *Discussant*

Scardera, Francis, Laurie Rush (US Army, Fort Drum), Margaret Schulz and Randy Amici

[89] *Consideration for astronomically-aligned stone features in the Northeast*

The oral histories and lore of the Haudenosaunee (Iroquois) people are filled with astronomical references, yet the archaeological record barely acknowledges their presence. Developing a protocol to identify and acknowledge the manifestation of these sites in the Northeast landscape is critical. This paper focuses on the results of archaeological fieldwork methods employed to document a possible astronomical feature in the landscape in Jefferson County, New York. The importance of fostering native consultation and participation in this process is emphasized. Aligning the landscape with the heavens is essential, but aligning these sites to the native cognitive universe is even more important.

Scarry, Margaret (Univ. of North Carolina)

[250] *What can Plants and Plant Data tell us about Seasonality?*

In most environments, plants have cyclical rhythms of flowering, fruiting, storing energy for spring growth, etc. Because nuts, grains, and fruits are ready for harvest at predictable times, plant remains from archaeological sites seem likely candidates for estimating season(s) of occupation. Unfortunately, the potential to dry and store many plants confounds this issue. This paper considers how (and if) the harvesting periods for plants represented in archaeological sites on the Georgia Bight and in the broader Southeast can be combined with considerations of labor allocation and other archaeological data to provide clues about seasonality for episodic and year-round occupations.

Schaafsma, Hoski (ASU)

[44] *Manipulated Landscapes and Altered Soils: Squeezing Water Out of a Dry Landscape*

Perry Mesa, in south-central Arizona, has a long history of sequential human occupations. In the late 1200's an agrarian people settled the mesa and transformed hundreds of acres of grassland into an extensive system of dry-farming features. This study examines dry farming water management at multiple scales, from individual features to the complete landscape. Their use of numerous watersheds and feature types increased area-wide water retention, while manipulation of soil textures within individual features improved small-scale conditions. The success of these techniques is manifest in the range of crops produced, from domestic maize, agave and cotton to native crops.

Schachner, Gregson (UCLA)

[235] *Ancestral Pueblo Settlement Dynamics in the Petrified Forest of Arizona*

Recent archaeological survey in the Petrified Forest of Arizona provides an opportunity to reexamine ancestral Pueblo settlement dynamics in this iconic region. Surveys by National Park Service and UCLA archaeologists have documented apparently continuous

ancestral Puebloan occupation dating from A.D. 200 to 1400. This continuity contrasts sharply with surrounding areas, which were either discontinuously settled or occupied for only a portion of this period. Comparison of the spatial and architectural traits of Petrified Forest settlements to those in surrounding regions suggests that local settlement patterns were shaped by people and ideas from many parts of the ancestral Pueblo world.

Scharf, Elizabeth (University of North Dakota)

[74] *Chenopods and People: Reflecting on the use of the Chenopodiaceae in North America*

This presentation analyzes existing information regarding the prehistoric use of plants from the Chenopodiaceae family in North America. Cases are reviewed for both hunter-gatherer and farming cultures, looking at a range of human activities and their intended and unintended consequences. These are compared and contrasted to produce scenarios in which humans and chenopods entered into co-evolutionary relationships that could lead to domestication and cultivation, and the specific mechanisms involved in these long term interactions are explored.

Schauer, Matt (UIC) and Micah Smith (DePaul University)

[45] *Life on the Frontier: Occupation of Inca Fortifications in Northern Ecuador*

In north highland Ecuador, the Inca Empire encountered heavy resistance from a society known as the Cayambe which resulted in a string of military fortifications known as Pambamarca. At Pambamarca, there are fourteen hilltop fortifications located in close proximity to one another. The occupation of these sites and the activities that occurred there has been poorly understood. Therefore, the Pambamarca Archaeological Project began a program of systematic shovel tests at each of these sites in order to determine the density and distribution of occupation and the multitude of activities that occurred. This paper presents the results of that program.

Schauer, Matt [45] *see Kling, Amber M.*

Scheel-Ybert, Rita Scheel-Ybert [142] *see Caromano, Caroline F.*

Scheiber, Laura (Indiana University) and Judson Byrd Finley (University of Memphis)

[228] *Paths, Places, and Positions: Negotiating Shoshone Movements in the Rocky Mountain West*

Although archaeologists have documented over 8,000 years of human presence in the central Rocky Mountains, it is only recently (in the last 200-500 years) that we see prolonged and intensified use of certain mountain landscapes. Bighorn sheep hunting complexes, conical pole lodges, and resident campsites speak to intensified mountain resource procurement. In this paper we discuss recent research in the Absaroka Mountains surrounding Yellowstone National Park that seeks to address the ways in which Mountain Shoshone people constructed a sense of place within what appears to be relatively new social landscapes of the late prehistoric and early historic periods.

[228] *First Chair*

Scheiber, Laura [72] *see Finley, Judson B.*

Scheinson, Vivian (INAPL), Claudia Szumik (CONICET/INSUE), Florencia Rizzo (UBA), Sabrina Leonardt (UBA)

[22] *Rock Art Distribution in NW Patagonia: The Forest and the Steppe*

In the last years, Patagonian archeology has revolved about human exploitation, colonization and occupation in the forest and the steppe. Ancient occupations were recorded in forested environments on North Patagonia but only from Late Holocene times, there is a neat archaeological signal at the forest. Some researchers posited the hypothesis that at least two different populations coexisted in that moment, one at the forest and the other at steppe. In this paper we will test this hypothesis by focusing on rock art and by means of

cladistics and endemism analysis.

Schele, Elaine (University of Texas)

[112] *The Twin Mortuary Temples of Palenque: Applying Historical GIS to the Archaeological Records of Temples XVIII & XVIII-A*
Temples XVIII and XVIII A were excavated in the mid 20th Century by archaeologists Berlin, Ruz, Segovia and Saenz. The buildings are largely unknown to the general public and yet, when explored, they contained several royal burials. The richly furnished tomb discovered in Temple XVIII A was one of the most important ever found at Palenque. Reconstructing the excavation record through the application and display of GIS can help bring the discoveries out of obscurity and into public consciousness.

Schieppati, Frank [22] see Hayward, Michele H.

Schiffer, Michael (University of Arizona) [208] Discussant

Schilling, Timothy (Washington University in St. Louis)

[140] *The Moorehead Moment: Monumental Architecture to Monumentality*
Research into the 13th century Moorehead Phase at Cahokia reveals the reorganization of the Cahokian polity with leadership strategies shifting away from the traditional corporate base toward politics surrounding the circulation of precious items among a limited number of people. During this time the way the Cahokians used the landscape changed. Most notably, the Cahokians capped Monks Mound and erected a palisade enclosing the mound and the Grand Plaza. Usually these events are viewed as two separate acts. However, to understand this seminal time in Cahokian history we need to see these actions as connected and having implications that reverberated across the Mississippian world.

Schindler, Bill (Washington College) and Aaron Krochmal (Washington College)

[88] *Finish Your Plate! Rethinking Relative Utility Factors to Better Model Resource Potential in Prehistoric Diets*
Optimal foraging models often rank individual resources based upon relative utility factors. These evaluations influence archaeological interpretations of prehistoric settlement, diet, subsistence selection and utilization. However, researchers calculating this factor are often drawing from a modern context where perspectives of diet and nutrition have little semblance to the past and run the risk of resulting in erroneous resource ranking. This paper attempts to shed itself of biased notions of "edibility" and demonstrates how, utilizing a combination of ethnographic and experimental research, calculations of "potential" relative utility can be quantified for the white-tailed deer.

Schirack, Maggie (University of Montana), Lucy Harris, and Michael Wanzenried (University of Montana)

[39] *An Examination of Lithic Technological Responses to Subsistence Resource Intensification at the Bridge River Site, British Columbia: 1800-1100 BP*

Lithic technological systems are structured by and responsive to changes in subsistence, mobility, and raw material availability. Though much work has been done documenting the relationship of lithic technologies to these and other variables, less attention has been focused on documenting the more subtle effects of subsistence resource intensification on lithic technological systems. In this paper we will use a variety of data derived from the Bridge River housepit village in south central British Columbia to test the hypothesis that processes of subsistence intensification impacted aspects of production, use, maintenance, and reuse of lithic tools.

Schlagheck, John [81] see McKenzie, Dustin K.

Schlanger, Sarah (NM Bureau of Land Management)

[223] *Old Trails and New Challenges: Finding and Preserving Historic Trails in the Developing West*
The partnerships emerging to safeguard America's National Historic Trails include volunteer-driven trail associations and historical

societies, Native American communities with centuries-old ties to travel routes, municipalities, private landowners, and state and federal land managers. Preservation and management challenges are discussed for the Old Spanish Trail and El Camino Real de Tierra Adentro, where collaborative efforts have turned up 18th century inscriptions, rediscovered packtrain routes through the Mohave, mapped cobbler's nails from shoes worn out on desert crossings, created trail steward programs, formed preservation alert networks, developed innovative mitigation programs, and brought attention to hundreds of historic trail resources.

[130] Discussant

Schleher, Kari (University of New Mexico) and Marit Munson (Trent University)

[200] *Ceramics and Rock Art in the Northern Rio Grande: A Comparison of Design*
Changes in ceramics and rock art after A.D. 1325 are often thought to reflect new religious practices in the Northern Rio Grande. Our analysis suggests that designs on these two types of media differ considerably. Bounded geometric designs, which are typical on ceramics, are quite rare in rock art. Although there is overlap in the iconography on the two media, mode of representation differs greatly. This suggests that two different groups were likely involved in producing the designs. We argue that design differences may have wide-reaching implications for social networks and practices of production in this region.

Schmader, Matthew (City of Albuquerque)

[119] *It's All About Space: Two Case Examples of Site Structure*
Examining spatial organization and site structure have been guiding principles of processual archaeology for over 30 years. Lew Binford emphasized the need to document the distribution and characteristics of features and artifacts at varying scales to explain site formation and contents. Two case examples from central New Mexico illustrate the lasting power of Binford's approach. One case examines interior use of space and segregation of different activity areas in eighth century pithouse structures. The other case details the patterning of metal and lithic artifacts found in relation to walled architecture at a battle site from the Coronado expedition of 1540.

[119] First Chair

Schmidt, Kari (Statistical Research, Inc)

[192] *El Paso Phase Research in Southern New Mexico and Far West Texas*
Recently, SRI conducted excavations at FB 9122, an El Paso phase (A.D. 1275/1300 to 1450) residential site located on the lower alluvial fans of the Organ Mountains just north of El Paso, Texas. The El Paso phase in the Jornada Mogollon region is known primarily from the excavation of a handful of large villages and other smaller residential and logistical sites. This paper will describe FB 9122 and its constituent elements, make comparisons with other El Paso phase sites in the Jornada region, and suggest productive directions for future research in the post-A.D. 1130 Mogollon region as a whole.

Schmitt, Dave N. [53] see Safi, Kristin N.

Schmitt, Emma (College of Wooster)

[138] *Social Metaphors: An Analysis of Social Structure Through a Study of Paracas Textile Motifs*
An examination of floral and faunal designs on Paracas (Peru) textiles from several museum collections indicate their use as models of social stratification in society. The natural imagery reveals certain hierarchical relationships (e.g. predator and prey) that reflect social distinctions. This study uses D'Altroy and Earle's wealth finance/staple finance model in combination with a prestige goods theory to explore issues social stratification in the sample group.

Schneider, Erica (ASC Group, Inc.)

[179] *Data in the Pipeline: A Study of Prehistoric Settlement Pattern Data from the Rockies Express-East Pipeline Project in Ohio*
The REX-East Pipeline project consists of a 640-mile long gas

pipeline stretching from northeastern Missouri to southeastern Ohio. Cultural resource studies for this massive infrastructure project began in 2006 and continued through 2009. The project presents a relatively rare opportunity to examine a cross-section of archaeological sites within a portion of the Midwest. In this study, I examine the results of the Phase I archaeological surveys in Ohio focusing on prehistoric sites. The study will use GIS to examine the types of sites identified, occupation periods, and geographic settings to explore changes in regional settlement patterns over time.

Schneider, Joan (California State Parks, Colorado Desert District)

[216] *Testing the Assumptions about Bedrock Processing Features: What have we Learned from Residue Analyses?*

Archaeologists have begun to experiment with types of residue analysis to test functional assumptions about bedrock processing features. Bedrock features such as mortars, basins, slicks, rubs, and anvils are very common and highly visible in many regions, yet little empirical data are available regarding functions. Functional interpretations based on ethnography, personal memories, and environmental contexts are insufficient means of examining the economic, ideological, and social complexities represented by these features. I will examine available types of residue analysis and applications to bedrock features, as well as synthesize data that have been derived from analyses and suggest directions for future research.

Schneider, Seth [239] see *Richards, John D.*

Schneider, Tsim (UC Berkeley)

[114] *Intrusions and Refuge at Shell Mounds in Colonial San Francisco Bay, California*

Historic deposits are documented at some shell mounds in the San Francisco Bay, but they are poorly understood. One major issue is that centuries of natural and cultural modification have altered most mounds, especially their top deposits. Therefore, interpretations of site use are often limited to prehistory. In this paper, however, I explore historic practices of "intrusion" at three intact shell mounds used as places of refuge by hunter-gatherers fleeing Spanish missions. I bring to bear issues of intrusion and "persistent places" in my examination of long-term cycles of site use and abandonment before, during, and after European contact.

Schoenfelder, John (UCLA)

[246] *Of Kites and Poles: Site Documentation via (Very) Low-Altitude Aerial Photography in Skagafjörður, Iceland*

Alongside remote sensing and more traditional means of excavation mapping, kite- and pole-mounted digital cameras were used to take vertically-oriented photographs of two sites excavated during the Skagafjörður Archaeological Settlement Survey. This presentation discusses methods, experimental refinements, and uses for the results. While both kite and pole methods had (often complementary) strengths and limitations, each was effective and ultimately efficient in terms of cost and time. The photographs provided an immediate aid to tactical planning as well as a permanent record of exposed and removed contexts, with benefits amplified by post-processing and integration into a GIS.

Schohn, J (University of North Carolina - Chapel Hill)

[7] *Another Step Removed: How NAGPRA further Disenfranchised non-Federal Tribes*

Prior to NAGPRA, archaeologists worked to varying degrees with non-Federal tribes. NAGPRA, however, has given archaeologists an excuse to ignore tribes they once worked with, leaving members of non-Federal tribes powerless to protect their ancestral remains without the assistance of (often unwilling) Federal tribes. This paper examines how tribes in South Carolina have attempted to work around the impediments put in their way in the 20 years since NAGPRA.

Scholl, Nathan (AMEC Earth & Environmental), Duane Simpson

(AMEC Earth & Environmental), Joe Artz (Iowa OSA)

[150] *The Geoarchaeology of the REX Pipeline in Missouri: Spatial and Temporal Patterns of Holocene Occupations in Alluvial and Colluvial Landscapes of the Salt River Valley Region*

The University of Iowa Office of the State Archaeologist (OSA) and AMEC Earth and Environmental conducted Phase III investigations and geomorphological reconstructions at six prehistoric archaeological sites in the Missouri section of the REX pipeline. All sites are located on Holocene and late Wisconsinan landforms of the Salt River and its tributary, Grassy Creek, including: fluvial terraces, alluvial fans, and coalesced bar and terrace landforms. Cultural deposits from the sites date the sediments to the early through late Holocene. Geoarchaeological methods used during this study will be evaluated for their effectiveness in the overall processes.

Schollmeyer, Karen (Arizona State University/Simon Fraser University), Margaret C. Nelson (Arizona State University) and Steve Swanson (EPG)

[192] *Disentangling Archaeological Systematics in the Mimbres Region after A.D. 1130*

Research in the post-A.D. 1130 Mimbres region has focused on a number of "phases" defined by disparate sets of temporal, geographic, ceramic, and architectural characteristics. Here, we summarize time-space systematics in current use, emphasizing the relationships between different phases, and their links to broader Southwestern developments. The geographic and temporal scale at which Postclassic period variability has been perceived has profoundly influenced our understanding of this time period; its separation into phases appears meaningful in some areas, but is highly problematic in others. Disentangling these classifications will greatly improve our understanding of what regional diversity in this period represents.

[192] *First Chair*

Schollmeyer, Karen Gust [192] First Organizer; [192] see Swanson, Steve

Schooler, Steven (Texas State University-San Marcos)

[255] *Supply, Trade, and Conflict on the Colonial Frontier: Aspects of French, Spanish, and Native Interaction as Revealed by a Lead Isotope Analysis of Artifacts from Nine Eighteenth-Century Colonial-Era Sites within Texas and Oklahoma*

The French and Spanish competed ardently in the 1700s for the loyalties and commercial potentials of the various Native groups they encountered. By analyzing lead artifacts found at colonial-era sites in Texas and Oklahoma, the intricacies and ramifications of an emerging global-scale market in firearms and ammunition are revealed. The trend is most vividly demonstrated at the Spanish mission of Santa Cruz de San Sabá, destroyed in 1758 by an alliance of Norteño tribes brandishing French firearms. At this site, bullets made from European, Mexican, and Mississippi Valley lead speak to the violently explosive clash of cultures which occurred here.

[255] *Second Chair*

Schortman, Edward (Kenyon College)

[258] *Working in a Vacuum: Enactment of Power in Terminal Classic SE Mesoamerica*

The Terminal Classic in the Naco valley, NW Honduras was marked by political fragmentation and the break-up of elite craft monopolies formerly based at the Late Classic capital of La Sierra. Artisans working at sites of all sizes now instantiated new socio-political networks through processes of production and consumption that they controlled. This paper examines these developments at one settlement cluster and explores their implications for understanding the creation of heterarchical relations generally.

[258] *Third Organizer*

Schortman, Edward [65] see Schortman, Hayden N.; [258] see Hayes, Joanna R

Schortman, Hayden (Kenyon College), Edward Schortman

(Kenyon College) and Patricia Urban (Kenyon College)

[65] *Seeing Culture through Instantiated Behavior: Examples from Late and Terminal Classic Southeastern Mesoamerica*
In recent years, archeologists have turned to examinations of material culture as a window into the symbolic aspects of culture, structured behavior, and the enactment of habitus. In this presentation, we will examine instantiated behavior from the perspective of Marcel Mauss' ideas about the social and the material. The insights gained will be illustrated with examples from work in Late and Terminal Classic contexts in northwestern Honduras.

Schoville, Benjamin (School of Human Evolution and Social Change/Arizona State University) and Kyle Brown (SACP4/University of Cape Town, South Africa)

[129] *Frequency and Distribution of Edge Damage on Middle Stone Age Lithic Points, Pinnacle Point 13B, South Africa and from an Experimental Calibrated Crossbow*

Convergent-points are often the dominant tool type in many MSA assemblages. Although damage to the lateral margins of points is frequent, analytical methods for dealing with edge damage patterns have not been applied to a complete MSA point assemblage. The assemblage edge damage frequency and distribution on MSA points from site PP13B, South Africa are compared to the patterns of edge damage formed on replicated points hafted to a calibrated thrusting spear. This recording method provides interpretive linkages to assemblage damage patterns and suggests points at PP13B were deposited after cutting activities rather than after use as thrusting spears.

Schrader, Sarah (Purdue University) and Michele Buzon (Purdue University)

[122] *Investigating Activity Patterns: Osteoarthritis, Vertebral Degeneration and Musculoskeletal Stress Markers in Colonized Ancient Nubia*

Human skeletal remains from the New Kingdom, Egyptian colonial site of Tombos (1400-1040 BC) in Nubia, were analyzed for signs of osteoarthritis, vertebral degeneration and musculoskeletal stress markers. This multi-dimensional, three-fold approach investigates activity patterns and markers of occupational stress, both of which are highly influenced by long-term, physically demanding, repetitive activities. These data directly relate to issues of social identity and questions regarding the function of this community within the Egyptian empire. A low level of activity, due to a hypothesized administrative and middle-class lifestyle, was reflected in the Tombos sample.

Schreg, Rainer [184] see Fisher, Lynn E.

Schreiber, Katharina (University of California - Santa Barbara)

[145] *A brief History of Wari Studies*

The history of Wari studies is briefly summarized. Our current state of knowledge is a balance between the rapid accumulation of new data and the waxing and waning of different interpretive scenarios. It argued that Wari must be viewed holistically, not from the perspective of a single site or region, and that our models must take into account the fact that our data are still far from complete.

[122] see Tung, Tiffany A.

Schreiner, Amanda (CUNY Graduate Center)

[246] *Zooarchaeology of the Viking Age and Later in Skagafjörður*

An initial examination of the animal bones from a sample of the farmsteads investigated during the Skagafjörður Archaeological Settlement Survey suggests general continuity across the socio-economic spectrum of sites during the Viking Age. The presence of pig specimens at many of the farmsteads, even after 1300 AD, is quite remarkable. Also interesting is the paucity of older sheep remains, which is in stark contrast to the Myvatan area.

Schriever, Bernard (Museum of Texas Tech University) and Barbara Roth (The University of Nevada, Las Vegas)

[128] *Pithouse Retirement and Dedication in the Mimbres Mogollon*

Region

The Mimbres Mogollon region of southwestern New Mexico has been a key area where evidence of ritual dedication and retirement of communal structures has been found. We present data that extends these activities to domestic contexts, documenting the ritual retirement of several Late Pithouse period structures and evidence for the incorporation of dedicatory objects during pithouse construction. These data suggest that symbolic activities associated with construction and abandonment were important components of Late Pithouse period occupations and discuss the implications of their presence in domestic contexts.

Schroeder, Bryon

[171] *Conflict on the Northwestern Plains*

The topic of warfare in Northwestern Plain's hunter-gatherer past is not the topic of major discussion. However the evidence of warfare, or at least violence, does exist and has been mentioned in analysis of the region's human remains, rock art, and site morphology. A single butte-top defensive site known as the Alcova Redoubt located in central Wyoming will be placed into this already existing evidence of violence on the Northwestern Plains. Conclusions will be drawn on the rapid period of social reorganization that likely lead to the increase of violence occurring around European contact on the Northwestern Plains.

Schroeder, Sissel (University of Wisconsin-Madison)

[59] *Jonathan Creek and the Interpretive Potential of New Deal-Era Collections*

The legacy of New Deal-era investigations at Mississippian sites extends beyond their role in the construction of regional culture histories as new analyses tap the interpretive potential of these collections. The Jonathan Creek project in Kentucky, conducted near the end of the New Deal, provides an historical lens through which the development of innovative field methods and professional practices can be viewed as archaeologists shifted their focus from elites and mounds to the exploration of community layout and household archaeology. Reanalysis of architectural data at Jonathan Creek has revealed sacred and secular structures embedded within the fabric of the community.

Schubert, Blaine (East Tennessee State University) and Russell Graham (Pennsylvania State University)

[224] *"Clovis-Folsom Drought": Afloat with the Vertebrates*

The Younger Dryas, an abrupt climate shift, coincides with the transition from Clovis to Folsom cultural complexes on the Great Plains. At Murray Springs, southeastern AZ, C. V. Haynes documented a shift from drier conditions at the end of Clovis time to moister environments during deposition of the Black Mat in the post-Clovis interval. He extended these "drought" conditions, "the Clovis Drought," from TX to SD and from CA to NY. Later, V. T. Holliday made an important distinction between drought and aridity. He then interpreted the environmental shift from Clovis to Folsom, in the southern Plains, as increasing frequencies of drought with overall warming but he did not detect an abrupt period of aridity. Vertebrate faunas from the US exhibit the warming trend during this time. They do not provide evidence for continental-scale aridity as implied by Haynes. Increasing frequency of droughts cannot be documented by vertebrate faunas until there is a more finely dated faunal sequence. It does appear that Bison herds may have been smaller on the Great Plains until sometime after the Younger Dryas.

Schuermann, Ryan (University of Texas at Austin) and Charles D. Trombold (Washington University in St. Louis)

[13] *Extended Excavations on a Large Satellite Village of La Quemada, Zacatecas, Mexico*

The second 12-month excavation season on a village site ("Bosque Encantado", MV-206) was completed in 2009. This settlement is located less than one kilometer from La Quemada and appears to be representative of others in the Malpaso valley. This excavation period yielded new data on internal settlement layout, chronology, mortuary practices and faunal/ floral remains. This paper briefly describes

details of architectural variability, aspects of the ceramic assemblage, implications of new AMS radiocarbon dates, composition of the faunal/floral remains, and possible extra-regional trade links during the epi-Classic period.

Schuldenrein, Joseph (Geoarcheology Research Assoc) and Michael Aiuvalasit (Geoarcheology Research Associates)
[252] *Ancient Landscapes and Settlement Along the Millennium Corridor*

The range of site types and depositional contexts along the Millennium corridor is varied and complex. The Phase III sites included settings in classic trunk stream floodplains as well as more ephemeral occupations in upland, slope and ridge locations. These latter locations were unique as they overlooked an ancient glacial lake basin that was transformed into a series of peat beds during the terminal Pleistocene to Holocene transition. We examine both settlement geography and preservation aspects of the archaeological sites located in these diverse meso and microenvironments.

Schuldenrein, Joseph [252] see *Aiuvalasit, Michael J.*

Schulz, Margaret [89] see *Scardera, Francis*

Schurmans, Utsav (University of Pennsylvania), Harold Dibble (University of Pennsylvania) and Mohammed El Hajraoui (Institut National des Sciences de l'Archéologie et du Patrimoine)

[129] *Preliminary Study of the Aterian and Mousterian Lithic Collections from Smuggler's Cave, Atlantic Coast Morocco*

The site of Smuggler's Cave, Morocco, is well-known as one of few sites where hominin remains are associated with the Aterian. Surprisingly, the stone tool collections associated with these remains were never published. As part of the renewed excavations at the site, this material was studied. Here we report on the results from both sets of collections. The assemblages are characterized by the relative rarity of tools in general and of stemmed artifacts in particular. The implications for the recognition of so-called Aterian assemblages and the supposed interstratification of Aterian and Mousterian assemblages in North Africa are discussed.

[129] *First Chair*

Schurr, Mark (University of Notre Dame)

[257] *What Bone Chemistry Tells Us About Angel Site*

In the tradition of innovation established by Glenn A. Black, the Angel collections are source materials for studies of bone chemistry. Stable isotope analysis and fluoride dating have been applied to human and non-human bones from the site. Human bone chemistry studies originally focused on understanding intra-site chronology and dietary variation. More recent studies have integrated Angel into a regional framework suitable for exploring intra-community interactions. At the same time, the chemistry of faunal remains is providing new information about the people who inhabited the site and the animals they lived with and preyed upon.

Schutte, Michele (University of Wisconsin Milwaukee)

[124] *Analysis of Train and Street Car Trauma in the MCIG Collection*
As part of the UWM Milwaukee County Institution Grounds Cemetery Research Initiative a re-boxing effort was begun to stabilize the collection. As a participant, I became interested in a subset of the skeletal collection. Within the greater population a few individuals have documentation indicating the cause of death was the result of being struck by a train or street car. These individuals should have various indicators of perimortem trauma distinguishable from excavation damage, other unrelated traumas or skeletal anomalies. Comparisons of these indicators with contemporary train and vehicular accident data will assist in verifying the associated cemetery documentation.

Schwarcz, Henry (McMaster University) and Phillip Walker (University of California at Santa Barbara)

[122] *Isotopic Paleodiet Studies of the Chumash: Evidence of Sex-*

Based Diet Differences

Isotopic data have been obtained from human skeletal remains at sites along the California coast, from north of Santa Barbara to Los Angeles. Analyses of the C-13/C-12 and N-15/ N-14 ratios in collagen show that the entire population consumed a mixture of high-trophic-level marine carnivores (e.g. seal), and terrestrial foods including flesh of large herbivores. Males were systematically enriched in heavy isotopes, suggesting a higher intake of higher-trophic-level marine foods. Measurement of carbonate of bone mineral shows that males also consumed more fat than females; we suppose this represents preferential distribution of high-lipid-content foods (e.g., seal blubber) to males.

Schwartz, Lauren (UC, Riverside)

[258] *Variation in Household Architectural Designs & Styles at the site of PVN647, Northwest Honduras*

The study of architecture has been well documented in Mesoamerican archaeology, however, little is known of architectural designs from within Southeast Mesoamerica. Furthermore, even less has been investigated with regard to household architecture and spatial arrangements. This paper will discuss recent research of household contexts at PVN647 within the eastern region of the Naco Valley, Honduras. Of particular focus will be variations of vernacular architecture, construction and site-planning techniques both within and between household contexts for this region of the valley, all of which hold the potential to further our understanding of cultural expression within this region of Mesoamerica.

Schwartz, Steven J. [31] see *James, Steven R.*

Schwarz, Kevin (ASC Group, Inc.)

[179] *A Jack's Reef Horizon Settlement Cluster in the Central Scioto Valley*

Archaeological excavations for the REX-East pipeline project identified three sites in the Central Scioto Valley that provide evidence of Jack's Reef Horizon occupations in floodplain and upland settings. In 1992, Mark Seeman proposed the existence of the Jack's Reef Horizon in Ohio as the habitational aspect of the Intrusive Mound Complex. Very little professional research has been undertaken on domestic sites though. Radiocarbon dates confirm habitation associated with this late Late Woodland culture between A.D. 700-1000. Geophysical and excavation data reviewed in this paper indicate intensive habitation of small-scaled residential bases, secondary refuse disposal, and a flake tool lithic technology.

Schwendler, Rebecca (National Trust for Historic Preservation)

[130] *First Organizer*; [130] *First Chair*

Schwartz, Steve (UC Davis), Alex Mackay (Australian National University), Jayson Orton (University of Oxford/University of Cape Town) and Teresa Steele (University of California, Davis)

[182] *Preliminary Report on a Middle Stone Age Open-Air Bifacial Point Manufacturing Site in Southern Namaqualand, South Africa*
Recent attention has focused on Middle Stone Age bifacial-point assemblages from stratified contexts, because of their potential as chronological markers (as the "Still Bay") and association with unique human behaviors. We analyzed 60 bifacial points identified at Soutfontein 1, an open-air site located in the Knersvlakte of southern Namaqualand. The majority were made on white-vein quartz, and the remainder on silcrete. Patterns of shape and retouch differ between the materials, and the high abundance of locally available quartz, the variation in retouch invasiveness, and breakage patterns suggest that quartz bifacial points were manufactured on-site.

Schwartz, Steve [182] see *Steele, Teresa E.*

Scott, Ann (The University of Texas at Austin)

[148] *Caves, Rituals, and Speleothems: The Utilization of Space at Actun Yaxteel Ahau, Belize*

For the last two decades archaeologists have noted that activity areas in Maya caves are often associated with drip water formations.

Recent ethnoarchaeological data suggest that speleothem columns are particularly significant features. During the survey of the upper passage of Actun Yaxteel Ahau, the author documented evidence of intensive activity around two such columns. One was part of a larger complex that included a substantial chamber enclosed by a curtain of low hanging stalactites. At the base of some stalactites were pools where cave pearls formed and cave pearls were found deposited in cultural contexts within the cave.

[148] *First Organizer*; [107] *First Chair*

Scott, Douglas (University of Nebraska- Lincoln) and Peter Bleed (University of Nebraska-Lincoln)

[171] *Carbines and Cannon: Archaeological Investigations of the February 1865 Battle of Rush Creek, Nebraska*

Elements of Ohio and Iowa Volunteer Cavalry units pursued a large band of Cheyenne and Lakota following the Battle of Mud Springs in early February 1865. The soldiers caught the Indians at the mouth of Rush Creek, currently Cedar Creek, on the North Platte River in western Nebraska. As one soldier quipped catching the band was not hard but there was a hard time letting them go. The 150 soldiers found themselves surrounded by nearly 2000 warriors. Long range small arms fire was exchanged until a mounted charge was made by the troopers. They failed to dislodge the warriors and a 12pdr Mountain Howitzer was brought into play that effectively ended the battle. Archaeological investigations of the contested landscape clearly demonstrate how the soldiers and warriors successfully employed landscape features to protect themselves in this battle resulting in minimal losses to both sides.

[69] *Discussant*

Scott, Douglas [220] *see Bleed, Peter*

Scott, Elizabeth (Illinois State University)

[125] *Archaeology in Ste. Genevieve: Revealing French Cultural Traditions on the American Frontier*

Established by the French in the late 1780s, the present town of Ste. Genevieve, Missouri, remained overwhelmingly French in character well into the 1830s, despite ever increasing numbers of Anglo-American settlers. A persistence of French cultural traditions may be seen in its vernacular architecture, legal practices, language, and religion. Most of the material culture recovered archaeologically, however, is British or Anglo-American in origin. This paper uses architectural and archaeological evidence to explore ways in which we can "see" French traditions in the cultural landscape of town lots and the activities occurring there, traditions often overlooked on America's western frontier.

[125] *First Chair*

Scott, Rachel (Arizona State University)

[243] *Disease Patterning in Early Medieval Ireland*

Scholars have long studied the occurrence of disease in early medieval Ireland, using specific data to create a general portrayal of human health. While historical annals document periodic famines and pestilences, human skeletal analysis reveals evidence for infection and systemic stress. This paper refines current understanding of health and disease in early Ireland by examining differences among communities across the island and among individuals within communities. How did social, environmental, and biological factors affect the patterning of disease? The consideration of such patterns elucidates more than health, also illuminating social interaction, gender identity, and lived experience in early medieval Ireland.

Scudder, Kelley (University of South Florida)

[170] *Archaeological Revolution on a Small Island Nation in the Twenty-first Century: A Grass-Roots Approach to Cultural Resource Management on the Island of Nevis*

During the past few years on the island of Nevis, the efforts of a handful of community members and archaeologists have resulted in the development of a comprehensive community-based cultural resource management program that have dramatically changed the way in which archaeological sites are conserved. The impact of these

efforts extends well beyond the shores of this small island nation to nations throughout the Atlantic all the way to Africa. This case study examines how small island nation communities, with limited revenue can have a profound impact on the conservation of archaeological sites and heritage resources, locally and globally.

Scudder, Kristen

[5] *An Investigation of Turtle Use at Isla Cilvituk, Campeche, Mexico*
Previous research in Mesoamerican fauna analysis has contributed insights into animal resource use, but Maya turtle use remains unexamined. Turtle shell is recovered from almost every Maya archaeological site and in some of these archaeofauna assemblages, out of the class of reptiles, turtle is the most common species recovered. The primary objective of my research is to establish an archaeological model of exploitation of the turtles recovered from Isla Cilvituk (A.D. 900-1525) that includes what species or families were recovered and used, methods of procurement and discard and finally, overall their relative importance to the Isla Cilvituk Maya.

Seamont, Morgan (University of Colorado) and Maxine McBrinn (PaleoCultural Research Group)

[118] *Research Paradigms in the Desert West: Regions and Regimes*
Archaeologists working in the Great Basin and in the Southwest examine a past dominated by hunters and gatherers for much of its duration, where people contended with aridity, patchy resources, and topographic variability. Despite these commonalities, researchers in these two regions are strongly influenced by longstanding professional traditions and often rely on distinctive tool sets, even when posing parallel questions. While each research perspective contributes to our understanding of the past, using a variety of approaches creates a more robust and complete picture of the early peoples of the Desert West.

Searcy, Michael (University of Oklahoma)

[199] *Contextual Variation of Mesoamerican Iconography in the Southwest*

Archaeologists have worked to define the relationship between Mesoamerica and the Southwest and how it affected Southwestern communities for decades. Using iconographical analysis of motifs found on pottery that was produced between A.D. 1200-1450, this paper examines how Mesoamerica may have differentially affected sociopolitical organization in the Southwest among the Salado and Chihuahuan traditions. I analyze variation in the types and distribution of Mesoamerican iconography associated with hierarchical and non-hierarchical communities in order to determine whether the integration of foreign symbols was implemented to promote group solidarity through religious association or to help elites legitimize their authority.

Sears, Erin (University of Kentucky)

[229] *It's the Little Things in Life: Ceramic Figurines at the Midpoint of the Maya World*

The creation of Maya portable art, as exemplified in ceramic figurines, can be viewed as a passive reflection of cultural norms or as a dynamic expression involving the negotiation of identity and the manipulation of cultural boundaries. At a simple level, the demonstration that figurines were made at one location and moved to another suggests contact between social nodes. When this movement is placed within the context of shifting relationships along different trade and riverine systems, the discovery of figurine fragments take a more active role.

Sebastian, Lynne (SRI Foundation) [158] *Discussant* [130] *Discussant*

Sedig, Jakob (University of Colorado)

[213] *The Function of Projectile Points: Uses Outside of the Realm of Hunting and War*

Projectile Points are often assumed to have functioned as devices for hunting or as weapons of war. Using cross-cultural ethnographic data my research has identified a much wider range of functions to which

projectile points may have been put, including ceremonial and medicinal purposes. This paper will discuss these varied functions and present a set of measures to more accurately assess the function of prehistoric projectile points. Finally, I use data on projectile points from the Northern San Juan region of the American Southwest to evaluate the utility of these measures for determining projectile point function.

Seebach, John (Sul Ross State University)

[21] *The Acquisition and Use of Lithic Material during the Paleoindian Period in Trans-Pecos, Texas*

The Paleoindian occupation of Trans-Pecos, Texas may have been motivated by a single resource: lithic material. Early Paleoindians utilized many local sources, especially those available in the region's northern half. Acquisition appears less regionally circumspect during the Late Paleoindian era. Extra-limital materials are found within the sample, minimally indicating previously visited quarries. Even still, the prodigious number of stone sources found within the geologically heterogeneous Trans-Pecos stymies the estimation of mobility ranges. The Trans-Pecos record instead implores us to model behavior at a scale beyond the de facto seasonal round that has come to typify Paleoindian research.

Seeman, Mark (Kent State University) [176] Discussant

Segura Llanos, Rafael and Izumi Shimada (Southern Illinois University, Carbondale)

[18] *Pachacamac as an Embodiment of the Water and Life Cycle*
Pachacamac, one of the most revered Andean huacas, is sited in a unique setting where three major bodies of water converge: the Pacific, the Lurín River, and the Urpi Wachak Lagoon. Temples built at different moments are situated to have direct visual access to them. The exterior configuration of the Old Pachacamac Temple emulates that of *Spondylus princeps*. These observations together indicate a close symbolic linkage with water. We examine archaeological and paleoenvironmental data from our recent research at Pachacamac for their interrelations and argue sacrificial and funerary practices at the site centered on life, death, and rebirth.

Seinfeld, Daniel (Florida State University)

[55] *Carbon Isotope Analysis of Ceramics from Two Sites in Mesoamerica*

Bulk stable carbon isotope analysis offers a relatively fast and inexpensive method for determining the proportion of maize used in ancient vessels. Previous work has demonstrated the effectiveness of this method for determining maize use patterns between classes of ceramics from a single archaeological context, a midden at the Olmec site of San Andrés, Tabasco, Mexico. This paper explores the wider applicability of bulk stable carbon isotope analysis by describing results that compare maize-use patterns between different time periods at the Maya site of San Estevan, Belize.

Seinfeld, Daniel [5] see Rosenswig, Robert M.

Sellen, Adam (Universidad Nacional Autónoma de México) and Lynneth Lowe (Universidad Nacional Autónoma de México)

[88] *A Passion for Collecting: The Archaeological Cabinet of Don Florentino Jimeno, Campeche, Mexico*

In the second half of the nineteenth century, Florentino Jimeno, a Spanish shopkeeper living in Campeche, amassed over 6,000 archaeological specimens from the region, reflecting his deep passion for the pre-Hispanic past and its material evidence. By analyzing his catalogs we have recuperated valuable information on the characteristics and provenience of the objects, and more fully understand his work in developing a functional classification based on typologies that was influenced by the intellectual criteria of the time. In this paper we will explore distinct facets of this energetic collector, and will try to explain the ultimate fate of his holding.

Sellet, Frederic (University of Northern Colorado), Dennis Stanford (Smithsonian Institution) and Pegi Jodry (Smithsonian

Institution)

[72] *"Ceci n'est Pas une Pipe ?": a Possible Paleoindian Pipe from the Lindenmeier Site*

A recent analysis of the Lindenmeier collection, collected by Frank Roberts from 1934 to 1940 and curated at the Smithsonian Institution, revealed an unusual modified stone concretion. The object is a rhizo-concretion that has been transformed by drilling. It is similar in shape and size to tubular pipes occurring in various archaeological contexts across North America from Paleoindian to proto-historic times. This paper evaluates the possible function and age of the Lindenmeier object. Is it a Folsom pipe?

Senn, Matthew [11] see McCorriston, Joy

Sepulveda, Marcela (Universidad de Tarapaca) and Eric Laval (Ingenieur d'Etude, C2RMF, Paris)

[23] *Trabajo interdisciplinario para abordar el estudio de las pinturas rupestres*

Se presentan resultados de análisis físico-químicos de pinturas rupestres del norte de Chile obtenidos de la colaboración e investigación desarrollada por arqueólogos, químicos y conservadores. Este trabajo, elaborado desde un enfoque interdisciplinario y una mirada comparativa, nos permite visualizar cuan importante resulta homogeneizar lenguajes entre las diferentes disciplinas y reunir el tipo de información que cada una puede generar en la resolución de problemáticas arqueológicas, en este caso la tecnología o procesos productivos ligados a la confección de las pinturas. La identificación elemental (por SEM-EDX) de los componentes de las pinturas de sitio de Vilacaurani permite evidenciar diferentes elementos, naturaleza del pigmento, tamaños de compuestos y homogeneidad en las mezclas, que otorgan relevantes evidencias sobre los procesos de producción de las pinturas.

[23] Second Organizer

Serafin, Stanley (Tulane University)

[20] *Taphonomy of an Assemblage of Burned and Battered Human Remains at Mayapán*

This paper presents results of taphonomic analysis of an assemblage of burned and battered human remains from the important late Maya center of Mayapán. Basic demographic parameters such as MNI, age and sex are presented. Natural and cultural taphonomic factors, such as tool marks, breakage patterns and thermal alteration, are quantified to demonstrate the relative contribution of each. Comparison is made with highly fragmented human assemblages reported elsewhere in the Maya area where conflicting interpretations of violence and burial desecration have been made. Implications of the present findings for this debate are expounded.

Serangeli, Jordi, Nicholas Conard (University of Tuebingen) and Utz Böhner (University of Tuebinge)

[205] *The Digging of the DB Pillar in Schoeningen – Lower Saxony, Germany*

Since July 2008 the last phase of excavation has started at the open-cast mine in Schöningen. The aim of this logistically complex project is to save the "cultural landscape" before the bucket-wheel excavators destroy the layers. Remains from the iron age, the Neolithic and the Lower Palaeolithic have been saved and documented. We emphasize here the discovery of some wooden and bone artifacts in addition to many faunal remains from an interglacial between the Elster and Saalian ice ages. We integrate these finds with studies of the quaternary geology and ecology to contextualize the use of past landscapes.

Serra, Mari (IIA-UNAM), J. Carlos Lazcano Arce (Coordinación de Humanidades, UNAM) and Mónica Blanco (Librería Jalil)

[221] *Obsidian and rituals at Xochitecatl-Cacaxtla, Tlaxcala*

At Xochitecatl-Cacaxtla there have been important discoveries showing ceremonial uses of obsidian, like offerings of knives found in cists located in strategic places in the ceremonial buildings, offerings associated with burials, and needles used for autosacrifice located in

domestic contexts. Some of these instruments are represented in the "Mural de la Batalla" in Cacaxtla, where warriors carry obsidian knives very similar to those in the offerings from the buildings. There is evidence of local manufacture of obsidian blades and spearheads; however it is probable that the ceremonial knives came from other sites, implying the presence of a ceremonial exchange network.

Shackley, M. Steven [60] *see Dillian, Carolyn*

Shafer, Charles F. [8] *see Skinner, Anne*

Sharer, Robert (Penn Museum)

[218] *The Middle East is a Long Way Away: Working with Will in El Salvador in the 1960s*

The foundations for archaeology in El Salvador were laid in the 1940s by Longyear's investigations in eastern El Salvador and Boggs' excavations at Tazumal. But progress ended in the mid 1950s when the government cancelled archaeological projects at Atiquizaya by Wolfgang Haberland and Chalchuapa by William Coe. After a decade hiatus, research was revived by projects by Will Andrews at Quelepa and myself at Chalchuapa. Although the origins of these projects were very different, their contributions opened the door for the succession of archaeologists, foreign and domestic, that have enriched our understanding of PreColumbian El Salvador to the present day.

[218] *Discussant*

Sharon, Gonen (Institute of Archaeology, The Hebrew University)

[58] *Reflecting on the Levallois Core Method in the Acheulian*

The presence of the Levallois core method has been documented in many Acheulian assemblages along the entire geographical distribution of the Acheulian. Discussion of the Levallois is hampered by the fact that the definition of Levallois cores and products is insufficiently precise and far from consensus. There is an obvious divergence between the Acheulian and the Mousterian Levallois. I will explore some of the features exemplifying this divergence and examine their potential cause(s) in light of the new data available for Acheulian core technology and through its comparison to the Mousterian Levallois as described primarily from the Levant and Europe.

Sharp, Emily (Vanderbilt University) and Tiffany Tung (Vanderbilt University)

[137] *An Accident Waiting to Happen?: Violent and Accidental Injuries among Wari and post-Wari Populations in the Central Andes*

The dissolution of the Wari empire ca. AD 1000 had a profound impact on the health and lifeways of former inhabitants, particularly in the imperial heartland, where there was an apparent intensification of violent conflict. This study examines how other facets of life were affected by comparing the frequency and distribution of postcranial fractures between a Wari and post-Wari site to document changes in physical activity patterns and violent acts. Results show a temporal increase in fractures of the arms, legs, and thorax, likely related to warfare and subsistence activities in highland terrain.

Sharp, Robert (The Art Institute of Chicago), David Dye (University of Memphis) and Kevin E. Smith (Middle Tennessee State University)

[115] *The Classic Braden Style and Its Legacy in the Nashville Basin*

The Classic Braden style that issued from Cahokia was an important source of inspiration throughout the Southeast, as evidenced by about A.D. 1200 in the Nashville Basin in a variety of media, including ceramics, stone sculpture, symbolic weaponry, and marine shell. In this paper, we describe the specific iconographic connections identified between the two regions and offer our current thoughts on the changing nature of this relationship over time. While research is ongoing, a clearer picture begins to emerge of a regional iconographic style centered on Nashville.

Sharp, William

[249] *An Example of Shifting Archaeological Methods and Interpretation illustrated by Investigations of a Famous Kentucky Site*
Fox Farm is the premier archaeological manifestation of late prehistoric, tribal, village farming people occupying north central Kentucky for seven to eight hundred years prior to modern settlement. The site was referred to in several accounts and investigated by the American Museum of Natural History in the nineteenth century. In the twentieth century, James B. Griffin used materials from Fox Farm in his publication *The Fort Ancient Aspect: Its Cultural and Chronological Position in Mississippi Valley Archaeology*. This paper examines earlier, later, and the latest investigations to illustrate changes in archaeological method and theory.

Sharpe, Ashley (University of Florida) and William Saturno (Boston University)

[64] *From Ritual to Rubbish: The Maya Zooarchaeological Record of San Bartolo, Guatemala*

Faunal remains from archaeological sites are a significant yet commonly overlooked source of information that provides unique insights into the social habits of a culture. This study was performed to examine these relations as they pertain to the Maya of San Bartolo, Guatemala, by analyzing the animal bones from the past 2002-2007 field seasons. Analyses focused on comparing taxa with their contexts during the site's Preclassic and Late Classic occupations, in order to better understand how subsistence practices, tool production, and ritual behavior changed through time and across social strata.

Sharratt, Nicola (University of Illinois at Chicago), Laure Dussubieux (Field Museum of Natural History), Mark Golitko (University of Illinois at Chicago), and P. Ryan Williams (Field Museum of Natural History)

[121] *Clay Procurement in the Middle Horizon; LA-ICP-MS Analysis of Wari and Tiwanaku Ceramics from the Moquegua Valley, Peru*
During the Middle Horizon (AD 600-1000), the Moquegua Valley, Peru was simultaneously occupied by both the Wari and the Tiwanaku states. Visual analysis of Middle Horizon ceramics indicates that Wari and Tiwanaku potters in the valley replicated the forms and styles of their respective heartlands. Data derived from LA-ICP-MS analysis of sherds demonstrates that Wari and Tiwanaku ceramics can be chemically as well as visually distinguished. Comparison of these data with five clay groups identified for Moquegua suggests that although colonists from both states exploited locally available clays, the clay sources utilized by Wari and Tiwanaku potters were distinct.

Shaw, Justine (College of the Redwoods) and Alberto Flores Colin (Escuela Nacional de Antropología e Historia)

[109] *Yo'okop's Sacbe 2: A Road to the Dead*

Although Yo'okop's Sacbe 2 was first known to researchers in 1969, it was never cleared and accurately mapped until 2008. These efforts revealed a 1.8-km roadway measuring up to 4 m tall with a number of interesting features, including a vaulted passage and associated structures. However, unlike the site's other sacbeob, which connect major architectural groups, Sacbe 2 terminates in a single pyramidal mound atop a simple platform. Based upon the scale of the causeway and the nature of the associated architecture, it is believed that the components may have been used to conduct elite mortuary rituals.

Shaw, Leslie (Bowdoin College)

[38] *A Century of Maine Avocational Archaeology*

The state of Maine has a record of over 12,000 years of occupation, leaving tens of thousands of archaeological sites, including historic sites dating from the arrival of Europeans in the 16th century. The avocational archaeologists of the state have been instrumental in locating and recording the majority of sites on the state registry. The partnerships between avocational, professional archaeologists, and Native Americans have had their ups-and-downs over the past century, but today there is a strong effort to work together on locating and protecting Maine's archaeological heritage.

Shea, Beth [215] *see Pirkil, Mary E*

Shea, Daniel E. [23] *see Rivera, Mario A.*

Shea, Holly (Central Washington University)

[203] *Projectile Point Typologies on the Columbia Plateau and the Archaeology of the Grissom Site in Kittitas County, Washington*

The focus of the study in progress is the examination of more than 300 projectile points from the Grissom site near Ellensburg, Washington. The analysis will include use of metrics and Carter's 2002 dichotomous key to assign point type as well as description of certain attributes of the points. I hypothesize that the collection will show a broad time range with heavy focus on the late Prehistoric period and extensive use of local raw materials. My analysis will determine the research potential inherent in the collection and will examine how the Grissom site fits into existing Columbia Plateau typologies.

Shea, John (Stony Brook University)

[58] *Why Didn't Neandertals Make Projectile Weapons?*

Neandertals were effective hunters. Yet, for more than a century, archaeologists have searched in vain among Middle Paleolithic stone tool assemblages for stone and bone tools comparable to the projectile armatures used by recent humans. Neandertals' failure to develop projectile technology remains an enigma. This paper explores possible explanations for Neandertals' failure to develop effective projectile technology. It considers, and rejects, longstanding hypotheses of insufficient intelligence, biomechanical inadequacy, interpretations of hafted stone spear points as projectile points, and claims that Middle Pleistocene wooden spears were projectile weapons. This paper proposes a new explanation based on energetic and time-budgeting considerations.

Shea, John [82] *see Sisk, Matthew L.*; [53] *see Hildebrand, Elisabeth*

Shearn, Isaac (University of Florida)

[201] *The Archaeology of Dominica: Using GIS to Create a Unique Predictive Model*

Recent archaeological surveys conducted in Dominica suggest that across the mosaic of ecological micro-niches that characterize Dominica's varied geological zones and extreme topography, archaeological sites can be found in many different geographical contexts. Furthermore, the North American CRM predictive model is inadequate for predicting or explaining the locations of these sites. Here, several archaeological sites and their ecological contexts are described and mapped using GIS. GIS is used to create a unique predictive model for Dominica, which takes into consideration the highly varied ecological micro-niches, the extreme topography, as well as historical and cultural factors.

Sheets, Payson (University of Colorado)

[5] *What Were the Maya Doing with All That Manioc at Ceren?*

Recent excavations at Ceren encountered manioc fields of various cultivators, where over 10 metric tons of tubers were harvested about a week before the Loma Caldera eruption. How were the tubers processed and consumed? One possibility is cutting, drying, and grinding into "almidon" powder, and some artifactual evidence was found in terms of a possible manioc processing toolkit. Another possibility is masticating and fermenting for the village ceremony that was taking place when the eruption struck. Yet another is local consumption, but that was limited by small population size. Another is transportation to other settlements, but that too was limited.

Shelach, Gideon (Dept. of East Asian Studies, The Hebrew University) [95] *Discussant*

Shelton, China (Boston University)

[34] *Food and Identity in the Iron Age Central Apennines:*

Paleoethnobotanical Results from the Sangro Valley Project

An analysis of paleoethnobotanical material collected from an agricultural workspace dating to the 7th-5th centuries B.C. in the

Italian central Apennines has provided new evidence for the nature of subsistence and economy in this mountainous region. Previously, there was little direct evidence available to investigate how the pre- and protohistoric populations in this area negotiated their place within this difficult landscape; results now suggest that they were growing and eating a crop (bitter vetch) that has been regarded as fodder or famine food in richer agricultural zones. Because differences in diet contribute to the definition of distinct social groups, it is possible that the visible distinction in diet shown by the paleoethnobotanical remains may in part have underlain the social divisions historically evident between the highland (Samnite) and lowland cultures (the Romans, among others).

Shelton, Rebecca [99] *see Morton, Shawn G.*

Shepard, Rita (Cotsen Institute of Archaeology, UCLA)

[246] *Ephemeral Pithouses at Viking Settlement Farmsteads in Iceland*

The SASS project has discovered several instances of wall remnants and apparent floors associated with cuts dug through the original ground surface into prehistoric tephra. Our research in Skagafjörður has shown that these apparent pithouses are much more common than previously thought. These constructions were adjacent to the larger and more permanent buildings. At sites with more complete evidence, similar structures have been called "pithouses" and have had a variety of interpretations. This paper will explore possible explanations for these features, including cult houses, weaving houses, refuse pits, and early temporary dwellings.

Shepardson, Britton [259] *see Lockwood, Christopher*

Shepard, Christopher [225] *see Atkins, Ashley*

Sheppard, Jonathan (Simon Fraser University)

[39] *Settlement Patterns in Relation to Resource Acquisition & Complexity in the Mid-Fraser Region of B.C.*

Bringing together geographical and archaeological frameworks, this poster presents the patterning of late prehistoric housepit villages along the Mid-Fraser of British Columbia, analyzing the relationship between resource proximity and the distribution of settlement size. Past theories regarding emerging social complexity in the region suggest that the highly diverse socioeconomy, and large size of settlements such as Keatley Creek, are a product of the abundance of particular extractable resources. This poster examines additional resources and factors that contributed to social complexity, taking into account a greater number of settlements and resources in the region than those previously studied.

Sheppard, Paul [161] *see Speakman, Robert J.*

Sheptak, Rus [65] *see Gomez, Esteban M.*

Sherwood, Sarah (Dickinson College), Alan Cressler (US Geological Survey), Sarah A. Blankenship (University of Tennessee, Knoxville), Jan Simek (University of Tennessee, Knoxville) and Nicholas Herrmann (Mississippi State University)

[22] *People in High Places: Human Images in Tennessee Rock Art*
Over the past several years, a number of human figures have been identified in open-air prehistoric rock art sites from the southern Cumberland Plateau in Tennessee, sometimes in association with other images, often alone or in small clusters. These human effigies share important characteristics, including aspects of site location, pigment color, and character attitude. These similarities imply coherence in subject matter. Regional comparisons of these human figures with those seen in caves and in other rock art sites suggest that they are part of a wider late prehistoric iconography that was "mapped" onto the landscape on a very large scale.

Sherwood, Sarah [52] *see Newsom, Lee A.*

Shillinglaw, Katherine (University of Wisconsin - Milwaukee)

[124] *Analysis of Juvenile Remains from the Milwaukee County Poor Farm Cemetery*

In 1991 and 1992, 586 juvenile burials were recovered from the Milwaukee County Poor Farm Cemetery. The cemetery exhibits temporally and spatially distinct areas for burial of juveniles. Analysis of a 30% sample of juvenile burials from two temporally distinct areas was completed to compare age, preservation, and grave goods. The late 19th and early 20th century was a time of change in the way children were doctored and how labor was approached. Social programs were being used to actively reduce infant mortality. This poster contextualizes the apparent poor health of juveniles in a time of increasing health awareness.

Shiltz, Susanne [27] see *Shuttleworth, Andy*

Shimada, Izumi (Southern Illinois University)

[67] *Shell Artifact Manufacturing: Insight from a Late Horizon Shellworker's Tool Kit*

A Late Horizon burial accompanied by what appears to be his complete tool kit and Spondylus, Conus and other shell artifacts at various stages of manufacture was fortuitously discovered on the outskirts of the Inka regional administrative center of La Viña in the mid-La Leche Valley on the north coast of Peru. This paper presents a reconstruction of the manufacturing technology and sequence for a variety of small shell artifacts. This manufacturing process is compared to those of the earlier Moche and Sicán cultures to define a possible north coast technological style and tropical shell use pattern and value.

[18] see *Segura Llanos, Rafael*; [23] *Discussant*; [67] *Discussant*
Shimelmitz, Ron (Tel Aviv University; University of Arizona), Avi Gopher (Tel Aviv University) and Ran Barkai (Tel Aviv University)

[58] *Serial Production of Predetermined Blades from Late Lower Paleolithic Qesem Cave, Israel*

Amudian blade production appears throughout the 7.5m sequence of the Acheulo-Yabrudian site of Qesem Cave (400-210 kyr). 3,000 blades and waste from five assemblages were analyzed, revealing the unique character of this early blade technology. Major characteristics include the use of flint slabs as cores and the serial production of central blades, cortical blades and naturally backed knives in a single reduction sequence with follow-through blows. This efficient manufacture of pre-Mousterian end-products with a predetermined shape is in the heart of the Amudian industry and is considered an aspect of modern human behavior as early as 400 kyr ago.

Shimer, Carol [211] see *Edwards, Susan R.*

Shipton, Ceri (Monash University)

[256] *The Evolution of Skill in the Acheulean*

The origins of mode 3 prepared core technology have been highlighted as a critical watershed in the evolution of hominin cognition; however prepared core technologies are actually widespread during the Acheulean. Experiments indicate that mastery of elementary movements presents the greatest challenge in knapping. In the case of Acheulean bifaces, striking sufficiently invasive flakes to thin the tool without breaking it requires lengthy practise and is only achieved by the most skilled modern knappers. Using between assemblage differences in the thickness to width ratio of bifaces, we argue that there was an evolutionary trajectory for increasing skill during the Acheulean.

Shirar, Scott (University of Alaska Museum of the North), Jeff Rasic (University of Alaska Museum of the North) and Pat Druckenmiller (University of Alaska Museum of the North)

[79] *A Synthesis of Prehistoric Dog and Wolf Remains in Alaska*

Past studies highlight the important roles that dogs played in prehistoric cultures. They were used not only for hunting but also as pack animals, sentries, and even as a food source. The importance of domesticated dogs in Alaska historically and during the last 500 years is undeniable. However, there is scant evidence for dogs in Alaska

prior to the Late Holocene despite evidence suggesting the first colonists of North America brought dogs with them. This paper synthesizes the current evidence regarding dog domestication in Alaska and compiles radiocarbon dates for dog and wolf remains (including one new specimen) found throughout the state.

Shock, Myrtle (UC Santa Barbara)

[47] *Archaeobotanical Remains from features at Lapa dos Bichos: The Role of Plants in the Diet of Brazilian 'Agriculturalists'*

Dry conditions in southeastern Brazilian rock shelters have resulted in excellent preservation of archaeobotanical remains. The prevalence of domesticated and native plants was examined in twenty five features, from the site of Lapa dos Bichos, resulting in a detailed characterization of diet from 500 to 2500 BP. The results indicate that native plants remained as a large portion of the diet. Thus our record of the transition to agricultural practices in this region is more detailed and suggests a mixed economy.

[142] see *Silva, Francini Medeiros*

Sholts, Sabrina (University of California, Santa Barbara), Dennis Stanford (National Museum of Natural History), Louise Flores (University of California, Santa Barbara), Phillip Walker (University of California, Santa Barbara)

[122] *Analyzing Clovis Points using Digital Morphometrics: Evidence for Direct Transmission of Technological Knowledge*

The Clovis point is the principal diagnostic artifact of the earliest well-documented archaeological complex in North America. In only a few hundred years, Clovis points spread throughout the continent, but the archaeological record provides few clues of how they traveled so far, so fast. In this study, we analyzed flake scar patterns of Clovis points using 3D laser scanner models and digital morphometrics. Clovis points from different sites exhibit greater bifacial uniformity than those replicated by a single modern knapper, indicating that Clovis manufacturing technology was not easily copied and most likely required direct transmission of knowledge between groups.

Sholts, Sabrina [122] see *Kuzminsky, Susan C.*

Short, Laura (Texas A&M) and Laura O'Halloran (Texas A&M)

[71] *Acorn processing in Texas*

Depending on how one counts, there are over 200 species of oaks in North America. The oaks' defining feature is the acorn. This hard little fruit has provisioned many different groups throughout North America for millennia prior to European contact. This poster explores acorns as a food source, and their use among pre-Columbian Texans in particular. Significantly, there is very little direct archaeological evidence for acorn consumption—research relies on a combination of ethnographic data and the presence of processing tools and/or preserved acorn shells. Residual acorn starch may provide strong direct evidence of acorn processing.

Shurack, Nikki (National Park Service)

[37] *The Role of Ceramic Stylistic Variation in an Aggregated Setting in Southwest Colorado*

The nature and extent of group interaction throughout the transition to more complex social arrangements during the Pueblo I period in the Southwestern Colorado region remains poorly understood. This research examines ceramic stylistic variation in an aggregated environment dating to AD 750-850 near Durango, Colorado. Excavation of over 80 pit structures yielded nearly 100,000 ceramic sherds, including 80 intact or reconstructable white ware bowls. Analysis of design elements, structure, and layout reveal clues about the ethnic identity of converging groups. Changes in design style reflect changes in the manner of group interaction over time.

Shuttleworth, Andy (University of Liverpool), Larry Barham (University of Liverpool) and Susanne Shiltz (Oxford University)

[27] *Latitudinal Trends in Hunter-Gatherer Societies*

An analysis of over 30 hunter-gatherer societies from different climatic regions has highlighted several behavioral trends which are

linked to the latitudinal placement of a society. The analysis highlights specific behaviors such as kinship, art expression and spatial use which have not previously been linked to latitudinal location, and supports the work of Oswalt (1976) and Roscoe (2004). This paper emphasizes how latitude acts as a predictor for hunter-gatherer behaviour, and proposes how this variable can be used for modeling the behaviors of prehistoric populations of *H. sapiens* and *H. neanderthalensis*.

Siegel, Peter E. [97] see Jones, John G.

Sierra, Luis [87] see Condon, Peter C.

Sievers, Christine (University of the Witwatersrand, Johannesburg, SA)

[151] *Experiments with Fire and Carbonization of Buried Seeds*
Large frequencies of carbonized sedge nutlets were found in a dry shelter, Sibudu Cave, South Africa, that was occupied between 77,000 and 35,000 years ago. The nutlets were probably part of reed bedding that became burnt, perhaps post-depositionally. Experimental fires were designed to test the hypothesis. Below ground temperatures were recorded for different fuels, matrices, wind and ambient temperatures. Buried plant material carbonized at temperatures even as low as 160 °C when these were sustained for several hours. Thus fires built above ancient occupation floors can serendipitously carbonize and preserve seeds and other plant material long after its deposition.

Sievers, Colleen (BLM Rock Springs Field Office)

[223] *"I can hardly give you an idea of this wonderful place."*
The South Pass Area Historical Study was the first comprehensive analysis of historical documentation combined with intensive field analysis of 19th century activities along the trail ruts of the Oregon, California, Mormon Pioneer, and Pony Express National Historical Trails. The study resulted in the documentation of 108 miles of historic trail with more than 90% of the trail being easily identifiable with intact trail setting much as it was 150 years ago. South Pass played a critical role in the lives of half-a-million ordinary Americans between 1840 and 1870 on their way to new homes in the West.

Sievers, Colleen [75] see Bryan, Karina

Sievert, April [139] see McKillop, Heather

Silverman, Shari (Post Rain Arroyo)

[120] *Cultural Influences on Transportation and the Archaeological Record in Western North America*
Economic, environmental, and political factors influence transportation modes within western North America. Although these influences can be seen throughout the archaeological record, North American travelers currently experience it at an accelerated pace. Increasing costs of living, high gasoline prices, job loss and other economic stresses, intensified constraints across political borders, and city and rural infrastructures are altering the way people travel, and their destinations, work or otherwise. In addition, cultural changes, such as views on recycling and litter, alter the archaeological record.

Silverstein, Jay (JPAC/U of Hawaii), Daniel Jones (University College London) and Robert Littman (University of Hawaii)
[92] *Archaeology in the Nick of Time: Saving Graeco-Roman Thmuis, Egypt*

The surviving ruins at Tell Timai represent nearly an entire city with a history ranging from the dawn of Hellenistic Egypt to the coming of Islam. The once prominent Nile Delta center of trade, manufacturing, and politics amazingly still stands as a jumble of mudbrick buildings. Yet these structures which have endured so much history are yielding with ever-increasing rapidity to encroachment from the neighboring towns. Work begun in 2009 offers a hope of respite from the pending destruction and new insights into the organization of religion and economy of the Delta in Late Antiquity.

Simborth, Erika [188] see Burkholder, Jo Ellen

Simsek, Jan (University of Tennessee)

[104] *Dark Pathways: Prehistoric Cave Art as Ritual Framework*
Detailed documentation in a number of southeast US prehistoric cave art sites has shown that these sites are organized in content and location on a cave-wide scale, suggestive of sequential or processional utilization. These cave art sites were not passive art expositions but rather active places where complex ceremonies were carried out and rituals performed. Similar organizational characteristics are present in the earlier cave art from southwest Europe, suggesting similar, active utilization of those caves in some of humanity's earliest ritual performances. Prehistoric cave art, thus, had both aesthetic and functional importance in these two cases.

Simsek, Jan [62] see Blankenship, Sarah A.; [22] see Sherwood, Sarah C.

Simmons, Alan (University of Nevada Las Vegas)

[186] *The Earliest Prehistory of the Mediterranean Islands—New Developments from Cyprus*
Akrotiri Aetokremnos is a late Epipaleolithic site on the island of Cyprus that was excavated some 20 years ago. It is a contentious locality since it is currently is one of the oldest well-documented sites in the Mediterranean islands, and, more controversially, we have claimed that it represents a rare Pleistocene extinction scenario that directly implicates humans and pygmy hippopotami. Recent investigations on the island have claimed contemporary or even earlier sites, and new studies at Aetokremnos itself have provided additional data. Particularly significant is evidence for the presence of human-imported pig at the site. This report summarizes these recent developments.

Simmons, Scott (University of North Carolina Wilmington)

[139] *Dispositions of the Dead: Spanish Contact Period Burial Patterns in the Southern Maya Lowlands*
Human burials examined at the ancient Maya site of Lamanai, Belize provide some insights into the impacts of Spanish colonialism on traditional Maya lifeways. In a great number of instances the Maya of Lamanai were buried in one of the site's Spanish colonial mission churches. Yet in other cases community residents were buried away from the churches in more traditional positions typical of interments dating from precolumbian times. The research presented here examines the contexts and dispositions of burials dating from Spanish contact at Lamanai and compares these with burial patterns reported from contemporaneous sites in the Southern Maya Lowlands.

Simms, Steven (Utah State University)

[248] *The Case for Fremont Villages and Cultural Complexity*
The Southwestern heritage of the Fremont, sedentism, and irrigation were acknowledged in the 1930s. Later efforts to distinguish the Fremont and more excavation indicated Fremont settlements were small, with little cultural complexity. These interpretations are suspect in their use of negative evidence and sampling. Arguments for Fremont complexity returned in the 1990s and evidence now exists for Fremont villages, residential cycling, and dispersed communities. The Fremont is part of a trend toward landscape scale pathways to inequality and complexity in social structure among farmers and some foragers in the Late Holocene Desert West, especially when populations peaked after 1500 B.P.

Simon, Arleyn (Arizona State University), Jennifer Huang (Bureau of Reclamation) and Tina Carpenter

[100] *Demarcation of the Landscape; Rock Art Evidence for Alliance, Conflict, and Subsistence at Perry Mesa, Arizona*
The villages of Perry Mesa, Arizona, occupied during the late AD 1200 – 1300s, are posited to have formed alliances to provide defenses for this high mesa and its agricultural production and stores. Ongoing rock art surveys at the Agua Fria National Monument by the ASU Deer Valley Rock Art Center sponsored by the BLM provide a

unique perspective on symbolic demarcation of the landscape near Baby Canyon Pueblo, Lost Jupiter, Sycamore Terrace, and Pueblo La Plata areas. We use survey results and regional comparisons to examine themes and styles of designs, landscape positioning, and issues of alliance, conflict, and subsistence.

Simon, Mary (Illinois Transportation Archaeological Research)

[83] *Indications for Middle Mississippian Period Plant Use from the Orendorf Site in Illinois*

Settlement D at the Orendorf site is part of a large, Middle Mississippian fortified town that was catastrophically burned some time around A.D. 1250. Consequently excavations conducted during the 1970's produced a wealth of macrobotanicals from a variety of contexts, including burned houses and internal pits. Analysis of these materials was re-initiated in 2009, and is ongoing. Here we summarize the results of work conducted to date and discuss some of the implications of these finds for understanding Middle Mississippian foodways, ceremony, and use of the local environment in the central Illinois River valley.

Simon, Nora (College of Wooster)

[184] *The Road to Salvation: Medieval Pilgrimage to Canterbury Cathedral*

This study examines the material remains along the popular medieval pilgrimage route to the shrine of Saint Thomas Becket at Canterbury Cathedral. The goal is to catalog the towns, sacred and secular facilities, and natural features along the route from Winchester to Canterbury. Locales and features are analyzed in terms of Renfrew's model for identifying sites of ritual importance, while the act of pilgrimage is described as a rite of passage using Turner's theory of liminality and *communitas*. The entire route is analyzed as a ritual, or sacred, landscape of late medieval England.

Simpson, Duane [150] see Scholl, Nathan C.

Simpson, Erik (Salmon Ruin - Division of Conservation Archaeology)

[152] *A Settlement Pattern Analysis of Adaptation and Continuity in the Upper San Juan and Gallina Highlands*

The populations of the Gallina region are considered to have their origins in the Upper San Juan region of northwestern New Mexico and southwestern Colorado. This interpretation has been hampered by an apparent occupational hiatus. A thirteen century analysis of settlement patterns from the two regions suggests that cultural continuity does exist and that the occupational hiatus is the result of research bias.

Simpson, Steve [202] see Dennett, Carrie L.

Sims, Marsha (Nat Resources Conserv Svc)

[249] *A Case of Avoidance is the Name and Snake Hunting is the Game, A Use for Scapula Hoes*

Avoiding cultural resources provides a means of mitigation. Some examples in this study show resources avoided and the complications, and the also benefits of hypotheses. This research supports previous hypotheses that humans reduced stone tools, flakes, and landscapes throughout the Plains and Rocky Mountains in the form of fauna such as snakes and birds similar to other areas of the U.S. Hunting techniques, culture history, and uses of scapula hoes demonstrate a connection to snake hunting, veneration of fauna established in past cultures, and hunting other fauna. The snake appears in the fluted symbol on Paleoindian points of past cultures.

[249] *First Chair [249] First Chair*

Sinclair, Chloe (Santa Monica College), Brandon Lewis (Santa Monica College) and Scott Guzman (UCLA)

[112] *Examination of Elite Lineages at the Ancient Maya Site of La Milpa*

The Three Rivers Archaeological Project represents a regional research program aimed at elucidating the nature of Maya political, social, and economic integration. Toward this end, extensive research

is being undertaken at the primary center of La Milpa, located in northwestern Belize. As part of a multi-institutional investigation, we are examining the role of elite lineages within the developmental trajectory of La Milpa. Ongoing research at two separate courtyard groupings within the site epicenter has shed critical insight into the long-term historical development and overarching political economy of this polity.

Sindbaek, Soren (University of York, UK)

[113] *Broken Links and Black Boxes: Material Affiliations and Communication Networks In the Viking World*

Flows of communication in past human societies almost certainly had a character of complex, dynamic networks. Archaeology offers data, which preserve patterns of such networks, yet are anything but conventional sources on human interaction. Presenting fragmentary samples of material affiliations, their analysis resembles the famous 'Black Box' problem of electronics: Knowing only the outputs, can we reconstruct circuits that would generate the observed patterns? Issuing from a case-study of Viking-period interaction in the North Sea Region, this paper demonstrates how this problem can be negotiated by combining traditional, contextual interpretation of distribution maps with formal network analysis and modelling.

Sisk, Matthew (Stony Brook University) and John Shea (Stony Brook University)

[82] *The Use of Cross-Sectional Perimeter in Modeling Stone Projectile Point Use*

This paper continues recent work analyzing simple metrics of stone points as potential indicators of use as projectile armatures (arrowheads, spearthrower dart tips), thrusting or hand cast spear points. Previously a ballistics measurement, tip cross sectional area (TCSA), has been the primary metric classification of use. Here we use a related measure, tip cross sectional perimeter. It is felt that this is a better overall measure because when an arrowhead penetrates, the target is sliced and not pulverized (as with a bullet). Experimental and archaeological data will be presented and compared with studies using TCSA.

Skibo, James (Illinois State University) [208] First Organizer; [208] First Chair

Skinner, Anne (Williams College), Bonnie A. B. Blackwell (Williams College), Charles F. Shafer (Williams College), Pierre Guibert (Université de Bordeaux) and Tenzing Tsomo (RFK Science Research Institute)

[8] *ESR Dates for the Mousterian Layers and Neanderthal Infant at Roc de Marsal, Dordogne, France*

Roc de Marsal yielded an articulated Neanderthal infant skeleton and Quina Mousterian assemblages overlying those dominated by Levallois types. Using standard ESR, 23 teeth have been dated. External dose rates were measured by volumetrically averaged geochemical sedimentary analyses and TL dosimetry. The teeth's low U concentrations ensure that the ages are independent of the U uptake rate. Layer 2 dated at 45 ± 3 ka (OIS 3), Layer 4 at 78 ± 3 ka (OIS 4-5a boundary), and Layer 9 at 74 ± 3 ka. Layer 1 ages varied, probably due to proximity to large *éboulis* blocks or post-depositional disturbance.

Skinner, Anne R. [161] see *Blickstein, Joel IB*; [259] see *Blackwell, Bonnie A. B.*

Skousen, Benjamin (Brigham Young University)

[134] *The Meaning of "Monkey Pots" and their Implications for the Late to Terminal Classic Transition in the Mirador Basin*

Overall, this paper focuses on "monkey pots," a particular kind of pottery vessel found throughout the Maya world. In this study, two kinds of monkey pots from the Mirador Basin are examined – one from the Late Classic period (AD 680-800) and another from the Terminal Classic period (AD 780-830). I compare the functional, decorative, and contextual data for each type of monkey pot, infer the vessels' meaning to the ancient Maya, and determine whether these

meanings changed through time. Finally, I discuss the implications of these monkey pots for the Late to Terminal Classic transition in the Mirador Basin.

Slater, Donald (Brandeis University & Robert S. Peabody Museum)

[148] *Seeking Xibalba: Preliminary Investigations of the Central Yucatan Archaeological Cave Project (CYAC)*

CYAC's preliminary investigations have revealed a vast abundance of cave features within the Yaxcaba Municipal region of Yucatan, Mexico. The 50+ caves documented thus far, including caverns, rejolladas, cenotes, and rockshelters, represent merely a fraction of those visible via remote sensing. However, the data gathered from this sample is beginning to uncover interesting clues about the timeline and ritual use of the area's caves. Evidence of cave/chamber termination, and the discovery of offerings, cosmograms, ritual pathways, rock art, and unusually placed architectural elements, presents new opportunities for the interpretation of socio-political and religious power relations among the region's pre-Hispanic Maya.

Slaughter, Mark (Bureau of Reclamation), Laureen Perry (Bureau of Reclamation), Pat Hicks (Bureau of Reclamation) and Renee Kolvet (Bureau of Reclamation)

[211] *Site Visibility along the Lower Colorado River*

Despite being arguably the most reliable source of water in the arid Southwest, research along the lower Colorado River has uncovered limited evidence of prehistoric Native American habitation. The ethnographic and ethnohistoric data indicate that significant populations were in-place when contacted by Europeans and later explorers. This paper explores natural and cultural processes that can help explain limited site visibility along the lower Colorado River.

Slaughter, Mark [200] see *Jensen, Eva*

Sload, Rebecca

[107] *The Iconography of the Underworld at Teotihuacan, Mexico*

Logically, it appears that the cave under the Pyramid of the Sun has ideological precursors outside of Teotihuacan because its initial use was quite early in the city's history. The cave's construction apparently mostly contemporaneously and the lack of any known earlier ritual caves inside the city limits indicate beliefs that were established at conception and originated elsewhere. Formative period cave iconography is explored and similarities are found between Olmec and Ixapa cultures and Teotihuacan in the way caves and the underworld are represented. That iconography is presented here, along with the practices and beliefs it suggests.

Slobodina, Natalia (University of Washington)

[194] *Explaining Social Complexity in the Bering Strait Region*

While most fieldwork in the Bering Strait region took place within a unilinear evolutionary framework, recent reevaluation of the radiocarbon dates and other data provides a picture of a patchwork of different concurrent polities which were interacting through trade, warfare, intermarriage, or slavery. Mason (1998) uses Renfrew's (1986) Peer Polity Interaction model in his attempt to explain the region's complicated interactions, but this model does not explain their emergence. It is suggested that a contextual explanation, similar to Bunge's (2004) "model of a model" will eventually be accepted for the development of peer polities and social complexity in the Bering Strait.

[194] *Second Chair [194]* *Second Organizer*

Small, David (Lehigh University)

[78] *Can we Develop a Structural Cross-Cultural Archaeology?*

The advent of post-processual archaeology and the salient features of current structuralist approaches to anthropology appear to make a cross-cultural archaeology which seeks to understand social structure in cultural comparison almost impossible. In this paper I will outline an approach that develops structural models that are amenable to cross cultural study, and indicate how we can use them in future work. My examples will come from the Classical Mediterranean and the Mayan

New World.

[78] *First Organizer, [78]* *First Chair*

Smallwood, Ashley (Center for the Study of the First Americans Texas A&M University), D. Shane Miller (University of Arizona) and Doug Sain (Eastern New Mexico University)

[90] *An Overview of the Clovis Lithic Assemblage from the Topper Site, South Carolina*

The Topper site is one of only two excavated Clovis sites in the Atlantic Coastal Plain of Georgia and the Carolinas. The buried Clovis lithic assemblage includes discarded tools and debitage that resulted from the production of bifaces, blades, and a variety of unifacial tools. This paper will review the lithic record at the Topper quarry to present aspects of the toolkit and technological organization used by the site's Clovis occupants. With the dearth of stratified sites in the Southeast, Topper adds new information about the late-Pleistocene occupation of eastern North America.

Smith, Abigail (Washington University in St. Louis)

[214] *Archaeological Population Origins, As Revealed by Isotopic Analysis*

The remains of six individuals were excavated on Gorée Island, Senegal, a site with intense Afro-European interactions throughout the historic period. Strontium, carbon, and oxygen isotope ratios were calculated from tooth enamel to assess geographic origins. $87\text{Sr}/86\text{Sr}$ and $\text{d}13\text{C}$ values for all but one individual cluster closely and suggest local, African origins. The divergent individual has markedly higher $87\text{Sr}/86\text{Sr}$ and lower $\text{d}13\text{C}$ values than the others, possibly resulting from European origins. $\text{d}18\text{O}$ discrimination was not marked. These results highlight the potential of isotopic analysis to answer questions of origin in similar heterogeneous contexts, especially with increased sample size.

Smith, Angele (Univ of Northern British Columbia)

[117] *Archaeological Landscapes: Exploring Scale, Movement and the Politics of Spatiality*

Spatial analysis has long been considered fundamental to archaeology. More recently archaeologists espousing a more phenomenological approach, contributed to the growing literature of spatial theory by examine social landscapes at a more humanistic and intimate scale. I am concerned with space and spatial relations in understanding social interactions of power. Spatial/social relations are about spatial barriers, spatial opportunities, and/or spatial symbols that exist physically, socially and ideologically. Using case studies from both 19th century and contemporary Ireland, I will explore the use of spatially driven research concerning the politics and representation of spatial scales and the movement across these scales.

Smith, Bruce (Smithsonian Institution) [215] *Discussant*

Smith, C. Wayne [139] see *McKillop, Heather*

Smith, Cameron [203] see *Ames, Kenneth M.*

Smith, Christy (HDR | e²M)

[165] *Partners in Cultural Resources Management*

Tribal consultation is an integral element of cultural resources programs. HDR | e²M has partnered with the Wyoming Army National Guard (WYARNG), and over ten Native American Tribes to successfully integrate American Indian perspectives, cultural insight, and management recommendations into a cultural resources program. Tribal consultation occurs through annual consultation meetings, ethnographic and tribal monitoring projects. This poster illustrates examples of successful consultation projects between the federal and tribal agencies, as well as lessons learned by HDR/e²M archaeologists while working with our cultural resources management partners.

Smith, Claire (Flinders University) [174] *Discussant*

Smith, David [37] *see* Snow, Meradeth

Smith, Geoffrey (University of Wyoming)

[118] *Through Bones and Stones: Assessing Early Holocene Models of Foraging Lifeways in the Great Basin*

Although scant, subsistence residues from early Holocene sites in the Great Basin suggest that Paleoindian lifeways may not have differed from Archaic lifeways as much as previously thought. Here I compare data from both periods and evaluate this possibility using a behavioral ecological perspective. Specifically, I test the hypothesis that early Holocene faunal assemblages differ in prey abundances and species diversity from later assemblages. I also consider the implications of this comparison together with what is known about Paleoindian and Archaic behavior from source provenance studies and analyses of lithic technology. Together, these approaches offer a multi-dimensional view of temporal shifts in human adaptation in the Great Basin.

Smith, George

[237] *Heritage Values in Contemporary Society*

Discussion of heritage in the twenty-first century must include the many voices representing the heritage sector and stakeholders, including but not limited to those in archaeology (university professors; and governmental, private sector, and public archaeologists), law, economics, historic preservation, education, tourism, and indigenous populations, to discuss how the past is valued and how such values can be defined, measured, and applied to public policy, spending, management, education (at all levels), education and training of heritage sector professionals, economic and sustainable development, and delivered services relating to a collective heritage in a manner that is accountable and includes public involvement.

Smith, Heather (Center for the Study of the First Americans), Ted Goebel (Center for the Study of the First Americans, Texas A&M University) and Thomas DeWitt (Texas A&M University)

[21] *Digital Shape Analysis of Clovis Projectile Points*

In this paper we present the results of a shape analysis of Clovis fluted points from 24 sites across North America that are securely dated to the Clovis time period (~11,300-10,800 14C BP). Through shape analysis we can significantly increase the number of measured landmarks on an artifact and more precisely analyze its form to provide a more meaningful statistical expression of its shape in lieu of standard morphometric variables. Through our analysis, we can explore the major factors of variability in Clovis point shape across the continent, especially to determine whether that variability is geographically or temporally patterned.

Smith, Jennifer (Washington University)

[9] *Prospects for Environmental Reconstruction for the Holocene of Dalmatia*

Regional paleoenvironmental reconstruction in the vicinity of the Danilo Bitinj and Pokrovnik sites is critical to an evaluation of the landscape and climatic setting of early agriculture in Dalmatia. Literature currently available from the broader Adriatic region presents conflicting accounts of the timing and nature of environmental change during the Holocene. Analysis of tufas and lacustrine carbonate sediments from the Krka river may provide an archive both of climatic change and of variation in soil erosion rates during the Holocene particularly relevant to understanding subsistence at Danilo and Pokrovnik.

Smith, Jennifer R. [9] *see* Fadem, Cynthia M.; [259] *First Organizer*; [259] *First Chair*

Smith, Karen (Monticello) and Keith Stephenson (University of South Carolina)

[26] *Signaling Theory and Weeden Island Period Mortuary Ritual* Burial mounds associated with Weeden Island culture (ca. A.D. 200-900) are remarkable for their pottery "caches" of several to fifty or more vessels. These mass ceramic deposits have no historical

precedent and, as a result, have been the focus of much empirical work but also considerable speculation. Unsatisfied with a normative explanation that invokes elite mortuary ritual alone, we seek an alternative understanding couched in evolutionary theory of signaling behavior. We use this poster as an opportunity to model the social contexts in which signaling would be advantageous, given our understanding of Woodland period population and settlement dynamics.

Smith, Karen [166] *see* Bell, Alison

Smith, Kevin (Middle Tennessee State University) and Emily L. Beahm (University of Georgia)

[115] *Reconciling the Puzzle of Castalian Springs Grave 34: Scalloped Triskeles, Crested Birds, and the Braden A/Eddyville Gorget*

Castalian Springs Grave 34 was among the first of about 100 interments in Mound 1. Lined with cedar logs, the burial produced five closely associated engraved shell gorgets that brings together the Braden A/Eddyville style Castalian Springs gorget with two examples each of the Cox Mound and Nashville "styles." Recent excavation data, radiocarbon dates, and reanalysis of the entire 1891 Mound 1 mortuary assemblage suggest that Burial 34 was created about A.D. 1225-1275. This Classic Braden connection may have served as one inspiration for the Late Braden "spin-off" style reflected most clearly in the Thruston Tablet.

Smith, Kevin [217] *see* Moore, Michael Carter

Smith, Kevin E. [115] *see* Sharp, Robert V.

Smith, Lisa (University of Montana), Anna M. Prentiss (University of Montana), Dana Lepofsky (Simon Fraser University), Eric S. Carlson (University of Montana)

[39] *Resource Intensification at Bridge River: A Case Study in Subsistence Practices of Complex Hunter-Gatherers*

Resource intensification is often a fundamental component of the development of complex hunter-gatherers societies. However, archaeologists seldom have the spatial and temporal data needed to actually track this process. In this paper we present results of multi-disciplinary research into subsistence intensification at the Bridge River site, British Columbia. More specifically we examine variability in the use of different plants and animals over time recognizing that predation history may vary with predation context, prey target, and predator group. Consequently, we look for indicators of intensification in multiple data sets at the household as well as village scale.

Smith, Micah [45] *see* Schauer, Matt

Smith, Michael (Arizona State University)

[156] *Xochicalco and Calixtlahuaca as Mesoamerican Hilltop Political Capitals*

The political capital located on a hilltop was a distinctive form of urban settlement in prehispanic Mesoamerica. Xochicalco and Calixtlahuaca are two of the more intensively researched of these sites within central Mexico. I compare and contrast these two cities, focusing on topographic setting, urban layout and planning, monumental architecture, and residential neighborhoods. Similarities and differences between Xochicalco and Calixtlahuaca are used to generate hypotheses about the forms and functions of hilltop capitals that can be evaluated against other Mesoamerica examples, from Monte Alban to Utatlan.

[219] *see* Walz, Gregory R.

Smith, Monica (UCLA)

[1] *6,000 Years of Urbanism: The Archaeology of Cities Past and Present*

A city is brought into existence not only by the leaders who organize spaces and monuments but also by the many thousands of people who construct, maintain, and live in those spaces. The trajectory towards social complexity and its most elaborate physical

manifestation, the urban form, has as its foundation each individual's cognitive capacity for dense social, ritual, economic, and political networks. Archaeological research at Sisupalgarh in eastern India provides the opportunity to look at the household, neighborhood, and civic level of interaction in the ancient city from the perspective of ordinary inhabitants.

Smith, Scott (University of California, Riverside), Adolfo Pérez Arias (Universidad Mayor de San Andrés) and Maribel Pérez Arias (University of Pittsburgh)

[47] *Iruhito: A Rural Riverside Community in the Tiwanaku Heartland*

Located on the banks of the Desaguadero River in the Altiplano region of Bolivia, the site of Iruhito presents a fascinating opportunity to examine long term dynamics in the Lake Titicaca Basin. Preliminary research indicates that the site was first settled toward the end of the Early Formative period (1500 – 800 BC) and was continually occupied through the emergence and subsequent disintegration of the Tiwanaku state. This paper synthesizes the results of preliminary investigations conducted at Iruhito and outlines the direction of future research at this important site.

Smith, Stephen [74] see *Munoz, Cynthia M*

Smith, Tina [76] see *Whittington, Stephen L.*

Smyth, Michael (Foundation for Americas Research/Rollins College)

[96] *Storage, Tribute, and Political Administration among the Lowland Maya*

Storage, the setting aside of food and goods for future need and investment, was of critical importance to ancient Maya political economies. Even though the Maya occupied a tropical environment, the growing season was not year-round and many environmental factors limited surplus production. Under these conditions, the maintenance of large agricultural populations required substantial investment in storage. Clearly, the political administration of tribute collection was fundamental to elite power structures and the organization of storage can reveal much about the Maya political economy. This paper will explore differences in storage strategies, how and where goods are stored and how stored goods are administered, as a way to reconstruct political structure among the Maya.

Snead, James (George Mason University) [1] First Organizer, [94] Discussant; [110] see *Reed, Paul F. [127] Discussant*

Snow, Dean (Pennsylvania State University)

[24] *Making the Most of Cyberinfrastructure*

Problems in cyberinfrastructure development fall into strategic, tactical, and technical categories. I argue that we tend to focus on the last and neglect the other two, to the potential detriment of archaeology. Disciplines vary in what are considered data, the sizes of data sets, the ease of data acquisition, standards of confidentiality, when and how data should be made public, and opinions regarding what should be preserved over the long term. Current efforts to foster cyberinfrastructure in the social and behavioral sciences are dominated by social scientists who tend to work with large survey data sets on a narrow range of problems. While there is considerable variation in standards and objectives within anthropology alone, anthropological standards and practices fall largely outside the realm of the dominant social sciences. Standards and practices in archaeology are at particular risk of being marginalized as science moves forward in this critically important endeavor. This paper discusses ways in which archaeologists can establish links to other disciplines having similar strategic and tactical goals so that archaeology is not left behind in the larger cyberinfrastructure effort.

[93] *Discussant*

Snow, Meradeth (UC Davis), David Smith (UC Davis) and Steven LeBlanc (Peabody Museum, Harvard University)

[37] *Ancient DNA in the Southwest United States and Mesoamerica*

Mitochondrial DNA from dental samples taken from the NAN, Swartz Ruin and other Mimbres sites is compared with that from other ancient and modern samples around the greater Southwest to better understand how the Mimbres Culture fits into the region. Preliminary data from the southern outpost of the Southwest, the Casas Grandes (Paquime) site in Chihuahua, Mexico, was also analyzed to test the hypothesis that the Mimbres and/or other Southwest populations were related to Mexican populations further south. Preliminary results suggest the Mimbres haplogroup frequencies are similar to those found in other prehistoric Southwest populations.

Sobel, Elizabeth (Missouri State University)

[203] *Contact-Period Shifts in Native Exchange Systems: Obsidian*

Evidence from the Southern Northwest Coast of North America
Anthropologists widely assume that during the early decades of European arrival on the Northwest Coast of North America, the intensity and geographic scope of Native exchange systems increased. However, this model is based on ethnohistory and remains untested by archaeology. I address this problem with an archaeological analysis of pre-contact and post-contact obsidian artifacts from Cathlapotle, a Chinookan town site located along the Columbia River (Washington). The results support the assumed increase in the intensity of exchange, but not the supposed increase in the geographic scope of exchange activity in this region.

Sobur, Marta (Harvard University)

[92] *Shell Craft Production in South-Eastern Arabia during the Iron Age II*

The shell finds repertoire from Muweilah, an Iron Age II (1100-600 BC) desert settlement located in the United Arab Emirates, indicates intensive exploitation of marine molluscan resources from the Persian Gulf lagoons. Beyond constituting a readily available dietary reserve, shellfish was exploited for the production of utilitarian and decorative items in a versatile domestic economy. This study presents the evidence for shell craft production at Muweilah in attempt to elucidate those technological strategies, interests and needs of the Iron Age societies, which conventionally remain eclipsed by the advances in metal tool production in the region of south-eastern Arabia.

Soderland, Hilary (Boalt Hall, UC-Berkeley) [237] First Organizer; [237] First Chair

Solis, Felipe (Asesorias arqueológicas) and Anayensy Herrera (Asesorias Arqueológicas)

[191] *Mesoamericans at the Jicaro Site, Bay of Culebra, NW, Costa Rica*

Archaeological research carried out at the Jicaro site over the last four years, yielded a total of 16 radiocarbon dates indicating it was inhabited from 1000 to 1350 A.D. by a population whose sociocultural practices and physical characteristics ties it to the Mesoamerican migrants mentioned in the XVI century's ethnohistorical documents. The findings are compared to those of others at the Bay of Culebra to establish similarities and differences amongst the coetaneous populations in the region, in order to discuss changes wrought by the Mesoamerican immigrants as well as continuities product of interaction among populations of different historical identities.

Solis, Wendy (Trent University)

[5] *Ancient Maya Exploration of the Jute (*Pachychilus* Spp.) at the Site of Minanha, West Central Belize*

In contrast to the research on marine shell exploitation in the Maya subarea, a limited number of studies have been published on Maya utilization of available freshwater molluscan resources. Although it was originally assumed that these molluscs only served a dietary purpose, detailed analyses of the jute (*Pachychilus* species) shell collection from the ancient Maya site of Minanha, in West Central Belize, suggests that jute entered the archaeological record through a diverse array of processes, only some of which involved consumption.

Somers, Lewis [251] see *Hargrave, Michael L.*

Song, Yuqin [189] *see Liu, Haiwang*

Sonnenburg, Elizabeth (McMaster University), Aubrey Cannon (McMaster University), Eduard Reinhardt (McMaster University) and Joseph Boyce (McMaster University)

[29] *Paleoenvironmental Reconstruction and Water-Level Fluctuations: Implications for Understanding of Paleoindian and Archaic Archaeology in Southern Ontario*
Rice Lake has been continuously occupied for over 12,000 years. Despite its rich archaeological record, large areas of shoreline have been inundated by rising Holocene water-levels, limiting understanding of Paleoindian and Archaic subsistence strategies and settlement patterns. To gain a better understanding of the submerged landscape of Rice Lake and identify areas of archaeological interest, a geophysical survey and sediment coring program was initiated. Quartz microdebitage dating to 10,700 YBP was found in cores extracted adjacent to a terrestrial Archaic archaeological site. Paleoenvironmental reconstruction indicates Paleoindian peoples were exploiting resources associated with wetland/marsh environments and choosing easily accessible materials.

Soruco Saenz, Enrique [199] *see Ohnersorgen, Michael*

Suth, Katherine E. [169] *see Meissner, Nathan J.*

Spangler, Jerry [238] *Discussant*

Spanos, Mary (Anthropological Textiles)

[26] *Public Archaeology: Balancing a Need for Clothed Museum Figures with a Limited Archaeological Record*
The humid climate of the North American Southeast preserved limited archaeological data to inform us about the prehistoric clothing of that region. This poster presentation will discuss how ceramic impressions of yarn and cloth were combined with prehistoric art and early explorer chronicles to outfit the life-size Woodland and Mississippian figures in the new archaeology museum at the University of South Alabama. The museum's chronological tour of the history of the Gulf Coast includes a French trader in 1750 and a former slave in 1900. Samples from the reproduction garments for these prehistoric and early historic figures will be available.

Spatz, Ashton (Moraine Valley Community College)

[92] *An Examination of PPNB Marine Mollusc Shell Exchange Networks in the Southern Levant*
There has been speculation surrounding the mechanisms involved in the long-distance exchange of marine shell in the PPNB Levant. Thus, mollusc assemblages, including both Red and Mediterranean Sea shells, from several PPNB sites in the southern Levant are examined to access if they conform to a down-the-line exchange model. The shells are also analyzed to determine if they are being exchanged as raw material or finished products. Preliminary evidence supports the trade of shells via down-the-line exchange networks during the PPNB. However, the form in which these molluscs are exchanged appears to differ based on their source.

Speakman, Robert (Smithsonian Institution), Christine France (Smithsonian Institution), Nadia Jimenez Cano (Smithsonian Institution), Nicole Little (Smithsonian Institution), and Paul Sheppard (Smithsonian Institution)

[161] *Stable Isotopic and Chemical Indicators of Volcanic Eruptions in Tree Rings from Parícutin, Mexico—Implications for Dating Prehistoric Eruptions*

Annual growth rings obtained from well dated cores from Parícutin, Mexico reflect unique chemical signatures that coincide with a known volcanic eruption (1943-1952). Carbon isotopes spike (~3‰) during the eruptive period then return to baseline values. These data in combination with other stable isotopic indicators and increases in phosphorus, sulfur, and possibly other elements, suggest a unique set of chemical inputs from the eruption. The analytical approach developed here potentially can be used to date unknown eruptions,

such as the eruption of Sunset Crater (ca. 1100 AD) which historically has relied on the identification of growth anomalies in dendrochronological sequences.

[123] *Third Organizer [161] Third Organizer*

Speakman, Robert [161] *see Wolff, Christopher B.; [161] see Inanez, Javier G.*

Speer, Charles (University of Texas at San Antonio)

[200] *Understanding the Effects of Heat Treatment in Edward's Plateau Chert*

This project attempts to explain the effects of heat treatment on Edward's Plateau chert. The use of heat treatment to improve the flaking characteristics of lithic material appears to have been a widespread phenomenon. However, little work has been done to determine the effects thermal alteration has upon various types of chert. Experiments were performed to elucidate those physical transformations that result from heat treatment, which included uniform heat treatment of standardized rock samples, color and luster shifts, Vickers Hardness testing to examine flaking potential, and pressure flaking. Lastly, the application of this knowledge to archaeological problems is assessed.

Speer, Jim [234] *see Hansen-Speer, Karla*

Speller, Camilla (Simon Fraser University), Cara Monroe (Washington State University), Dongya Yang (Simon Fraser University), Scott Wyatt (Washington State University) and William Lipe (Washington State University)

[84] *Origins of Southwestern Domestic Turkeys*
Mitochondrial DNA (mtDNA) was analyzed from 200 archaeological and modern turkey remains to investigate the origin and distribution of turkey stocks within the Southwest. Nearly 80% of the turkey specimens, recovered from 37 sites dating from the Basketmaker II through Pueblo IV periods, display a single mtDNA haplotype, indicating human control of breeding. Although genetic data rule out the South Mexican turkey (*M. gallopavo gallopavo*) as a progenitor, three other subspecies (Merriam's, Rio Grande, and Eastern wild turkeys) may have contributed to Southwestern domestic stocks. Our data also support exploitation of wild birds in conjunction with the domestic bird.

Speller, Camilla F. [203] *see Yang, Dongya*

Spencer, Darla (Cultural Resource Analyst)

[247] *Results of a Stylistic Analysis of Late Prehistoric and Protohistoric Pottery Assemblages from Southern West Virginia*
Excavations at the Burning Spring Branch site (46Ka142) on the Kanawha River in 2001 revealed a pottery assemblage that exhibited Siouan-style attributes, such as corncob impressing as a surface treatment. A recent stylistic analysis of pottery from contemporaneous sites in southern West Virginia determined that the use of this surface treatment was extensive. This paper will present the results of the analysis and discuss the implications for determining cultural affiliation for these village sites and the possibility that Siouan-speaking groups migrated through West Virginia and inhabited the southern river valleys.

Spengler, Robert (Washington University in St. Louis)

[189] *Plants in the Diet of Mobile Pastoralists: Semerich'ye, Kazakhstan, during the Bronze and Iron Age Interface*
The geographic area encompassing the mountain-border between China and the countries of Central Asia has been a pivotal location in shaping Eurasian history, playing a major role in the spread of culture. The role of agriculture in Bronze and Iron Age Central Asia has been an issue debated over for decades. I address this issue through a cross-site analysis of paleoethnobotanical remains recovered through flotation. Comparative archaeobotanical analysis from the recently excavated sites of Begash, Mukri, and Tuzusai in the Semerich'ye region of southeastern Kazakhstan elucidate patterns of plant use at each site through time and in environmentally

different locals.

Speth, Janet

[83] *The Orendorf Avifauna Revisited*

Earlier papers on the Orendorf avifauna dealt with species composition, habitat exploitation and dietary contribution. The avifauna is now examined to determine spatial and temporal differences in avifauna in the area of Settlement C. The distribution of elements across the site will also be examined in light of taphonomic and social factors.

Spielmann, Katherine (Arizona State University)

[176] *Temporal Variation in Structures at Seip Earthwork*

Two projects comprising several seasons of excavation in a small portion of the Seip earthwork have uncovered the remains of three different and stratigraphically distinct types of architecture. Two of these structural types have counterparts at or near other Hopewell earthworks; the third remains somewhat of an enigma. This paper discusses and compares the intense, recurrent use of this portion of Seip with architectural evidence from other Hopewell earthworks, and considers possible explanations for the change in architectural construction across the centuries the earthwork was used by Hopewell people.

[12] *Discussant*; [100] *see Abbott, David R.*; [154] *Discussant*

Spieß, Arthur [224] *see Lothrop, Jonathan C.*

Spivey, S. (Washington University in St. Louis) and Tristram Kidder (Washington University in St. Louis)

[251] *The Origins of Poverty Point*

Recent research suggests the origins of the Poverty Point-related sites in the Mississippi Valley are more complex than previously thought. Chronological data indicate an occupation hiatus in the Poverty Point site region between 4800-3600 cal B.P., while new data from Jaketown in west-central Mississippi shows it to be earlier than the earliest occupation at Poverty Point. This paper reviews extant interpretations of Poverty Point origins and argues it is best understood as the synthesis of multiple ethnic groups with distinct histories who came together at the type site for social, economic, and religious reasons.

Sportman, Sarah (University of Connecticut)

[117] *Daily Practice, Social Identity and the Organization of Domestic Space at Hammondville, NY, 1870-1900*

This paper utilizes a practice approach to interpret differences in the organization of domestic space among five residential structures at Hammondville, NY, a late 19th century, multiethnic, company-owned mining town. Artifacts recovered through systematic testing of house-yard areas were entered into Surfer®, a mapping program, to create distribution maps of material culture and faunal remains to define activity areas for food processing, rubbish disposal, domestic labor and leisure. Comparisons of spatial organization among households of different economic levels and ethnicities illuminate the ways Hammondville residents, as social agents, expressed their identities and negotiated the structured material world of a company-owned village.

Spurr, Kimberly (Past Peoples Consulting) and Stewart Deats (EnviroSystems Management, Inc.)

[158] *Mortuary Behavior, Social Dynamics, and the Transition from Life to Death in the Prescott Culture of Arizona*

Early archaeologists characterized the Prescott, Arizona, area as a cultural hinterland that received trade goods, people, and ideas from other regions, with few indigenous developments. Expanded research over the last decade has verified relationships between the ceramic-period Prescott Culture and surrounding groups, but demonstrated more complex internal social dynamics than was previously acknowledged. Mortuary ritual reflected in the archaeological record presents an opportunity to investigate social dynamics, status, and the appropriate disposition of corporeal remains upon death. This paper will use demographic data and patterns in mortuary

assemblages to explore the performance of mortuary ritual in the Prescott Culture.

Stafford, Thomas (Stafford Research, Inc.), Dennis Jenkins (Museum of Natural and Cultural History, University of Oregon) and Loren Davis (Oregon State University)

[62] *AMS 14C Geochronology of the Paisley Caves' Deposits, Oregon*

Radiocarbon dating of plant and vertebrate fossils, bone artifacts and human coprolites, and midden and guano deposits provide the foundation for the geochronology of the early human occupation site. Depositional processes, bioturbation, archival carbon and organic chemical deposition and remobilization all affected the chronology. Determining accurate chronologies used physical stratigraphy, taxon-specific plant identifications and understanding organic geochemical overprints and how to eliminate secondary carbon problems. Radiocarbon dates span high pluvial lake stands that deposited sands in the base of Cave 2 to the early Holocene, and enable accurate dating of pre-Clovis occupations and the late Pleistocene megafauna extinction.

Stafford, Tom [122] *see Erlandson, Jon McVey*

Stafford, Jr., Thomas [224] *see West, Allen*

Stahl, Ann

[17] *Complementary Crafts: Metallurgy, Potting and Inter-Regional Trade in Banda, Ghana*

The inclusion of crushed iron slag in ceramic fabrics associated with Ngre and Kuulo phase occupations of the Banda area, Ghana suggests a relationship between a craft assumed to have been the province of men (metallurgical production) and one assumed to have been the province of women (potting). Drawing on archaeological evidence, the paper focuses on innovation and decline in this practice through the period of late Saharan and early Atlantic trade (ca. AD 1200-1600) and explores implications for the dynamics of craft production and labor in a period of shifting trade relations.

Stahlman, Kathleen (Powell Archaeological Research Center), George Milner (Pennsylvania State University), and John Kelly (Washington University)

[140] *Settlement Distribution in the Greater American Bottom, Including the Northeast Ozarks, During the "Moorehead Moment"*

Over the past quarter century, significant demographic changes at Cahokia and the surrounding area have been quantified using settlement data. One major change was a decline in population during the last part of the Mississippian period, eventually leading to the region's near abandonment. There were fewer settlements, including mound centers, and the overall number of residential structures also declined. Information on the occupation of the Mississippi floodplain, where trends were first identified, is updated, and the regional scope is expanded by including the neighboring uplands, emphasizing the nearby resource-rich Ozarks.

Stair, Joseph (University of Kentucky)

[109] *Diversity in Domestic Architecture at Uci: an Analysis of Megalithic Stones*

This research documented the variable use of the megalithic architectural style in residential platforms at the site of Uci. This data permitted me to systematically define a domestic megalithic tradition in the Northern Maya Lowlands. It also facilitated the testing of two hypotheses: first, the differential use of megalithic stones throughout the site and its surrounding areas may signify different communities at Uci, second, different investments in residential architecture can represent different socioeconomic statuses at Uci. Preliminary results suggest that the platforms with high numbers of megalithic stones have larger dimensions than platforms with few or no megalithic stones.

Stallings, Richard (AMEC Earth & Environmental)

[150] *Middle to Late Woodland Lithic Utilization Patterns in the Lower*

Salt River Valley, Missouri

This paper explores the lithic utilization patterns at two sites near the Mississippi River in northeastern Missouri. Site 23P11344 is a longer term multicomponent habitation that contained numerous Late Woodland features, while site 23P11372 is a short term Middle Woodland encampment with only two features. These sites afford an opportunity to examine lithic technology issues as they relate to different site types and cultural periods. Multiple lines of evidence, including complimentary debitage attributes and microwear analysis, were employed to accomplish the research goals. General reviews of the assemblages and more focused issues such as lithic production trajectories and tool function will be presented.

Stanford, Dennis [122] see *Sholts, Sabrina B.*; [72] see *Sellet, Frederic*

Stanish, Charles (Cotsen Institute, UCLA) [121] see *Brum, Misty CM*; [188] *Discussant*

Stark, Barbara (Arizona State Univ) [254] *Discussant*

Stark, Jacqueline (Valles Caldera National Preserve)

[41] *Ancestral Puebloan Land Use of the Valles Caldera National Preserve*

In comparison to heavily researched surrounding areas such as the Parajito Plateau, little was known about the Ancestral Puebloan occupation (A.D. 600-1600) of the Valles Caldera National Preserve (VCNP). In this poster, I examine multiple lines of evidence, such as agricultural features, ceramics, and projectile points, to gain a broader understanding of Ancestral Puebloan land use within the VCNP. Although the ceremonial importance of the caldera is well established in Puebloan oral tradition, the archaeological evidence now emerging provides us with a new opportunity to build our understanding of Ancestral Puebloan land use within the Jemez Mountains.

Stark, Miriam (University of Hawai'i) and Alex Morris (University of Hawai'i-Manoa)

[153] *Settlement and the Built Environment in the Lower Mekong before Angkor: A View from the Mekong Delta*

Fieldwork by the Lower Mekong Archaeological Project focuses on the period from c. 500 BCE to 800 CE to track settlement patterns associated with the "Funan" (c. 500 BCE – 500 CE) and the pre-Angkorian period (c. 500 – 800 CE). This paper summarizes temporal trends in land-use patterns and population settlement. Doing so requires analysis of key settlement configurations during these two periods and discussion of how pre-Angkorian populations organized themselves across the landscape. Patterns that we have identified in southern Cambodia through this fine-grained survey provide a template across much of the Mekong basin for urban settlement.

Starkovich, Britt (University of Arizona)

[16] *Intensification of Small Game Resources in Southern Greece from the Middle through Upper Paleolithic*

In some parts of the Mediterranean during the Middle and Upper Paleolithic, intensification of small game resources is reflected by a shift from slow-moving game such as tortoises to quick-moving animals such as hares and birds. In this presentation, I examine such changes in small game use from the Middle Paleolithic (OIS Stage 5a) through the end of the Upper Paleolithic and Mesolithic at Klissoura Cave 1, Peloponnese, Greece. This shift from high to low-return resources is examined against environmental changes and possible taphonomic biases. Small game butchery patterns and transport decisions are also discussed.

[16] *First Chair* [16] *Second Organizer*

Steadman, Dawnie (Binghamton University, SUNY)

[1] *The Path Forward is Behind Us: Forensic Archaeology and the Recovery of Historic Memory*

Historical memory provides a shared sense of the past that can promote group cohesion, stability and validity. However, in places such as Spain, historic memory has been manipulated into a single

ideology that delivers operational codes to the present – namely, that Franco and fascism saved Spain from itself during the Spanish Civil War. Accusations of extrajudicial executions are denied or suppressed. Now archaeology is becoming increasingly important to efforts to recover an alternate memory of Spain's past. By exhuming victims buried in clandestine graves, archaeologists provide scientific documentation of past atrocities that can be delivered to families, Civil Society and the courts.

Steadman, Dawnie [83] see *Wilson, Jeremy J.*

Steele, Teresa (UC Davis), Alex Mackay (Australian National University), Jayson Orton (University of Oxford/University of Cape Town) and Steve Schwartz (University of California, Davis)

[182] *Initial exploration of Middle and Later Stone Age archaeology in southern Namaqualand, South Africa*

Despite the abundance of archaeological research conducted in South Africa's Western Cape, little is known about the prehistory of southern Namaqualand, its northwestern corner. Therefore, we tested three shelters and surveyed open-air sites along the Varsche and Sout Rivers. Two shelters preserve mid-to-late Holocene Later Stone Age materials, and we sampled a potentially 8m deep Middle Stone Age sequence at the third. The abundance of open-air artifacts indicates a strong Middle Stone Age presence, including an area with 60 bifacially-worked points. Our research confirms the region's potential to yield informative data on human adaptations.

Steele, Teresa [182] see *Schwartz, Steve*

Steffen, Anastasia (Valles Caldera National Preserve)

[41] *Sharp, Brittle, Transparent, and Revealing: Exploring the Potential for Obsidian Technology, Sourcing, and Chronometry Studies in the Valles Caldera National Preserve*

Analyses of obsidian artifacts and geology are vital in any approach to the VCNP prehistoric archaeological record. On the interpretive side, the ubiquitous diverse obsidian lithic assemblages here demand creative attention to the range of reductive technologies represented and to obsidian source distributions across this volcanic zone. On the analytic and methodology side, the potential offered by geochemical sourcing and hydration chronometry cannot be ignored. Together, the interpretive and methodological potential of this setting is dynamic and compelling: this poster addresses strides taken in obsidian chronometry, sourcing, and geological archaeology toward realizing the potential of this exquisite lithic landscape.

Steffen, Anastasia [41] *First Organizer*; [41] see *Olinger, Colleen*

Stehman, Kelly (National Park Service) and Michael Novotny (Western Mapping Company)

[144] *Do Surface Artifacts Lie?: A Comparison of Surface, Fill, and Floor Artifact Assemblages*

Current archaeological survey methods typically rely on surface artifact assemblages to determine site significance and research potential. Do surface artifacts provide an accurate proxy for gauging subsurface deposits and artifact assemblages? This paper examines the lithic and ceramic assemblages in different depositional contexts at a Sinagua residence site located in Walnut Canyon National Monument. By comparing lithic and ceramic artifacts recovered from surface, fill, and floor site contexts, we are able to determine the reliability of site assessments based completely on surface artifacts.

Stein, Julie [207] see *Taylor, Amanda*

Steinberg, John (UMass Boston)

[246] *The Problems of Conducting Settlements Pattern Research on the Transition to State in Iceland*

The problems with conducting survey for Viking Age farmsteads in Iceland are substantial: the archaeology is deeply buried under aeolian sediment; there are almost no artifacts associated with the farmsteads; and the houses are made of turf. These conditions make farmsteads abandoned during the Viking Age invisible. Conversely, in

Iceland there are no pre-Viking settlements; there is a unique written record; and if identified, the preservation can be outstanding. Solving the problems of survey, with a package of methods, has allowed us to begin understand the manner in which the transition from chiefdom to state played out on the landscape.

[246] *First Organizer*; [246] *First Chair*

Steinbrenner, Larry (Red Deer College)

[191] *The Pacific Nicaragua Potting Tradition, AD 800-1350*

More than eighty years after Lothrop's watershed Pottery of Costa Rica and Nicaragua, archaeologists working in Greater Nicoya continue to struggle with problems of ceramic taxonomy. Decades of research have led to the identification of a bewildering array of ceramic types, but little discussion of the interrelationships between these types. This paper argues that most of the Sapoá Period polychrome types previously identified in Pacific Nicaragua—including those usually treated as markers of different immigrant Mesoamerican groups—are more alike than unlike, and are best understood as the products of a common potting tradition with a Central American origin.

Steiss, Debbie [60] *see Birch, Jennifer*

Stelle, Lenville (Parkland College) [104] *First Organizer*; [104] *First Chair* [22] *First Chair*

Stemp, William (Keene State College) and Jaime Awe (Institute of Archaeology, NICH, Belize)

[221] *From a Land Down Under: Ritual Use of Obsidian in Maya Caves in Belize*

Analysis of obsidian tools and debitage from caves (ATM, Stela, Halal, Chapat, and Uayazba Kab) in Belize reveals patterns of manufacture and use considered significant for understanding Maya ritual activity. These obsidian artifacts are similar in a number of interesting ways, suggesting some common behaviors. However, differences in assemblage composition and context suggest that rituals may vary and that individual agency must also be considered. How stone tools were incorporated into Maya cave rituals remains a difficult question to answer, but the obsidian artifacts recovered aid in reconstructing the complex experiences of those who ventured into the land down under.

Stephan, Elisabeth [157] *see Bocherens, Hervé*

Stephen, David [235] *see Van Zandt, Tineke*

Stephenson, Keith [26] *see Smith, Karen Y.*

Steponaitis, Vincas (UNC-Chapel Hill) and Gregory D. Wilson (UC-Santa Barbara)

[115] *Early Engraved Wares at Moundville*

Moundville is well known for its engraved ceramics, particularly the later varieties with representational designs. Recent work has brought into focus an earlier engraved assemblage that dates to the late Moundville I phase (ca. AD 1200). These early designs have a strong "Caddoan" flavor, but the pots are locally made. Here we describe this early assemblage and discuss its implications. Specifically, we believe that it is part of a widespread thematic horizon across the South that stretches from Spiro (Oklahoma) to Hiwassee Island (Tennessee), and is also represented at Cahokia.

[14] *Discussant*

Sterling, Kathleen (Binghamton University) and Sebastien Lacombe (Binghamton University)

[184] *The Symbolic Paleolithic Landscape: Pieces of Places and Marking Meaning*

Because there are no architectural remains from Paleolithic Europe, few archaeologists think about the ways in which the landscape was meaningful to early people. Beyond what the land provided for subsistence and shelter, certain places held an importance that was marked in various ways. Decorated caves are an obvious practice,

but the collection of stone from certain sources is a neglected line of evidence that can reveal information about points on the landscape that were important to Paleolithic peoples. Combining petrographic techniques, a landscape approach, and social theory, more of the social landscape of the Paleolithic can be made visible.

Sternke, Farina (University of Glasgow)

[256] *Two Out of Three Ain't Bad! Skill, Apprenticeship and Technological Change in European Paleolithic Societies*

It is now generally accepted that differential levels of skill can be observed in Paleolithic stone tool productions. However, to-date, research has only concentrated on the description of individual assemblage components. The research presented in this paper aims to examine the nature of the knapping skill transmission in the European Lower and Middle Paleolithic. In particular, it explores the acquisition and transmission of the knapping skill by focusing on the identification of different skill levels and examples of skill development in archaeological and experimental knapped stone assemblages to establish the transmission patterns linked to different production methods and techniques.

[256] *Second Organizer* [256] *Second Chair*

Stettler, Heather [24] *see Cannon, Mike*

Stevens, J. Sanderson [150] *see Broughton, Laurid*

Stevens, Nathan (UC Davis) and Douglas Harro (Applied Earthworks, Inc.)

[123] *Lithic Use-Wear Analysis using Laser Scanning Confocal Microscopy*

Although use-wear analysis of prehistoric stone tools using conventional microscopy has proven useful to archaeologists interested in tool function, critics have questioned the reliability and repeatability of the method. The aim of this project is to show that it is possible to quantitatively discriminate between various contact materials using laser scanning confocal microscopy. It is hoped that this method will not only provide a defensible means of discerning tool function, but provided results are consistent with use-wear analyses using conventional microscopy, will also form a quantitative foundation for previous studies.

Stevens, Sandy (John Milner Associates, Inc.)

[179] *A New Terminal Late Woodland Ceramic Type along the Lower Whitewater River in SE Indiana*

Site 12FR336 is a large Late Woodland habitation located along the lower Whitewater River on a broad Holocene terrace. JMA recovered 4,000 ceramics, most of which is classified as Argosy Cordmarked. Argosy Cordmarked pottery is defined as containing large and numerous particles of crushed limestone or grit, cordmarked exteriors, outward flaring rims and square or rounded lips. Based on the number and diversity of features and the type of ceramics, Site 12Fr336 appears to represent a series of short-term seasonal occupations, perhaps ceremonial in nature, during the terminal Late Woodland period (i.e., pre-Fort Ancient). The ceramics and the presence of an etched slate gorget suggest affinities to the broadly (yet poorly) defined Newtown phase.

Stevens, Stanley [4] *see Barker, Andrew L.*

Stevenson, Alexander

[207] *The Material Expression of Risk Sensitive Foraging Strategies* Diachronic evaluation of risk coping strategies provides a framework for investigating both material culture and foraging strategies. This paper presents a method for understanding such fluctuations through the concept of risk sensitive hunts. Hunts are created from theoretical and functional classification of tool assemblages and Z-score assessment of archaeologically recovered dietary remains. Hunts are then assigned to risk-prone and risk-averse categories and are then evaluated across archaeological components. This method is applied to two archaeological sites in the Upper Klamath Basin in Oregon. Analysis shows a trend at each site toward increasingly risk-averse

foraging strategies in the last two millennia.

Stewart, R (Temple University), Kurt Carr (The State Museum of Pennsylvania), Michael Frankl (Occoquan Paleotechnics)

[90] *The Thunderbird Site and the Flint Run Paleoindian Complex, Virginia*

The stratified deposits of the Thunderbird Site and Flint Run Paleoindian Complex are summarized. Investigations led by the late William Gardner beginning in the early 1970s provide details regarding chipped stone technology and technological change through the period, site organization, and settlement patterns. These data support an interpretation of lifeways less mobile and more generalized than the highly mobile, specialized hunting adaptations frequently associated with Paleoindians elsewhere. This research is a basis for addressing Paleoindian issues in the broader Middle Atlantic Region and Northeast, resulting in the recognition of diversity in adaptations and the distinction of a Paleoindian "Mason-Dixon Line".

Stiner, Mary (University of Arizona)

[58] *How different were late Lower Paleolithic and early Middle Paleolithic patterns of carnivory at Hayonim Cave and Qesem Cave in the southern Levant?*

Recent results on the late Lower Paleolithic and early Middle Paleolithic from two Levantine caves permit a systematic comparison of large and small animal exploitation, carcass processing routines, and meat consumption between the two periods. Both sites provide strong evidence for habitual large game hunting and similar patterns of prey age selection, as well as transport of high quality prey parts to residential sites. Small animal exploitation was limited mainly to lost-cost/high-yield species. Different, at least at these two sites, is evidence for patterns of meat sharing on site based on tool mark evidence.

[16] *Discussant*; [16] *see Munro, Natalie D.*; [259] *see Mentzer, Susan M.*

Stiver Walsh, Laura (Proyecto Pueblo Viejo de Teposcolula)

[103] *A Classic Period Mixtec Señorío in the Teposcolula Valley*

The origins and antecedents of Postclassic Mixtec señoríos pose a longstanding question for Oaxaca scholars. While studies of Classic polities remain few, expanding regional survey results in the Mixteca Alta highlight local continuity rather than external forces. This presentation examines Classic occupation in the Teposcolula Valley, better known for excavations at its major Postclassic capital. Settlement patterns indicate neighboring San Miguel Tixá was the cabecera of an earlier polity, and recent excavations at Tixá provide comparative information on architecture, burials, and resources. Data show differences in scale and complexity, yet the ethnohistorically-based señorío model likewise matches Classic period sociopolitical patterns.

Stockdell, Eric (Indiana University), Dru McGill (Indiana University)

[257] *Excavating the "Potter's House": Possible Evidence for Craft Specialization at a 14th century Angel Mounds Structure*

In 2005, the Glenn A. Black Laboratory of Archaeology tested several structures identified during a previous magnetometry survey. In 2006, extensive excavation of one such structure yielded extremely high densities of a variety of materials associated with craft specialization, including pottery trowels, unfired clay, and shell, as well as high concentrations of groundstone tools. C14 samples date the structure to A.D. 1325-1375, placing it within the Late Angel phase. Such a concentrated presence in one structure of materials associated with craft production provides great potential for the discussion of craft specialization during the 14th century at Angel Mounds.

Stockett, Miranda [65] see McFarlane, William J.

Stockton, Trent (Tulane University), Mandy Munro-Stasiuk (Kent State University) and T. Kam Manahan (Kent State University)

[160] *The View from Xuenkal: Geoecological and Social Determinants of Settlement Location at an Ancient Maya Center*

The Northern Pitted Karst Plain of northeastern Yucatán, Mexico, presents numerous challenges for investigators exploring environmental and social factors that influenced past settlement locations. Traditional topographic analysis of DEMs (including slope, aspect, watersheds, viewsheds, etc.) is difficult because of low topographic relief. This paper explores multivariate analyses of georeferenced and geocoded high-resolution satellite imagery. These data are combined with geoecological and archaeological datasets, including ethnobotanical surveys, and spatial, temporal and architectural data on nearly 700 ancient structures, to reveal patterns of long-term human-environment interaction at Xuenkal and its hinterlands.

Stoll, Courtney [150] see Erickson, Luke W.

Stoll, Marijke (University of Arizona)

[13] *Es Nuestra Tradición: An Ethnographic Study of the Pelota Mixteca Ballgame and Its Archaeological Implications*

Analyses of ball courts tend to focus on their possible ritual meaning and function. However, the sociopolitical processes that made ball courts and associated ballgames so efficacious in Mesoamerica are still relatively poorly understood. Clearly, close archaeological, historical, and ethnographic investigation is needed in order to understand the implications of these prominent structures in political and community relationships. This paper will present the preliminary results of an archaeological survey and ethnographic study of the ball courts and the modern ballgame in the southern Mexican state of Oaxaca and propose further avenues of research.

Stoltman, James (Univ of Wisconsin- Madison), Jigen Tang (Institute of Archaeology, Chinese Academy of Social Sciences), Yue Zhanwei (Institute of Archaeology, Chinese Academy of Social Sciences) and Zhichun Jing (University of British Columbia)

[155] *Petrographic Analyses of Ceramics Used in the Production of Shang Bronzes at Yinxunter*

Bronze production in Shang society has been characterized as a co-craft, requiring sophisticated knowledge not only of metallic but also of ceramic materials. Through petrographic analysis, the material composition of ceramic artifacts essential for Shang bronze production—models, cores, molds, crucibles, and furnaces—have been determined for specimens excavated at Xiaomintun SE, a bronze foundry near Anyang. The results reveal a ceramic industry that was both diverse and sophisticated, with different recipes employed depending upon the functions the various artifact types were intended to perform.

Stoltman, James [251] see Hays, Christopher

Stone, Connie (Bureau of Land Management) and Kathy Pedrick (Bureau of Land Management)

[223] *Partnerships, Preservation and Research in the Agua Fria National Monument in Central Arizona*

Agua Fria National Monument protects a unique cultural landscape dominated by mesa-top pueblo settlements inhabited from A.D. 1250 to 1450. Management accomplishments have focused on resource protection; surveys and documentation; scientific research; public education and interpretation; and creation of a management plan. Partnerships with universities and organizations, like Friends of the Agua Fria National Monument, have been invaluable. Recent research has explored conflicting ideas about the role of warfare and alliances in prehistoric societies and has fostered an innovative collaboration among archaeologists and ecologists. These efforts by scientists and citizens have transformed our knowledge of the prehistoric Perry Mesa Tradition.

Stone, Connie [75] see Pedrick, Kathryn E.

Stone, Suzanne (HDR/e2M) and Brandy Hurt (HDR/e2M)

[165] *Artifacts and Buried Sites, Tailored Solutions*

HDR/e2M can address client challenges for a variety of needs. This is illustrated by two very different projects. Hurricane Katrina severely

impacted artifacts held by the University of New Orleans. Flooding, contaminants, and heat deteriorated artifacts and fostered mold infestation. The challenge was to clean and stabilize the diverse artifact types. Elsewhere, HDR/e2M was tasked with investigating a buried New Mexico site and to keep it intact. This required a non-invasive approach, delivered in a timely and efficient manner. In each case, HDR/e2M determined the best solution to meet the project challenges.

Stoner, Wesley (University of Kentucky)

[254] *Estimating Political Boundaries in the Classic Tuxtla Mountains*
Political economic models for the Classic Tuxtla region have been based entirely on archaeological excavation and survey at Maticapan and settlements within the Catemaco Valley. Recent survey in the neighboring Tepango Valley, which includes the large center of Totocapan, provides data to evaluate existing models of Tuxtla evolution from a broader scale perspective. One of the fundamental steps to arriving at a synthesis of Classic Tuxtla evolution is to delineate political boundaries within the broader Tuxtla region. In this paper, I present a GIS-assisted model of political boundaries that generates testable hypotheses for the political economic composition of the region.

[133] *Discussant*

Storey, Alice

[68] *The Pre-Columbian Chickens of Chile: Re-evaluating the Assumptions of European Introductions*

It was long assumed, due to the absence of pre-Columbian chicken bones in the archaeological record of the Americas, that the first chickens in the region were those brought by Europeans. Recently the recovery of chickens from the pre-Hispanic site of El Arenal 1 in Chile has demonstrated that chickens indeed reached South America before Columbus. Given this new evidence some of the old ethnographic reports, oral traditions and recovered artifacts should now be reconsidered. In this presentation I will discuss the mtDNA, radiocarbon and isotopic evidence establishing the antiquity of the El Arenal chickens and how they are thought to be related to prehistoric Polynesian chicken populations. Then I will present some observations of early Explorers and Ethnographers to encourage discussion and debate about the distribution of chickens in the prehistoric New World and other potential sites of introduction.

[68] *First Chair*

Storey, Rebecca [241] see *Marquez-Morfin, Lourdes*

Storozum, Michael, Nicholas Dunning (University of Cincinnati) and William Saturno (Boston University)

[139] *Geoarchaeological Investigations at Aguada Hormiguero, El Peten, Guatemala*

In the water deprived Maya lowlands, aguadas are one of the few perennial sources of water available. For this reason, many Maya sites are located near these aguadas. Aguadas can provide a wealth of information concerning settlement patterns, water resource management, climatic variability and local environmental change. Aguada Hormiguero, a small natural depression located outside of the archaeological site of Xultun, will be examined in this paper within its cultural and environmental context. Excavation and sediment analysis were used in order to determine the extent of anthropogenic modification and environmental change.

Stosel, Victoria (University of Alaska, Fairbanks)

[31] *Possible Applications of Optimal Foraging Theory On San Nicolas Island, California*

Optimal Foraging Theory provides a means to determine the relative importance of various shellfish and echinoderms in the San Nicolas Islander's diet. The nutritional content of shellfish and echinoderms remains fairly consistent among the various species. Other factors such as meat yield and collection times indicate that optimal choices exist. Examining collection times, meat yields and caloric content assist in determining if predation choices were optimal or preferential.

Stotts, Rhian (Arizona State University)

[184] *Least-Cost Path and Viewshed Analysis of Copper Trade Routes in Late Bronze Age Cyprus*

The extraction and movement of copper figure prominently in models of the development of urbanized economy and society during the Late Bronze Age (1700-1050 BC) in Cyprus. This study uses GRASS GIS software to determine least cost paths between mining areas and coastal centers. These paths logically correlate with trading routes throughout the island, and are used to assess the possibility that some inland settlements served as redistribution sites. The function of other sites as inland forts also is evaluated by determining whether the least cost paths, as inferred trade routes, would have been visible from these fortified sites.

Stout Evans, Rachel [217] see *Mehta, Jayur M.*

Stovel, Emily (Ripon College)

[121] *Looking Closely at One in the Face of Many: Characterizing San Pedro de Atacama Ceramics*

New technologies not only present interesting opportunities to examine ceramic difference, but also allow us to examine and characterize individual ceramics styles more intimately. This poster explores chemical (LA-ICP-MS and pXRF) variation within a collection of San Pedro Middle Period sherds and contributes to debates on production decisions with respect to functional and formal subtypes.

Stowe, Michael (Geo-Marine, Inc)

[213] *Preliminary Evidence for Ballgaming in the Jornada: Stone Balls from Fort Bliss and Beyond...*

This paper explores the ballgame tradition in the American Southwest, specifically, the discovery of numerous stone balls from prehistoric sites throughout the Jornada, with an emphasis on the Fort Bliss Military Reservation located in south central New Mexico. Due to a paucity of archaeological and ethnographic information regarding prehistoric gaming and gaming implements in this region, only limited inferences have been made regarding the function of these unique artifacts. This presentation will focus on the description of stone balls discovered on prehistoric sites throughout Fort Bliss and adjacent areas, and outline implications for future studies in the region.

Straus, Lawrence (University of New Mexico)

[177] *Human responses to Younger Dryas in Cantabrian Spain*

During the Late Glacial Interstadial the classic Upper Magdalenian of Cantabrian Spain with its famous cave and portable art came to a gradual end. With considerable continuity in settlements, subsistence and technology, it was replaced by the Azilian, an Epimagdalenian tradition with widespread artifactual similarities throughout Atlantic Western Europe. Changes during Younger Dryas were subtle and muted in this southerly sector of the oceanic middle latitudes, both in terms of vegetation/fauna and with respect to human adaptive reactions.

[177] *First Organizer; [177] First Chair*

Strauss, André (Strauss), Danilo Bernardo (Universidade de São Paulo), Pedro da Gloria (The Ohio State University -), Renato Kipnis (Universidade de São Paulo) and Walter Neves (Universidade de São Paulo)

[47] *High Variability of Paleoamerican Mortuary Practices in Lagoa Santa Region, Central Brazil*

Recently dated between 8500-7500 BP, most human skeletons from Lagoa Santa have been characterized as having a very homogenous mortuary practice (highly flexed bodies and graves covered by rocks). However, the exhumation of 27 burials from a new site in the region (Santo Rockshelter) shows a variable pattern of mortuary practice, including amputation of limbs and head, use of neurocranium as receptacles, and cremation. These results suggest that previous reports overlooked the variability of mortuary practices in Lagoa Santa. Other Early Holocene sites in South America also present funerary practices including body manipulation, suggesting some similarities across the subcontinent.

Strawhacker, Colleen (Arizona State University) and Frances Hayashida (University of New Mexico)

[138] *Prehispanic Irrigated Soils on the North Coast of Peru: Preliminary Results from Soil Sampling on Agricultural Fields*
During the 2009 field season, soil sampling across the Pampa de Chaparrí on the arid north coast of Peru was performed in order to develop methodology and understand the impacts on the soil of different field patterning in long-term irrigated systems. Because soil sampling has rarely been undertaken at a large scale in prehispanic irrigated environments, this project represents a pilot study into productive avenues for understanding the impacts and legacies of long-term irrigation on fragile desert soils. This poster will introduce a new methodology for sampling in irrigated environments and provide preliminary results from the 2009 field season.

Strzewski, Michael (University of Southern Indiana) and Robert McCullough (Indiana University-Purdue University Fort Wayne)

[219] *Investigations at Fort Ouiatenon and Kethtippecanunk, Two Fur-Trade Era Sites in Tippecanoe County, Indiana*
Fort Ouiatenon and Kethtippecanunk were sites integral to the eighteenth century fur trade in the central Wabash River valley. Fort Ouiatenon was constructed by the French in 1717 and was extensively excavated in the 1960s and '70s. However, little effort had been made to investigate the historic Kickapoo/Mascouten villages that surrounded the fort. Magnetometry survey in these areas indicates clusters of anomalies, including numerous large, circular anomalies that are likely Native winter houses. Kethtippecanunk was a fur-trading town occupied by the Wea. Magnetometry and excavations at Kethtippecanunk focused on defining the site's boundaries and investigation of a fur trader's house.

Strickland, Glenn

[24] *The Integration and Interpretation of Archaeological Data through Three Dimensional Multi-component Digital Spatial Modeling*
Parchman Place Mounds (22-Co-511) is a Late Mississippian mound group located in the Yazoo Basin of northwestern Mississippi. The area between the two largest mounds within the complex, identified as the A-B Swale, is digitally rendered into a three dimensional multi-component spatial model. The completed rendering merges data from archaeological excavations, geophysical prospecting, and artifact analysis. The combination of these diverse datasets into a single integrated model serves to substantially increase the capability of spatial analysis and archaeological interpretation.

Striker, Michael and Timothy King (Gray & Pape, Inc.)

[239] *Using Computer Modeling to Test and Explain Astronomical Alignments at a Mississippian Village*
For decades, archaeologists have attempted to document and explain the alignment of certain Native America architecture with astronomical events. However, while documentation is fairly simple, explanation is more complicated. Using computer modeling of astronomical events and three-dimensional GIS modeling, the authors tested the hypothesis that the builders of the Southwind site, a Mississippian village in southern Indiana, constructed their village to permit for the prediction and observation of events such as the solstice sunrise and sunset. The results indicated that while alignments existed, it is unlikely that such events could be observed as predicted.

[252] *Second Organizer*

Striker, Sarah (Arizona State University)

[25] *Reassessing Economic Dynamics of the Seventeenth Century Iroquois "Beaver Wars"*
The seventeenth century Iroquois "Beaver Wars" have been interpreted as attempts to gain control over the regional fur trade from Algonquian, Huron, and French groups. Although recent interpretations move away from purely economic motivations for these conflicts in favor of more nuanced explanations, "Beaver War" economics have not been received much rigorous attention. This study utilizes data from historic documents and archaeological

studies to find patterns in the movement of resources such as beaver pelts, European trade items, and captive and non-captive people to provide a more rigorous assessment of economic factors among the many that contributed to this conflict.

Stroud, Amanda (New Mexico State University)

[42] *GPR Data From Hermosa, New Mexico*
This poster will focus on Ground Penetrating Radar (GPR) data and ground truthing from the town of Hermosa, New Mexico. Hermosa, a mining community, reached its peak in the late 1800s, and was often plagued with damaging floods. The GPR data was taken in the floodplain, where houses are believed to have been built prior to the floods. The GPR data, coupled with the ground truthing, will help us better understand the cultural and geologic history of this town.

Stroulia, Anna and Susan Sutton (Indiana University Purdue University Indianapolis)

[106] *Greek Archaeological Laws, Sites, and the Chasm between Past and Present*
Greek Archaeological Laws codify a conception of sites deriving from the century of classically inspired travel and appropriation preceding them: sites as national, continental, even global emblems, far removed from their surroundings. Thus it is that the Laws encircle sites with zones in which no farming or construction may occur, and prohibit eating, singing, and loud talking within them. This paper explores how such mandates create a chasm between past and present that explains the alienation and indifference many local residents have toward places so valued by those more distant.

Struever, Stuart (Crow Canyon Archaeological Center) [215]

Discussant

Studnicka, Nikolaus [61] see Doneus, Michael

Stull, Scott (Ithaca College)

[219] *Houses and Identity on New York's Colonial Frontier*
Houses and their immediate landscape have long been recognized as being tied to identity and status. Two colonial houses, both National Historic Landmarks, in New York's Mohawk Valley will be discussed to reveal how identity was constructed using house form in the mid-eighteenth century. These two houses, Fort Klock and Old Fort Johnson, are both stone, fortified houses, but are markedly different in form and layout. These houses parallel the differences between their builders, and show both ethnic and status differences expressed through built form.

Sturm, Jennie (TAG Research)

[85] *Using GPR to Study a Historic Denver Neighborhood*
Ground-penetrating radar (GPR) surveys were conducted in a downtown Denver parking lot to assess the location and spatial extent of archaeological features prior to redevelopment. The surveys mapped the foundations of a number of domestic structures. Amplitude slice-maps and reflection profiles show distinct foundations at various depths, indicating re-building phases and modifications to the layout of these structures over time. By combining the analysis of slice-maps and profiles with historic Sandborn maps available for the area, it is possible to address questions related to the demographics and changing dynamics of a turn-of-the-century Denver neighborhood.

Styles, Bonnie (Illinois State Museum)

[173] *Impacts of Archeozoological Research in the Illinois River Valley*
The Illinois River valley is an innovative center for archeozoological research. By 1930, Frank Baker was already contributing his zoological expertise to studies of Native American resource use. Paul Parmalee introduced a strong ecological approach steeped in his understanding of animal behavior, and he also incorporated analyses of small-scale remains recovered through flotation. Archeozoological research in the lower Illinois River valley has contributed innovative approaches to the understanding of environmental change,

contributions of small-scale remains, quantification techniques, taphonomy and preservation bias, comparability of data, catchment and economic analyses, settlement and subsistence practices, and use of fauna beyond the food quest.

Styles, Thomas and Edwin Hajic (Self Employed Geoarchaeologist)

[173] *The Broader Influence of the Geomorphology and Geoarchaeology Program at the Center for American Archaeology*
In the middle 1970's, a Geomorphology program consisting of full time geologists, a lab and drilling equipment was established at the CAA as part of an overall program that emphasized the emerging interdisciplinary research approach in archaeology. In addition to program-wide contributions, the Geomorphology program influenced research further afield. Contributions include: moving geologists involvement forward in all phases of the archaeological investigative process, including pre-survey; developing a landscape-based approach, ranging from regional models of landscape evolution to geo-centric testing and excavation designs; and, demonstrating that the Holocene geology of large river valleys is not indecipherable, but rather ordered and predictable.

Sugandhi, Namita

[189] *The construction and Destruction of Chatrikhera: Archaeological Conservation in Southeastern Rajasthan*

The Chatrikhera Research Project is designed to explore the ancient remains located in the village of Chatrikhera in Rajsamand District, Rajasthan. Initial observation suggests that deposits at this site date from the Chalcolithic Period (c. 3rd-2nd millennia BCE) up until the Modern Period. The archaeological remains under investigation are primarily located within the modern village, complicating research efforts, but also providing an opportunity to examine the relationship between past remains and present needs. This paper explores the concept of archaeological conservation by introducing the project and discussing the issues of preservation and destruction that inform ongoing research at the site.

Sugiyama, Nawa (Harvard University)

[64] *Animals and the State: The Role of Animals in State-Level Rituals in Mesoamerica*

In Mesoamerica, animals participated in state level rituals which were active arenas where power relations were negotiated, constructed and embodied. Much of this negotiation was based on the symbolic and physical relationship humans established with these animals. Through a case study of a large offering cache discovered from the site of Teotihuacan and another example of an attempt by Maya kings to use animals in ancestor worship rituals at Copan, I will demonstrate zooarchaeological evidence of the ways in which the state controlled these symbolically loaded animals. Such fauna became central actors in the development state legitimation, warfare and sacrifice.

Sullivan, Alan (University of Cincinnati) [253] Discussant

Sun, Guoping [155] see Qin, Ling

Sun, Yan (Gettysburg College, PA) [95] Discussant

Sundstrom, Linea (Day Star Research)

[104] *The Shaman's New Clothes: The Limits of Neuroscience as an Interpretive Model for Rock Art*

Despite its current popularity, the neuroscience model of rock art interpretation reveals little of the ancient artists' motivations, cultural milieu, and history. Defining all non-bureaucratized religions as shamanism and then linking all hunter-gather art to this poorly defined über-religion leaves one to conclude that the art is shamanic because it was produced in a culture different from our own, albeit using universal images. This paper argues for a style-based interpretive model that uses the specifics of cultural context to unravel the specific meanings of rock art traditions. To quote Margaret Conkey, "Without style we have little or nothing to say."

[220] First Organizer; [220] First Chair; [220] see Greer, Melissa

Sunseri, Jun (University of California)

[154] *Get Away Closer: Buffer Village Foodways on a Spanish Colonial Frontier*

The casta label of genizaro requires a finer-grained perspective on what ranges and mixtures of practice persons bearing this designation may have enacted at Casitas Viejas (LA 917). By teasing apart the chaînes opératoires of foodway materials, it becomes apparent that households may have departed from the consumption practices of essentialized cuisine while drawing from multiple relationships among the various stages of production and consumption of foodways-related materials. In other words, at different temporal and spatial scales, behaviors reflected in the material record refute notions about a creolized community that tried to diminish differences within the village.

Sunseri, Jun [193] see Atherton, Heather N.

Supak, Karen (BHE Environmental, Inc.)

[236] *"You Want Me to Dig...Where?": New Methodologies and Revised Interpretations of Prehistoric Quarries and Localized Raw Material Procurement Areas at Fort Campbell, Kentucky*

Prehistoric quarries have long been a focus of archaeological research, though understanding of prehistoric lithic raw material acquisition patterns has been largely restricted to extensively exploited resources such as Dover, Tennessee, and Flint Ridge, Ohio. Excavations conducted at Fort Campbell, Kentucky, since 2002 have documented a widespread, smaller-scale, extremely localized lithic procurement pattern that provides new perspective on traditional interpretations of prehistoric raw material acquisition. This paper presents revised methodologies employed during excavations, defines lithic procurement site types identified, and proposes that the majority of prehistoric raw material acquisition took place in a significantly more opportunistic manner than previously hypothesized.

Supernant, Kisha (UBC)

[181] *Contemporary Community Disputes and the Production of Archaeological Knowledge: A Case from British Columbia, Canada*

In British Columbia, collaboration between archaeologists and First Nations is common. While this has many positive outcomes, including providing a more relevant and nuanced understanding of the significance of the past and the generation of archaeological knowledge, many of the areas in which archaeologists work is subject to contemporary disputes between First Nations communities. In this paper, I explore the ethical and epistemic challenges to archaeology when working in disputed zones, arguing that while building relationships in these situations is difficult, contemporary conflicts provide an opportunity for us to examine how we define identity in the past and present.

[163] see Blake, Michael

Surette, Flannery (University of Western Ontario), Christine D. White (University of Western Ontario), Fred J. Longstaffe (University of Western Ontario), Jean-François Millaire (University of Western Ontario) and Paul Szpak (University of Western Ontario)

[138] *Stable Isotope, Contextual and Functional Analysis of Early Intermediate Period Textiles from the Virú Valley (Northern Peru)*

In this study we use stable carbon- and nitrogen-isotope, contextual and functional analyses of wool textiles collected from two Early Intermediate period (200 BC- AD 800) sites in the Virú Valley, Peru, along with camelid (*Lama sp.*) tissues, to investigate the role of textiles in the economic, social, and political spheres of the pre-Hispanic Andes. Marked differences in the isotopic compositions of several textiles and camelids indicate non-local origins. We discuss the implications of these data for expanding the scope of textile research and understanding animal management practices and coast-highland interactions during this period.

Surface-Evans, Sarah (Michigan State University)

[225] *Inferring Agency from Landscape-Scale Modeling of Archaic Hunter-Gatherers*

A landscape perspective approaches the reconstruction of agency from the top down, essentially inferring individual decisions from the social use of space preserved in the archaeological record. Sophisticated, computer-based techniques for modeling past landscapes have the potential to help elucidate some of the complex factors that influenced how past peoples viewed and used their landscape. However, making the leap to individual actions from social landscape can be difficult in the absence of detailed site excavation data. The case study described here evaluates the use of landscape-scale contexts to provide a glimpse into past decision making among Shell Mound Archaic peoples.

Surovell, Todd [224] *see Holliday, Vance T.*

Surridge, Evan (UNC-Chapel Hill)

[98] *Domestic Economy and Lithic Technology in the Early Intermediate Period: A View from the Middle Moche Valley, Peru*
Despite increasing research on Moche social organization, little is known of the exchange and labor patterns that structured rural economies. Stone tools are a pertinent dataset in addressing such issues because they provide a window on varying productive activity between groups and through time. Here, I present research on lithic assemblages from three archaeological sites in the middle Moche Valley that demonstrate considerable variability between households and communities both prior to and after the emergence of the Moche polity. Positions within exchange networks, differences in status and ethnicity, and changes in the organization of agricultural labor are considered as contributing factors.

Sutton, Susan [106] *see Stroulia, Anna*

Swain, Todd (National Park Service) and Tim Canaday (Salmon-Challis National Forest)

[86] *ARPA Lessons From the Field*

Over the past 15+ years we have been involved in numerous criminal and civil ARPA cases. Some extremely successful; some disastrous. We focus on three issues that we believe are central to the future of ARPA: (1) Finding a trained, interested archaeologist to work on an ARPA case is difficult given competing management priorities and lack of funding; (2) The basic ARPA training that has been provided to patrol staff and archaeologists is inadequate and perhaps counter-productive; (3) Reactive investigation of ARPA violations has not been particularly successful. We discuss each of these issues in turn and offer potential solutions.

Swanson, Steve (Arizona State University), Karen Gust Schollmeyer (Arizona State University) and Margaret C. Nelson

[192] *The Postclassic Period in the Eastern Mimbres Region*
The Eastern Mimbres region of Southwest New Mexico lies between the Black Range and the Rio Grande, and experienced continued occupation for centuries prior to and following the Mimbres Classic Period (AD 1000-1130). Data from excavation at three large Postclassic (AD 1130-1450) sites (Animas and Roadmap Villages, Phyllis Pueblo) and recent surveys indicate a diversity of architectural and ceramic traditions, community configurations, and settlement shifts. We explore linkages among post-Mimbres communities in the area to one another, their ancestral ties to Mimbres culture, and their connections to contemporary traditions across the US Southwest.
[192] *Second Chair* [192] *Second Organizer*

Swanson, Steve [192] *see Schollmeyer, Karen Gust*

Swantek, Laura (Arizona State University)

[184] *Archaeology in the Classroom: Mediterranean Landscape Dynamics Educational Outreach*

The Mediterranean Landscape Dynamics project (Medland) was created by an interdisciplinary team to model the impacts of agro-pastoral land use from the Neolithic to the Bronze Age on

Mediterranean landscapes. Combining archaeological and environmental data, an agent based computer model was created to simulate the decisions early farmers made and the effects they had on the environment. The Medlands research includes K-12 educational outreach developed in conjunction with classroom teachers. The lesson presented on this poster enables students to use the computer model to answer the question: how can computer models of Neolithic farming communities help us understand sustainability today?

Swanton, Kristin [180] *see Salsgiver, Amy E*

Sweeten, Lena (Gray & Pape, Inc.)

[252] *A Cultural Landscape Across Time: The Mission Lands Historic District, Orange County, New York*

For many agricultural landscapes, the only constant is change. As a result, few historic architectural resources are likely to survive. Yet a landscape's lack of traditionally defined "historic resources" does not preclude its historic significance. By examining archival evidence and documenting the extant landscape through field survey, photography, and GIS analysis, the means for gaining a fuller understanding of the cultural landscape emerge. This paper examines the character-defining elements of the cultural landscape within the Mission Lands Historic District, and discusses the documentation methods used. A PowerPoint presentation accompanies the paper to illustrate the results of investigations.

Swenson, Edward (University of Toronto)

[145] *Moche Religious Conservatism, Wari Expansionism, and Sociopolitical Change in Middle Horizon Jequetepeque*

Most archaeologists agree that the Moche resisted foreign political influences and were never conquered by the Wari. However, the notion of Mochica cultural conservatism has been challenged by recent research, and the Late Moche Period is distinguished by its dynamism and diversity. Sociopolitical transformations in Jequetepeque during the Late Moche Period, including the adoption of Wari material culture at San José Moro and the revival of Moche religious ritual in the region, must be understood in terms of the varied interactions of Moche communities with highland polities including Wari and Cajamarca.

Swigart, John [41] *see Rogers, Alexander K.*

Swinney, Tyler [62] *see Tankersley, Kenneth B.*

Szeverenyi, Vajk (Archaeological Institute, Hungarian Academy)

[149] *Interregional Interaction and Social Change in the Carpathian Basin in the Third Millennium BC*

The aim of my paper is to investigate the nature and impact of interregional contacts in the third millennium BC based on a few case studies. While earlier migrationist/diffusionist approaches discredited the study of such contacts, the existence of object types, materials and technologies of ultimately distant origin is undeniable. We need to assess these within a new theoretical framework in order to understand their significance in the processes of social change. My approach is informed by recent theoretical developments in archaeology, originating in postcolonial theories, agency theory, and new discussions of exchange and personhood.

Szirmay, Jenica [258] *see Hall, Lauren*

Szpak, Paul [138] *see Surette, Flannery K.*

Szumik, Claudia [22] *see Scheinsohn, Vivian G.*

Tache, Karine (Universite de Montreal)

[60] *Be There or Be Square: A Long Tradition of Trade Fairs in Eastern North America*

While the sources, directions, and routes of exchange are unraveled by advances in archaeometric techniques, interactions themselves are seldom detected archaeologically. Using archaeological and

ethnographic data, this presentation reviews some of the localities favoured as the scenes of inter-societal contacts in prehistoric and protohistoric Eastern North America. The physical settings, as well as the social relations and activities carried out at these sites are discussed and compared to Late Archaic and Early Woodland sites bearing similar characteristics. The notion of trade fairs is proposed as a mechanism for better understanding hunter-gatherer exchange behavior.

[60] *First Organizer, [60] First Chair*

Tainter, Joseph (Utah State University)

[56] *Theories of Cultural Evolution: Implications for Sustainability* Among Michael Glassow's accomplishments has been to teach generations of students to think broadly and comparatively. This opens the possibility for archaeology to join other sciences in a broad approach to clarifying issues not just of the past, but of the present and future as well. I present here archaeological theories of the evolution of cultural complexity, and show how they lead to different conclusions about future sustainability.

Talavera Zuniga, Rodolfo [188] *see Nigra, Benjamin T.*

Tang, Jigen [155] *see Jing, Zhichun; [155] see Stoltman, James B.*

Tankersley, Kenneth (University of Cincinnati), Andras Nagy (University of Cincinnati) and Tyler Swinney (University of Cincinnati)

[62] *Wind Cave: A Prehistoric Chert Quarry in Southeastern Kentucky* A number of passages in Wind Cave, Jackson County, Kentucky, intersect a high-quality and petrographically distinct St. Louis chert. Nodules protruding from the floor of the cave have been removed and modified. The paucity of performs and absence of finished flaked-stone artifacts suggests that chert was removed from the cave and shaped into finished tools and weapons elsewhere. Artifacts manufactured from Wind Cave chert have been recovered from the midden deposits of nearby rockshelters, including Cliff Palace Cave. Radiocarbon dating demonstrates that the chert quarries in Wind Cave are penecontemporary with those in Wyandotte Cave, Indiana and Mammoth Cave, Kentucky.

[176] *Discussant*

Tankersley, Kenneth [30] *see Nagy, Andras*

Tartaron, Thomas (University of Pennsylvania)

[32] *Scalar Variability in Late Bronze Age Aegean Maritime Worlds* This paper advocates a bottom-up approach to addressing issues of local variation and global interaction in the eastern Mediterranean Late Bronze Age (c. 1600–1100 B.C.). Before we can truly understand the "international" maritime relations that are deemed characteristic of the period, we need more comprehensive investigations of local and regional nodes, in order to reveal how they were articulated with and nested within larger systems. Two case studies from the Greek Late Bronze (Mycenaean) period focus on the variability of coastal "small worlds" and their role in the Mycenaean maritime political economy.

Tartaron, Thomas [101] *see Pullen, Daniel J.*

Tate, Carolyn (Texas Tech University)

[260] *Regalia and Individual Identity at La Venta Tomb C* This paper focuses on the collection of artifacts associated with Mound A-3 at La Venta, including one of the five "pseudoburials" of La Venta, several surrounding caches of sculpture, and several stone monuments. The assemblage of several hundred objects centers on a stone figurine of a female (so identified by Follensbee 2000) and includes a variety of symbolic strategies: body markings, costuming, "jewelry," objects that may have been used in ritual and others that probably represent sacred processes.

Taylor, Amanda (University of Washington), Julie Stein (University of Washington) and Stephanie Jolivet (University of

Washington)

[207] *Shell Midden Research and Prehistoric Coastal Settlement Patterns in the San Juan Islands, Washington*

In this paper we present the results of a settlement pattern study based on radiocarbon dating of shells from auger samples collected during a survey of shell middens in the San Juan Islands, Washington. The survey was conducted from 2005 to 2008 and included sampling, investigation of site size and composition, impact of erosion, and public outreach. By integrating faunal and paleoenvironmental data with dating results, we present hypotheses regarding the development of a more sedentary lifeway during the late Holocene. We also discuss similarities and differences between settlement patterns proposed for the San Juan Islands with those proposed for adjacent regions.

Taylor, Amanda [232] *see Marty, Johanna V.*

Taylor, Christine and Eleanor King (Howard University)

[42] *Campsites in the Black Range Mountains, New Mexico - A Predictive Model*

During the late 1800's, many groups were vying for space and resources in the area near the frontier mining community of Hermosa, now a ghost town, in the Black Range mountains, New Mexico. Finding and exploring campsites used by both the military and Apache will allow us to better understand the interaction between the two groups. This preliminary model, created using geographic and archival data, traits of a few known campsites, and ESRI GIS software, predicts where these military and Apache groups may have camped.

Taylor, James [155] *see Lu, Hongliang*

Taylor, Robert (Arkansas Archeological Society) and Juliet Morrow (Arkansas Archeological Survey)

[146] *The Early Paleoindian Occupation of the Martens and Ready Lincoln Hills Sites*

The Clovis cultural complex is the earliest known occupation in the confluence region of the Illinois, Mississippi and Missouri Rivers. Located in the uplands adjacent to the Illinois River, the Ready/Lincoln Hills site (11JY46) is a multi-component habitation/workshop that has produced one of the largest surface assemblages of fluted points and fluted preforms in the state of Illinois. Located in the uplands adjacent to the Missouri River, the Martens site (23SL222) produced one of the largest surface collections of fluted points, fluted preforms, endscrapers, and flake tools in the state of Missouri. Clovis points and preforms, as well as formal flake tools were recovered during controlled excavations at the Martens site. Tool use wear, debitage analysis, and raw material utilization patterns are suggestive of a variety of behaviors during the Clovis era.

Taylor, Timothy (University of Bradford/Journal of World Prehistory)

[175] *Why Possibly or How Necessarily? A British Perspective on the Science - Archaeology Nexus*

Is archaeology science and, if so, what is archaeological science? I examine the nomenclature, content and forms of explanation encountered and expected by archaeology and archaeologists, making comparisons between the UK, US, and German-speaking Europe. The ultimate terms of debate, and a continuing source of confusion, are latent in the work of archaeologist and philosopher, R.G. Collingwood, whose status as a historicist or a praxeologist continues to be debated. Most confusions and misunderstandings of the science/art relationship (or lack of it) in archaeology must involve a consideration of the logical form of expected and acceptable explanations for social phenomena.

Teeter, Wendy (Fowler Museum at UCLA) and Desiree Martinez (Harvard University)

[127] *What is a Village: Preliminary Spatial Assessments and Patterns on Pimu/Catalina Island, California*

Thoughts about the most strategic sites on Catalina Island have been focused on the many protected coves that ring the island. The vast interior is little mentioned more than as lithic production sites. However, we have started to see that the coves have environmental, access, and view shed limitations that mesa tops don't. This isn't to doubt the importance of cove villages, but to add that villages on Catalina are more diverse and strategic than given credit. The goal of the paper is to discuss patterns that are emerging over three seasons of field work on the southern California Channel Island.

Tenorio, Dolores (Instituto de Investigaciones Nucleares), Olaf Jaime-Riveron (University of Kentucky) and Thomas Calligaro (Centre de Recherche et de Restauration des Musées, Musée du Louvre-CNRS)

[229] *Materiality of Stone: Jade During Formative Period as an Exchange Value in an Trade Route on the Western Maya Realm*
In this paper, we address the extension of a very important exchange route which connected different polities of Mesoamerica. The northern Verapaz and southern Pasion valley and river system linked to the Pasion and Chixoy lowland river highways and intersecting with the east-west Caribbean-to-Mexico "transversal". The particular varieties of rocks of the serpentinite mélange of this region (such as jadedite, omphacite, eclogite, etc) were precious goods that tied distant neighbors. Taking into consideration geochemical results of materials obtained from primary contexts and samples obtained from quarries, we could have a better understanding of the political economy of this network.

Tenorio, Dolores [147] see *Jaime-Riveron, Olaf*

Tercero, Geraldina [65] see *Lopiparo, Jeanne*

Terceros Céspedes, Zulema

[94] *Macrorestos Botánicos en el Valle de Cochabamba Un estudio preliminar de comparación en tiempo y espacio.*
El estudio de los macrorestos botánicos en el Valle de Cochabamba está cobrando más importancia y lanzando datos que pueden complementar las investigaciones, la presente ponencia mostrara los resultados preliminares del análisis de macrorestos realizado en distintos sitios arqueológicos, se enfocara en la presencia/ausencia de los mismos y su ubicación en cada sitio y en cada época, tomando de referencia el Formativo y el Horizonte Medio. Remarcando en las similitudes, las diferencias y en la significación de estas en lo que se refiere a dieta y agricultura. Y por último se realizará una comparación para determinar si hubo cambios en el uso de las plantas con la expansión de Tiwanaku a la zona durante el Horizonte Medio.

Terrell, John (Field Museum of Natural History)

[113] *Social Network Analysis (SNA) in the Historical Sciences: Applications using Material Culture and Molecular Genetics*
A focus of network research in the social sciences is on how individuals and groups maintain enduring associations, and on the social, economic, and practical consequences of alternative network configurations. Here, however, the focus is historical. One example summarizes an SNA study of material culture collections from the Sepik coast of New Guinea previous analyzed using other methods confirming that material culture and language do not significantly covary there. In a second example, SNA methods are used to evaluate the baseline hypothesis that isolation by geographic distance constrained by social networks largely accounts for molecular genetic variation in northern Melanesia.

Terrell, John Edward [121] see *Golitzko, Mark L.*

Terry, Karisa [177] see *Buvit, Ian*

Terry, Richard (Brigham Young University), Bruce Dahlin (Shepherd University), Daniel Bair (Brigham Young University), and Timothy Hare (Morehead State university)

[20] *Soil Geochemical Analysis of Public Squares at the Postclassic*

City of Mayapan, Yucatan

Recent analyses of the spatial organization of Postclassic Mayapan have drawn attention to a possible marketplace. In Square K, a large rectangular plaza contains few domestic structures and could have accommodated large numbers of people or market activities. Soil research and detailed mapping have identified activity areas in the Square K plaza, which is currently in high ground cover. We used geochemical analyses to determine concentrations of phosphorus and heavy metals at this locality. These data may help identify market stalls and walkways and could give added support to the hypothesis that this area functioned as the city's principal marketplace.

Terry, Richard [160] see *Balzotti, Chris*

Tesch, Monika (INAH)

[195] *Campamentos Estacionales en la Zona Media Potosina (Noreste de México)*

En épocas prehispánicas la parte central, semidesértica, de la Zona Media potosina que se encuentra hacia el sureste de Aridoamérica, fue recorrida por grupos cazadores recolectores (semi)nómadas. Durante los últimos años, mediante recorridos sistemáticos de superficie se localizaron aquí grandes campamentos estacionales en los cuales se observan diversas áreas de actividad específica reconocibles por concentraciones líticas, principalmente de desechos de talla y áreas de trabajos específicos sugiriendo cierto tipo de especialización y división tanto de actividades como de trabajo dentro de los campamentos y aparentemente cierta interdependencia entre ellos de acuerdo a su ubicación geográfica.

Tesreau, Travis (Missouri Department of Transportation)

[187] *Remote Sensing (GPR) in St. Louis*

Beginning in 2005, MoDOT archaeologists began using GPR to conduct non-invasive testing on urban lots in St. Louis. The GPR data allows us to establish the layout of buildings and possible features, and helps in assessing potential integrity. This is critical on projects, such as the Mississippi River Bridge, in which archaeological testing cannot be conducted until late in the process. As with other areas, the productivity of the GPR in St. Louis varies lot to lot, with some properties displaying excellent visibility while others show virtually nothing.

Thacker, Paul (Wake Forest University)

[205] *Local Stone Resource Availability and the Evolution of Middle and Upper Paleolithic Raw Material Economies*

A series of Middle and Upper Paleolithic archaeological sites located near high quality raw material sources in central Portugal document major qualitative changes in prehistoric lithic economies. Comprehensive geological study of gravel deposits rich in chert, quartz, and quartzite contextualizes the local resource background for ecological resource use modeling at each site. Artifact assemblage variation across raw material types indicates that Late Middle Paleolithic populations were organized around local resource exploitation with little long distance raw material transport. In contrast, Upper Paleolithic groups employed more diverse reduction strategies with variation specific to different raw materials and tool types.

[205] *First Chair*; [214] see *Price, Gypsy C.*; [85] see *Pereira, Carlos M.*

Thakar, H.B. (University of California, Santa Barbara)

[81] *Reconsideration of Traditional Conception of Shellfish Intensification*

Throughout his career, Michael Glassow has focused the bulk of his research on elucidating the interrelationships of human subsistence, intertidal ecology and climatic variability. These research objectives persist in the work of his students, including myself. Methodological advancements, such as stable isotope analysis of marine mollusks, provide new lines of data which further reveal the intricacies of prehistoric human's ecological relationship with marine resources. My recent stable isotope research provides evidence of a species-specific manifestation of shellfish intensification that demands reconsideration of the traditional archaeological conceptualization of

shellfish intensification and a greater appreciation of the variability introduced by ecological factors.

Tharp, Wade (Illinois State University)

[125] *A Sequence of French Vernacular Architectural Design and Construction Methods in Colonial North America, 1690-1850*

This study examines published and unpublished historical archaeological research, historical documents, and datable extant buildings to develop a temporal and geographical sequence of French colonial architectural designs and construction methods, particularly the poteaux-en-terre and poteaux-sur-solle elements in vernacular buildings, from the Western Great Lakes region to Louisiana, dating from 1690 to 1850. Such an integration of architectural material culture data and the historical record could further scholarship on subjects such as how French colonists in North America used vernacular architecture to create and maintain cultural identity, and how this architecture carried with it indicators of wealth, status, and cultural interaction.

Thebaudeau, Benjamin [185] see Quinn, Colin P.

Theler, James [70] see Boszhardt, Ernie

Thi Lien, Le [189] see Sasaki, Randall J

Thibodeau, Alyson (University of Arizona), Joaquin Ruiz (The University of Arizona) and John T. Chesley (The University of Arizona)

[255] *Following the Coronado Trail through Artifact-Based Lead Isotope Analysis*

From 1540 through 1542, an expedition led by Francisco Vázquez de Coronado trekked across the present-day Southwest. However, the details of their route remain uncertain, and archaeological evidence of the expedition is rare. We seek to contribute to the identification of Coronado sites through lead isotopic analysis of early Spanish colonial metallic artifacts. We present evidence that much of the lead and copper metal used by the expedition has a limited span of lead isotopic signatures. This diagnostic range could provide a key line of evidence for researchers searching for archaeological sites related to Coronado.

[255] *Second Organizer*

Thibodeau, Alyson [255] see Thomas, Noah H.

Thieme, Donald (Valdosta State University), Dennis Blanton (Fernbank Museum of Natural History)

[259] *Landscape Changes and the Early Spanish Presence in Middle Georgia, USA*

Recent excavations by the Fernbank Museum of Natural History indicate a Spanish presence along the Ocmulgee River in middle Georgia during the 16th century CE. The local landscape features alluvial terraces incised by outsized meanders. The base of the T-1 at Coffee Bluff has been dated to greater than 30,000 years BP with two separate radiocarbon ages. Overlying alluvial strata register shifts from meandering to braided and then back to the current meandering channel pattern. Set back over a kilometer from the present river channel on a slightly higher T-2 terrace, the Glass site (9Tf145) was the location of a small village. An oxbow immediately adjacent to 9Tf145 was an active channel at the time that the site was visited by Spaniards and possibly as late as a 19th century historic map showing the Ocmulgee River floodplain.

Thieme, Donald M. [252] see Aiuvalasit, Michael J.

Thomas, Chad (Arizona State University)

[217] *Performance in Everyday Experience*

Performance has long been an important lens through which anthropologists view rituals. Recently, it has also become increasingly prominent in archaeologists' interpretations of ancient rituals, but in practice the concept often remains little more than a synonym for "public spectacle." This paper presents a broader concept of

performance grounded in folkloristics, material culture studies, and semiotics. It explores how such an approach can aid in understanding not just ritual, but the everyday experiences of ancient peoples. The utility of these ideas is briefly illustrated by applying them to artifacts from Mississippian mound centers in the US Southeast and Midwest.

Thomas, David (American Museum of Nat History)

[250] *Seasonality and Mobility on the Georgia Bight: Why We Should Care*

For the past three decades, questions about seasonality and mobility have dominated archaeological research along the Georgia Bight. For the Late Archaic period, inquiry has centered on whether the massive shell ring settlements represent episodic aggregations or long-term, year-round occupations (or both). For the Late Prehistoric period, the "Guale problem" has highlighted contrasting views of residential and logistic mobility for these coastal people. This paper discusses sampling and inferential problems raised in linking seasonality studies to our understanding of mobility patterns and paleoclimatic change.

[52] *Discussant* [250] *Second Organizer*

Thomas, David Hurst [228] see Thomas, Lorann Pendleton

Thomas, Jonathan (University of Iowa), Grant McCall (Tulane University) and Ted Marks (University of Iowa)

[35] *Stringing Together the Past: Experimental Replication of MSA/LSA Ostrich Eggshell Beads*

Ostrich eggshell (OES) beads are a common feature of the Late Stone Age (LSA) and, to a lesser degree, the Middle Stone Age (MSA) archaeological record of southern Africa. Although OES beads are of analytical value in terms of their variability, little is known about the effects of different tools and manufacturing techniques on this variability. This paper presents the results of experimental OES bead replication. Using microscopic analysis, we compare experimental beads to MSA/LSA beads recovered from the 2009 excavation of the Erb Tanks rock shelter, Western Namibia, and discuss the implications of this research for modern human behavior.

Thomas, Jonathan [35] see Horn, Sherman W.; [35] see Kettler, Kurtis H.; [35] see McCall, Grant S.

Thomas, Judith

[144] *Archaeological Investigations of WWII Internment Camps at Fort Hood, Texas*

Fort Hood, located in Central Texas, housed two World War II internment facilities for German prisoners-of-war, both of which are no longer standing. Extensive archival research and limited field investigation conducted for one of these facilities, North Camp Hood, revealed and/or confirmed aspects of the camp's operation which provides insight into basic camp layout variations and helps to document the nation's World War II homefront heritage. This case serves as an example of the benefits of archival research combined with highly selective and horizontally restricted excavations within a very large facility.

Thomas, Lorann (American Museum Nat History) and David Hurst Thomas (American Museum of Natural History)

[228] *The Higher You Get, the Higher You Get: Some thoughts from Alta Toquima (Nevada)*

This paper presents our most recent thinking about Alta Toquima, one of several residential sites located at roughly 11,000 feet on Mt. Jefferson (Monitor Valley, central Nevada). Evidence of high-altitude bighorn hunting abunds on the Mt. Jefferson tablelands, dating to at least 6000 cal B.C. The earliest extant houses at Alta Toquima were constructed by cal A.D. 500 (and likely earlier). This paper situates these high altitude occupations within the larger context of Monitor Valley archaeology and employs nearly 3000 14C dates to explore these relationships from a pan-Great Basin perspective.

Thomas, Noah and Alyson Thibodeau (University of Arizona)

[255] *Early Colonial Resource Appropriation: Sourcing Copper and Lead Ores from the Seventeenth Century Metallurgical Workshop at*

LA 162, Bernalillo County, New Mexico

The analysis of materials recovered from the seventeenth century metallurgical workshop at LA 162 has provided an archaeological perspective on the development of mining technology in frontier contexts of the Spanish Empire. Native American involvement in the practices represented at the workshop was initiated through Spanish colonial miners' interests in minerals used in indigenous technologies such as pigment and glaze production. This paper combines compositional and copper and lead isotope analysis from ore and sheet copper recovered from the workshop to explore how both local and regional resources were incorporated within the syncretic metallurgical technology at LA 162.

Thomas, Peter [60] *see Boulanger, Matthew T.*

Thomas, Sunshine (Texas A&M University) and Laura O'Halloran (Texas A&M University)

[163] *To Dig or Not to Dig: Researcher Access to Museum Collections*

We are all aware of the curation crises. Archaeologists understand the value of extant collections and often encourage students not to dig new sites. However, as most PhD hopefuls realize, this is not "sexy" archaeology—utilizing collections will not get the grants that pay for research, nor will it bring much in way of prestige. To add to the paradox, many students find it difficult to gain access to museum collections, where money, time and resources are dwindling. This paper presents our preliminary efforts at exploring and quantifying student access to collections in conjunction with the difficulties that museums face.

Thomas, Tiffany (University of Nevada, Las Vegas)

[211] *Maize in the Mojave: A look at Agriculture in the Mojave Sink*
Maize agriculture has long been considered a possibility for Late Prehistoric groups living in the Mojave Sink region of California's Mojave Desert. This flood plain agriculture, practiced on the Mojave River Delta, would have been supplemental to the use of wild resources. This paper presents the results of recent research conducted near the Mojave River Delta to address this possibility.

Thompson, Jason (University of Iowa)

[85] *Ground-Penetrating Radar and Imaging of Complex Subsurface Archaeological Materials*

Recent research (Audouze et al. 2007; Enloe et al. 2007) has demonstrated the applicability of using ground-penetrating radar (GPR) as a means of gauging the material configuration and areal extent in Upper Paleolithic open-air contexts. As a direct means of calibrating this research, actualistic, experimental studies were performed to test GPR's ability to image artificial, experimental material distributions of a simulated limestone hearth, a skeletal sheep, a lithic scatter, and a composite target composed of limestone, flint, and bone in a known sedimentological context, the final imagery and encouraging methodological results of which are summarized for this research report.

[85] *First Chair* [85] *Second Organizer*

Thompson, Kerry (Northern Arizona University)

[7] *Who is, or Was, Native American?: The Role of Archaeology in American Indian Identity*

There are myriad definitions of Native Americans at work in American society today. In spite of the benefits of NAGPRA it is an additional piece of legislation with more definitions for American Indians to juggle in facilitating the repatriation and disposition of ancestors, sacred objects, and items of cultural patrimony. Although NAGPRA is open to many lines of evidence, establishing cultural affiliation often depends upon archaeological knowledge. I discuss the role archaeologists play, for better or worse, in this particular facet of American Indian identity.

[198]. *First Organizer*

Thompson, Scott (Arizona State University)

[158] *Burial Performance and Interactions with the Dead in Pueblo*

Bonito, Chaco Canyon

Performance-based approaches to the mortuary record emphasize that burial practices are a social display. In some cases, the performance does not memorialize the social identity of the deceased, but instead creates a powerful display that transforms the identity of the dead. This paper argues that the elaborate burials placed in the oldest section of Pueblo Bonito, Chaco Canyon were part of a performance that was actively remembered. It examines the arrangement of human remains and objects in the burials and the sequence of deposition in the burial rooms to demonstrate that the deposits fostered continued relations between the living and dead.
[158] *First Organizer*; [158] *First Chair*

Thompson, Robert (University of Minnesota)

[23] *The Research Potential of Maize Cob Phytoliths in Food Residues with Examples from Ecuador*

Demonstrating the research potential of opal phytoliths from maize cob chaff requires an understanding of the process by which phytoliths become embedded in food residues. Deposition of phytoliths in maize cob chaff is largely controlled by the regulatory locus TGA1, interacting with other genes during the growth of the maize cob. Assemblages of maize cob phytoliths illustrate that this deposition is influenced by more factors than glume hardness. Processing of maize for food often requires removal of the kernels from the cob, and some bits of chaff are included in this process. One method of increasing the capability of unglazed ceramics to hold water was the deliberate baking of food residues onto the interior walls of the vessels. Examples from three sites in Ecuador illustrate the utility of phytoliths recovered from food residues.

Thompson, Victor (The Ohio State University), Amber VanDerwarker (University of California, Santa Barbara), Phillip Arnold (Loyola University, Chicago) and Thomas Pluckhahn (University of South Florida, Tampa)

[85] *Shallow Geophysics and the Analysis of Persistent Places*

We argue that productive applications of geophysics to anthropological archaeology necessarily involve a specific research question or agenda. We recognize, as with any technique, that not all questions can be addressed by shallow geophysics. That said, we suggest one research agenda, the investigation of "persistent places" which is rooted in anthropological inquiry, that can be investigated, at least in part, by these techniques. In order to illustrate our points, we provide two examples from Mexico and the United States where the use of geophysics contributes to our understanding of changes in the use of space and architecture through time.

Thoms, Alston (Texas A&M University)

[71] *Early Holocene Earth Ovens in South-Central North America: Evidence of Ancient Carbohydrate Revolutions With Bioanthropological Ramifications?*

Texas and vicinity was well settled by Clovis times but millennia would pass before cook-stone technology became established some 8-9,000 years ago. Hot-rock cooking features increased in density and morphological diversity thereafter, indicating significant land-use intensification. Charred geophytes and other food plants, recovered from the oldest through youngest cook-stone features, argue for punctuated, directional dietary changes—carbohydrate revolutions. Increased consumption of readily masticated, often starchy plant foods, coupled with decreased intake of comparatively tough meats, affords pathways toward changes in cranial morphology, facilitated by smaller teeth, as argued by C. L. Brace, and, possibly by better developed amylase glands.

[71] *First Organizer*; [71] *First Chair*

Thurston, Tina (SUNY Buffalo)

[11] *Political Ecology and Colonial Encounters: Some Examples from Northern Europe*

In Northern Europe's Late Iron Age and Early Medieval eras, human-environment relationships both aided and hindered the colonial ambitions of expansionary states. Ecological conditions, especially as exploited by local populations, often were silent partners in collusion

with resistors and rebels, while sometimes the same conditions betrayed them. The environment itself, as an 'enemy' of conquering forces, could also become the focus of violent subjugation. Examples from the author's research projects in Sweden, Denmark, and Northern Ireland illustrate how aspects of landscape influenced political sequences and their outcomes in a variety of critical ways.

Thurston, Tina [243] see Brunton, Thomas F.

Tiffany, Joseph A. [72] see Lensink, Stephen C.

Tilton, James (NASA GSFC), Douglas Comer (CSRM, Baltimore, MD), Kevin May (CSRM, Baltimore, MD) and Winston Hurst (Abajo Archaeology, Bluff, UT)

[160] *Towards Automated Detection of Archaeological Sites utilizing Remotely Sensed Imagery*

There have been numerous and noteworthy instances in which archaeological sites and other features of archaeological interest have been found by means of aerial and satellite imagery. However, the reported approaches require a great deal of human intervention to be effective. We will discuss our efforts toward developing an approach that automates the detection process to a high degree. Our efforts include meticulous care in the fusing of data from optical and radar sensors and other available sources, utilization of the latest advances in object-based image analysis and a rigorous statistical analysis protocol.

Tinsley, Clayton (Geo-Marine, Inc.)

[231] *Oasis in the Blackland Prairie: Riparian Subsistence Strategies in Prehistoric North-Central Texas*

Recent research data from a series of riparian contexts within Late-Archaic through Late Prehistoric north-central Texas are helping to address issues of subsistence strategy, environmental change and landscape utilization within the region. Well dated contexts from both the East Fork and West Fork Trinity River drainages, are the largest and best preserved faunal contexts excavated to date in the region and are allowing new insights from a data source that has been traditionally limited, due to poor preservation.

[231] *First Organizer*

Tisdal, Carey E [215] see Pirkil, Mary E

Todd, Brenda (University of Colorado, Boulder)

[235] *Excavations at Chimney Rock Pueblo (5AA83)*

Chimney Rock Pueblo (5AA83) is an L-shaped Chaco-style great house consisting of approximately 35 ground floor rooms, two kivas, a plaza and an elevated court. The pueblo is located at an elevation of 7,600 feet on a triangular-shaped rock platform southwest of two sandstone pinnacles. This poster summarizes work completed during the summer of 2009, including research questions developed and available analysis results. This field project is especially unique given the rarity of modern day excavations in large and significant Chacoan great houses, the astronomical implications of Chimney Rock Pueblo, and the potential for contributions to existing understanding of the Chaco Regional System.

[40] see Hartmann, Gayle

Tokovinine, Alexandre (Peabody Museum, Harvard University)

[99] *"As Twenty Eight Lords Witnessed": Group Identities in the Classic Maya Political Landscape*

Classic Maya political landscape is often described as a network of opportunistic alliances and dependencies that kept evolving in response to the changing fortunes of political actors. This paper based on a comprehensive survey of Classic Maya place names considers a very different picture: a landscape of several social entities which crossed political boundaries. Membership in these groups was not affected by changes in one's political networks. Quite the opposite, it was one of the factors which determined one's political networks. This observation has important implications for future archaeological and epigraphical studies of ancient Maya polities.

Tolmie, Clare (University of Iowa)

[102] *Through the Woods and into the Creek: Floral and Faunal remains from New Lenox (11-Wi-213)*

The archaeobotanical and faunal remains from New Lenox (11Wi213) provide an opportunity to compare subsistence behavior during the Langford, Oak Forest and New Lenox Upper Mississippian phases. All three components utilized corn, beans and squash supplemented by locally available wild plant foods. Faunal exploitation focused on white-tailed deer and aquatic resources. A strong preference for local exploitation of woodland and aquatic environments is evident, with seasonal use of prairie resources. Variation in subsistence behavior over time is subtle and may reflect differences in duration of occupation, site function and/or anthropogenic landscape change.

Tomasic, John and Tricia Waggoner (Kansas Historical Society)

[73] *Reexamining Spindle Whorls in the North American and Mesoamerican Archaeological Records*

Spindle whorls are tools used in spinning - the process of transforming raw fiber into twisted thread. Ethnohistoric evidence suggests spinning and weaving were household activities performed by women in domestic contexts in North America and Mesoamerica. In this poster, we reexamine the original interpretations of a series of artifacts from North American and Mesoamerican archaeological sites, and we suggest that these previous interpretations have overlooked their potential function as spinning tools used by women in domestic contexts. Furthermore, we argue that previous interpretations have not been particularly sensitive to evidence of female domestic activities in the archaeological record.

Tomaskova, Silvia (UNC Chapel Hill)

[104] *Archaeological Magic*

The thesis that rock art may derive from shamanistic rituals achieved popularity in the 1990's and remains attractive to lay as well as scholarly audiences. The interpretation has also met critical voices from archeologists who object to the absence of local historical accounts and the reductionism of such models. My research on the incorporation of Siberian shamans into archaeological narratives shows that our image of the shaman is a composite of changing disciplinary history, colonial narratives and past practice. Efforts to imagine universal roots for art, religion, and science in prehistoric magic have erased or overwritten gender. When seeking to study questions of art, religion and magic archeologists should pay attention to history of their own field and the history of the region in question.

Tomka, Steve (Center for Archaeological Research-UTSA)

and Eric Oksanen (Center for Archaeological Research-The University of Texas at San Antonio) [231] *Patterns in Archaic and Late Prehistoric Raw Material Procurement and Mobility*

An analysis of Late Archaic through Late Prehistoric stone artifact assemblages identified a variety of lithic materials that occur unevenly in quantity and distribution in the landscape and which have different working and structural traits. Access to, and utilization of, raw material types vary through time and recent excavations at several sites are used to evaluate local temporal trends and re-examine regional hunter/gatherers mobility models. By identifying, characterizing, and quantifying local and non-local lithic resources, preferences and variability in the material composition of the lithic assemblages and methods of lithic reduction are used to infer changing mobility strategies.

Toney, Elizabeth (University of Oklahoma) and Thomas Gruber (University of Oklahoma)

[235] *Comparison of Geometric Design Combinations on Style I and Style III Bowls in the Mimbres Valley, Southwestern New Mexico*

This poster explores patterns in geometric design combinations on Mimbres Style I and Style III bowls and the implications for those patterns in understanding technological systems and the social relations of production in the Mimbres area of southwestern New Mexico. We argue that the use of geometric design patterns could be

used to identify clan and/or familial relationships over time. Specifically, individual and framing elements were used by Mimbres people to structure painted designs on Mimbres Black-on-white bowls. These geometric combinations are evaluated both within and between large sites within the Mimbres Valley.

Toohey, Jason (Department of Anthropology)

[127] *Contested Landscapes in the Cajamarca Highlands of Peru: Viewshed and Location at the Late Intermediate Period (AD1000-AD1476) Site of Yanaorco*

Strategic places on the landscape were contested in many regions of Peru during the late prehispanic period. Special locations on the landscape were valued for political, economic, and religious reasons. The village of Yanaorco in the Cajamarca highlands was one of these important points on the landscape. It was a focus of conflict through the Late Intermediate Period (AD1000-AD1470). Partially due to its strategic location on the continental divide, its occupants may have been forcibly removed by the Inka Empire in approximately AD 1465. Yanaorco serves as a case study in the study of strategic locations during this period.

Toom, Dennis (University of North Dakota)

[171] *A Sharp Little War: Initial Coalescent Intrusion into the Middle Missouri Subarea of the North American Great Plains*

The heavily fortified villages of the Initial Coalescent variant of the Great Plains Middle Missouri subarea offer clear and unequivocal evidence of human conflict, or warfare, during the middle period of the Plains Village tradition. The evidence for Initial Coalescent warfare and defense is reviewed, mainly utilizing data from the Whistling Elk and Crow Creek village sites, and the overall pattern of conflict is examined from the perspective of frontiers and boundaries. It is concluded that intertribal warfare between Initial Coalescent invaders and resident Middle Missouri groups best explains this example of late prehistoric American Indian militarism.

Topic, John (Trent University)

[96] *Andean Accounting Systems in Light of The Chimu System at Chan Chan*

The Chimu developed an accounting system that was in many respects parallel to the better known Inca quipu. Both utilized a combination of attributes and positions to record information. In this presentation, I will explore in more detail the role of position as part of the information recording system. Position seems to be a critical component of Andean recording systems. In other systems, attributes, symbols, or tokens may well have more importance. In the Andes, position not only demarcates the decimal values of the quipu (as indeed is also the case with Arabic numerals), but it also establishes the categories used in the Chimu accounting system, the values used in the Andean abacus, it structures Inca and Chimu storage space, and perhaps is reflected in more esoteric ways in concepts such as pacha, chaupi, tinku, yanantin, etc.

[18] *Discussant*

Topic, John [67] see Topic, Theresa

Topic, Theresa (Brescia University College) and John Topic (Trent University)

[67] *Spondylus Use in the North Sierra of Peru*

This paper reviews reports of *Spondylus* from the Huamachuco, Cajamarca and Callejon areas, comparing the temporal and contextual information from these relatively well studied areas. Throughout the area *Spondylus* finds are rare, and almost invariably in contexts associated with burial and/or ritual activities. The evidence for temporal variability in the flow of *Spondylus* is considered, and indications for coast-wise or sierra movement of raw material and finished product at different periods.

Topping, Peter (English Heritage) [147] Discussant [147] Second Organizer

Torres, Josh (University of Florida/SEARCH, Inc.)

[116] *Complex Socialities and the Construction of Communities in the Ancient Caribbean*

Traditional perspectives of socio-political development in the Caribbean, and in particular the Greater Antilles, rely heavily on the chiefdom model for explaining social organization and trajectories of social change. Problematically, the concept is often used as an explanatory destination rather than a point of departure for understanding the engagements of people at local levels within larger social fields, networks, arenas, structures and landscapes. This paper discusses some of these issues and examines sociality and community as concepts for developing new interpretive frameworks for the regions ancient past.

[116] *First Organizer; [116] First Chair*

Torres-Rouff, Christina (The Colorado College), Francisco Gallardo (Museo Chileno de Arte Precolombino) and William J. Pestle (University of Illinois at Chicago)

[122] *Movements of People, Foods, and Ideas: Chemical and Bioarchaeological Analyses of Human Remains from the San Salvador Cemetery, North Chile*

San Salvador is a tributary of the Loa, the only river that traverses the Atacama Desert from the mountains to the Pacific. Recent investigations at a village and cemetery over 100km inland on the San Salvador revealed the presence of a population enclave functioning as an intermediary for coast/highland relations during the Middle Formative (500BC-AD100). Evidence indicates surplus economies and a network of exchange for foods, prestige goods, and ideas. These ties were not circumstantial, but part of a regional economic structure that remains only partly explored. Osteological and isotopic analyses suggest a strong coastal tie consistent with archaeological evidence.

Torres-Rouff, Christina [122] First Organizer

Torvinen, Andrea (Arizona State University)

[57] *Multi-Scalar Analysis of Ceramic Exchange at a Regional Center in Northwest Mexico*

La Quemada, Zacatecas, was part of a regional network of centers known to have interacted through ceramic exchange during the Epiclassic period (A.D. 600-900). This study utilizes a clustering method to determine if different sectors of the site interacted differently with distant areas and whether the connections maintained by social constituencies residing in these sectors matched those observed at the site-wide level. Evidence for the repetition of differential use patterns regarding public vs. private space was found at multiple scales and supports the conclusion that La Quemada may have served as a ceremonial center for the Malpaso Valley and beyond.

[57] *First Chair [57] Second Organizer*

Tosello, Gilles [104] see Fritz, Carole

Tostevin, Gilbert (University of Minnesota) [157] Discussant

Toth, Jay

[70] *Bird Effigy Mounds: Native Aeronautics*

Over 800 years ago native people who practice the effigy mound culture in Wisconsin and Iowa understood the physics of flight. The native aeronautic engineers designed bird effigy mounds as flyable symbols of their religious beliefs. Not only do the scale models of these bird effigies fly, but the native landscape architects placement of these mounds both reflect the local prevailing winds and the flight path of the represented bird above.

Towner, Ronald (Tree-ring Lab) and Stacy Galassini (Cibola National Forest)

[213] *Cambium-Peeled Trees in the Zuni Mountains, New Mexico*
Cambium-peeled trees are relatively common in ponderosa pine forests of the intermountain west. Found from British Columbia to southern New Mexico, cambium-peeled trees have been interpreted as (a) a response to famine conditions related to climate, (b) a

response to conflict-related food shortages and scheduling issues, (c) a sweet or delicacy, and (b) a medicinal product use to treat various internal and external ailments. This paper uses dendrochronology, archaeology, ethnohistory, and oral history to examine three spatially discrete groups of peeled trees in the Zuni Mountains of New Mexico in terms of their relationships to climate, conflict and cultural practices.

[152] *Discussant* [213] *First Chair*

Towner, Ronald [223] *see Herhahn, Cynthia L.*

Trabert, Sarah (University of Iowa)

[72] *Dismal Regional Interactions: Re-Evaluating Ceramics from the Scott County Pueblo*

The Scott County Pueblo site (14SC01) in Scott County, Kansas likely represents the dual occupation of Dismal River (Plains) and Southwestern groups. Ceramics from a 1939 excavation were re-examined to collect data on vessel form which may shed light on the culinary practices and ethnic identity of the site's inhabitants. Future research will include the re-examination of Dismal River ceramics from the central-northern plains region, sourcing studies, and a more in-depth look at regional interactions between people in the Southwest and those living on the Plains.

Trader, Patrick (Gray & Pape, Inc.)

[150] *Living on the Edge: Examining a Late Woodland Frontier Settlement in West-Central Illinois*

Data recovery efforts at Site 11ST547, were undertaken to mitigate adverse affects from the REX-East pipeline. Site 11ST547 is located in an upland interior interfluvial summit. Thirteen radiocarbon assays were recovered from nine features dating from 1280 to 1080 B.P., suggesting a Late Woodland occupation. Ceramic analysis suggests they share traits with several ceramic traditions, including Bauer Branch, Maple Mills, and Adams variant. Site 11ST547 falls within a boundary zone and represents a nexus between several cultural traditions. This paper examines Site 11ST547 within the chronological and settlement patterns for the Late Woodland period in west-central Illinois.

Trampier, Joshua (University of Chicago)

[92] *From Holes in the Ground to Lines in the Sand: Landscape Archaeology in Light of Bureaucratic and Academic Dimensions of Egyptian Cultural Heritage*

For two centuries, Egyptology and the Egyptian heritage management framework have developed in tandem, entrenching a vision of site based on monuments and the recovery of antiquities (athar). Artifacts and land have been artificially segregated and mapped based on overlapping bureaucratic and academic priorities and processes. This conceptualization has directly impacted research in the country, leaving much of the Nile floodplain unexplored. Addressing this legacy with a case study in the western Delta, this work emphasizes a broader behavioral definition of site grounded in dynamic human-environmental interactions, integrating analyses of ceramic density, remote sensing observations, and subsurface lithology.

Tratebas, Alice (Bureau of Land Management)

[111] *Survey and Mapping of Little Missouri Antelope Trap*

After six field seasons of survey and mapping on the Little Missouri Antelope Trap in northeastern Wyoming, we have not yet identified the full extent of the trapping complex. Initially we mapped the most obvious structures, a pit trap and a corral. More recently we began tracing juniper drive wings along the margins of old growth junipers which border open valleys that were used to move antelope over passes into traps on the opposite slope. Some drive structures have multiple parallel wings that indicate repeat drives using the same drive strategy. Habitation remains directly associated with the juniper trap structures span Middle Archaic through Late Prehistoric.

Trein, Debora (University of Texas at Austin)

[112] *Preliminary Research on Monumental Architecture at the Site of*

La Milpa, Belize

This paper is aimed at providing an overview of data collected from preliminary research carried out during the 2009 field season at the site of La Milpa in northwest Belize. Excavations have focused on monumental architecture in Plaza A, the largest plaza at the site, more specifically Structure 3. This research is part of a long-term project geared towards an analysis of the socio-political factors entailed in the conceptualization, undertaking and subsequent use of large-scale architectural projects, as well as an examination of possible differential elite sponsorship of monumental structures in the Maya area.

Tremayne, Andrew (University of Wyoming)

[79] *An Analysis of Faunal Remains from a Denbigh Flint Complex Camp at Matcharak Lake (AMR-186), Alaska*

Excavation of a 4000 year old Denbigh Flint Complex camp at Matcharak Lake, located in Gates of the Arctic National Park, Alaska, uncovered preserved organic remains including some exceedingly rare bone and antler tools. Six bone points or prongs, cut antler, and one decorated fore-shaft support hypotheses of a heavy reliance on organic technology. Remains of caribou, Dall sheep, small mammals, birds and fish show they exploited a wide variety of species, suggesting a broad based diet, and an intimate familiarity with their environment. Juvenile caribou bones indicate at least one occupation occurred in late summer or early fall.

Tribbett, Alysha (Vanderbilt University) and Tiffany Tung (Vanderbilt University)

[137] *Corn and Coca in the post-Wari Era: Dental Health, Diet, and Subsistence Practices after State Collapse in the Highland Andes*
After the collapse of the Wari state, sectors of the urban capital—Huari—were occupied well into the Late Intermediate Period (1000–1400 CE). Did later occupants continue to use nearby agricultural lands to maintain Wari-era food production and consumption patterns? Were maize and coca commonly ingested? To address these questions, we examined the dental health of 85 adults and 19 juveniles. Results show that slightly more than half experienced antemortem tooth loss and a third suffered from at least one dental abscess or carious lesion, suggesting a continuation of agricultural practices. CEJ caries suggest some may have consumed coca.

Trigg, Heather (Univ Massachusetts Boston)

[193] *Politics, Trade, and 19th-century Vecino Identity: An Archaeological Examination of a Small New Mexican Ranch*

The 19th century represented a time of political upheaval for New Mexico. First as part of the Spanish Empire, then the Mexican State, and finally as a territory of the United States, New Mexico experienced changes in economic and social relationships with shifting centers of political control. Increased social and economic contacts with Anglo-Americans accompanied the opening of the Santa Fe Trail and incorporation into the United States. These economic, social, and political relationships influenced vecino identity and how it was expressed in material goods and practices. This paper explores these relationships at one vecino site in northern New Mexico.

[154] *see Peles, Ashley A.*; [246] *see Patalano, Marisa*

Trimble, Michael [163] *see Riordan, Jennifer L.*

Trimmer, Alyssa [179] *see Duncan, Richard B.*

Tripcevich, Nicholas (UC Berkeley)

[222] *Onward to Apurímac: A Llama Caravan Journey in Southern Peru*

In 2007 llamero Fidel Cruz Anco and three members of his extended family retraced the path of his earlier salt caravans in the company of archaeologists and ethnographers. This talk will discuss the 230 km journey from the Huarhua salt mine in Cotahuasi (Arequipa) to the town of Calcauso (Apurímac) over a fifteen-day period. This ethnoarchaeological research project was designed to document the travel strategies of llama caravans and map their journey with current

GPS technology, but we also observed many other features of llama caravan organization in this Quechua speaking community. The talk will explore the link between regional exchange and long-distance family ties, the relationship between herders and farmers, and the daily routine on the trail.

Troccoli, Ruth (D.C. City Archaeologist) and Shagun Raina (University of Wisconsin, Madison)

[163] *GIS and Archaeological Data Management in the Nation's Capitol*

Conversion from paper-based archaeological data management to a GIS has streamlined review and compliance in the DC SHPO, providing sophisticated land-use analysis in place of gut instinct. Standard and custom layers inform recommendations for survey type, location, and depth. A 17-acre parcel considered too disturbed to warrant testing in 1990 was reviewed using GIS and three acres with high potential were identified. An eligible Late Woodland campsite with a lithic quarry/ workshop was located during testing. Data layers with historic shoreline and stream course reconstructions, former cemetery locations, and Late Pleistocene paleosols are used to target specific types of resources.

Trombold, Charles (Washington University in St. Louis)

[13] *Recent Excavations on the La Quemada Agricultural Terraces, Zacatecas, Mexico*

Based on pollen and phytolith profiles from our first test excavations on the terraces in 2000, it appeared that the terraces were possibly a late response to climatic deterioration. The extended excavations in 2008 and 2009, however, unequivocally demonstrate their earlier construction during the La Quemada phase (ca. AD 600 – 800) at the time of greatest population growth and political centralization. The uniform construction style of terraces and the contiguous 12 meter wide causeway indicate centralized labor coordination and contemporaneity. This paper discusses aspects of terrace and causeway architecture, associated artifacts, labor investment and an associated village site (“La Jabonera”).

Trombold, Charles D. [13] see *Schuermann, Ryan T.*

Tromp, Monica [175] see *Dudgeon, John V.*

Trowbridge, Meaghan (University of Arizona), Barbara J. Mills (University of Arizona), Deborah L. Huntley (Center for Desert Archaeology), Jeffery J. Clark (Center for Desert Archaeology) and Wm. Randall Haas, Jr. (University of Arizona)

[200] *A Social Network Approach to Macroregional Ceramic Distributions in the Greater Southwest*

Applying methods and theories of social network analysis to the archaeological record, the Southwest Social Networks Project seeks to reconstruct prehispanic social network dynamics from A.D. 1200 to 1550 across the Southwest. Our project is integrating material and architectural data to an existing geographic database of over 1,500 late prehispanic sites to create a high-resolution dataset that cross-cuts more traditional socio-physiographic boundaries within the Southwest. We report the progress of our ceramic data compilation efforts and present regional case studies to demonstrate how these data can inform our understanding of regional interactions and network dynamics in the past.

Trowbridge, Meaghan [113] see *Mills, Barbara J.*

Trubitt, Mary Beth (Arkansas Archeological Survey)

[140] *Cahokia and Mississippian Warfare in the 13th Century*
Based on past and recent excavations at Cahokia, we have a better understanding of the Central Palisade as part of a political shift around A.D. 1200 that is materialized in the site's monumental public constructions. The timing of the building and rebuilding of the palisade is reviewed. Archaeological evidence from the site itself is used to evaluate current models about the increased concern with defense of the central ritual core and the motivations for warfare in and around Cahokia during the 13th century A.D.

[140] *Third Organizer*

Trubitt, Mary Beth [115] *First Organizer*, [140] see *Kelly, John E.*

Trudel, Stephanie E. [203] see *Lewarch, Dennis E.*

Truong, Nhi [81] see *Bowser, Brenda J.*

Truongchau, Thomas M. [259] see *Blackwell, Bonnie A. B.*

Tschaunert, Hartmut [145] see *Isbell, William H.*

Tsesmeli, Lia (Southern Methodist University)

[77] *The Dynamic Landscape at El Perú-Waka': Visual and Temporal Representations*

The landscape at El Perú-Waka' and its periphery has been recorded methodically and intensively since 2003 in an effort to account for the settlement's size, outline and configuration. A direct result of such survey, the Waka GIS combines architectural and landform features, excavation unit information, and contextual excavated material evidence into a coherent, dynamic information system that aims to represent and study the spatial and temporal components of the settlement. This paper briefly outlines the methodology for recording and managing the existing dataset, and presents an analytical example of temporal and visual integration at the site.

Tsomo, Tenzing [8] see *Skinner, Anne*

Tucker, Bryan D. [214] see *Krigbaum, John*

Tung, Tiffany (Vanderbilt University), Katharina Schreiber (University of California, Santa Barbara)

[122] *Morbidity Patterns in Ancient Nasca, Peru: A Bioarchaeological Study of Skeletal Health and Trauma*

Prehispanic populations in the Nasca drainage of central Peru buried their dead in large, open cemeteries, and although they are looted, there are thousands of analyzable commingled human remains. We present skeletal health data on at least 80 individuals from eight cemeteries: two from the Nasca valley and six from the Taruga valley. The cemeteries date to Nasca (AD 1 – 750), Wari (AD 750 – 1000), and the Late Intermediate Period (AD 1000 – 1400). We examine differences in community health through time and relate these to changing socio-political contexts, like autonomous rule in Nasca era and the rise and decline of Wari influence.

Tung, Tiffany [137] see *Tribbett, Alysha L.*; [137] see *Sharp, Emily A.*

Turnbow, Christopher (Office of Contract Archeology, UNM) and Jim A. Railey (SWCA-Albuquerque)

[87] *Intensive Farming in Southern New Mexico: Earlier Than We Thought*

Large-scale excavations for two highway projects in southern New Mexico have pushed back the beginnings of intensive farming and storage in the region from ca. AD 500 to sometime in the first millennium BC. These discoveries suggest that intensive farming in the region first took hold in well-watered highland settings, while more mobile hunting and gathering persisted as the dominant pattern in the lowlands until later Formative times. These findings challenge at least one model of subsistence-settlement patterns previously proposed for the region, and suggest a complex integration of upland and lowland economic systems in the region.

Tuross, Noreen (Harvard University), Antonio Martinez Tuñón (INAH), Christina Warinner (Harvard University), Dylan Clark (Harvard University) and Nelly Robles Garcia (INAH)

[103] *Between Yagul and Mitla*

Within the context of a major project aimed at the protection of more than 100 cave and rock shelter sites in the Valley of Tlacolula, Oaxaca, we have investigated the floral biome of the region to aid in, extend and develop new archaeological interpretations. We report a complex isotopic pattern in contemporary flora that has likely

persisted for thousands of years. The diversity in carbon and nitrogen floral isotopic values will impact, and at times alter, interpretations of plant domestication and trophic level. In the excavation of Cave A-54, we document remnant agave remains and report a new biomarker that supports the interpretation of pulque starter storage as a major use of this small, isolated space.

[103] *Second Chair*

Turq, Alain (Musée national préhistoire (France)), Dennis Sandgathe (Frazier University Vancouver), Harold Dibble (University of Pennsylvania), Jean Philippe Faivre (PACEA Université de Bordeaux) and Shannon Mac Pherron (Max Plank Institut)

[8] *The Quina Occupations at Roc de Marsal (France)*

The recent excavations of the Quina Mousterian occupations at Roc de Marsal have yielded abundant and reliable evidence of this Middle Paleolithic industrial variant. In this paper, we compare the Roc de Marsal Quina assemblages to those from other sites in southwest France, demonstrating the uniqueness of this industry in terms of technological behavior and overall economy. On the basis of this study, a new definition of the Quina Mousterian is presented.

Turq, Alain [8] see Dibble, Harold L.; [8] see McPherron, Shannon P.

Tushingham, Shannon (University of California, Davis), Diana Nguyen (University of California, Davis), Jelmer Eerkens (University of California, Davis), Jimmy Nguyen (University of California, Davis) and Oliver Fiehn (UC Davis Genome Center)

[4] *Gas Chromatography-Mass Spectrometry Analysis of Alkaloid Residue in Ancient and Experimental Pipes*

Though archaeological pipes are typically assumed to be associated with tobacco (*Nicotiana sp.*) smoking, a variety of smoke plants were used for ritual and medicinal purposes in ethnographic North America. The goal of this study is to determine which plants were smoked by Californian hunter-gatherers, if there is any correlation between plant species and pipe attributes, and whether different plants were emphasized at different points in time. A range of modern plants were characterized using GC-MS, "smoked" in experimental pipes, residues extracted as if archaeological specimens, and compared to residues extracted from archaeological pipes dating to between 3500-1200 years old.

Twiss, Kathryn (Stony Brook University) [48] *Discussant*

Twiss, Kathryn [74] see Henecke, Jennifer L.

Tykot, Robert (U. of South Florida), Darko Komšo (Archaeological Museum of Istria), Emil Podrug (City Museum of Šibenik)

[9] *The Spread of Obsidian in the Adriatic during the Neolithic: New Evidence from Dalmatia and Istria*

Obsidian sources in Europe and the Mediterranean are well known, yet other than for Italy, little work had been done on obsidian artifacts found at archaeological sites along the Adriatic. In this study, more than 150 obsidian artifacts from Neolithic sites in Croatia were analyzed using a non-destructive portable Bruker X-ray fluorescence spectrometer. The artifacts come from eight sites in Istria, and three in southern Dalmatia (Danilo, Pokrovnik, Krivace). Their attribution to specific geological sources and subsources provide for statistically supported interpretations regarding trade and exchange directions and socioeconomic organization for the Neolithic period in the Adriatic.

Tykot, Robert [123] see Freund, Kyle P.; [126] *Discussant*; [175] *Discussant*; [184] see Waterman, Anna J.; [251] see Hays, Christopher

Tyler, James [91] see Wrobel, Gabriel D.

Tynan, Collins (College of the Holy Cross), Casey McNeill, Ian

Kuijt (University of Notre Dame), Jillian Brems (University of Maryland) and Jillian Brems (C-Board Films, Bofin Island, Ireland)

[185] *Resurrecting the Island Way: Oral History and Life-Ways on 19/20th cent Inis Airc, Co. Galway, Ireland*

The integration of interviews, oral histories and historical records, provides an important means of documenting past island lifeways. This poster addresses the process employed in June 2009 to document 1940-1960 life on InisAric island, off of western Ireland. This involved taking three villagers back to Inis Airc, conducting on-camera interviews in their abandoned homes, taking them to fields areas, and getting them to reflect upon issues of place, identity and landscape, within this coastal community. This research will be expanded in the next two years and will serve as a record of island life.

Tyson, Erin, Lauren Meyer (Bandelier National Monument, NPS), Molly Ray (Bandelier National Monument, NPS) and Stephen Merkel (Bandelier National Monument, NPS)

[235] *In Response to Vandalism: Ten Years of Graffiti Mitigation at Bandelier National Monument*

During the 2009 field season at Bandelier National Monument a conservation program was implemented, focusing on graffiti mitigation among cliff dwellings at Tsankawi Mesa, an ancestral Puebloan site. Historic and modern markings, symbols, and letters carved into the original earthen plaster, soot finishes and tuff substrate are defined as vandalism. While preservation efforts prioritize prehistoric resources, remnants from subsequent periods of occupation must also be considered, posing a philosophical dilemma. The poster will discuss principal objectives of the graffiti mitigation program, theoretical considerations for selecting graffiti to treat, the methodology employed, and examples of treatments since the program's inception.

Ullah, Isaac (Arizona State University, SHESC)

[73] *Assessing the Accuracy of Microrefuse Sampling Techniques*

Spatial analyses of microrefuse recovered from ancient living surfaces can reveal the location and character of activities that occurred on those surfaces. How microrefuse samples are taken, however, greatly influences the outcome of these spatial analyses. This paper advocates a new strategy of collecting many small microrefuse samples from the nodes of a triangular lattice as opposed to several commonly used microrefuse sampling techniques, including grid-based, purposive bulk, and random bulk sampling. Each strategy is tested and ranked according to how accurately it can predict the real spatial variation present in several sample microrefuse scatters simulated in a GIS.

[184] *see Bergin, Sean M.*

Underhill, Anne (Field Museum) [155] *First Chair*

Urban, Patricia (Kenyon College)

[258] *Can Specialized Ceramic Production be Seen through Slight Variations in Ceramic Formation?*

In this presentation, I discuss tests of the hypothesis that variation in the finishing of lip forms may be one way to see specialized ceramic production. Fundamental is the idea that lip finishing is a product of habitus, that is, once learned, it is largely unconscious. In an earlier test of this proposition, contrary to my expectations, finishing was more variable in areas where production was concentrated, and fairly uniform at sites where production was small-scale and/or intermittent. This result will be further tested in other situations of neighboring small- and larger-scale manufacturing.

[65] *see Schortman, Hayden N.; [258] see Dillon, Jennifer M.; [258] *Second Organizer**

Urban, Thomas (University Of Oxford), John Hermance and Krysta Ryzewski

[123] *Cumberlandite: Using Residual Gravity to Delineate an Historically Important Ore Body*

Cumberlandite, the state rock of Rhode Island, may have played a

major role in the early iron industry of colonial New England. The magmatic titaniferous ore is believed to have been exploited as a natural resource in the 18th century by industrious colonists, including the Brown brothers, namesakes of Brown University. Because cumberlandite is much denser than the granites and metamorphic rocks common to Rhode Island, it creates a detectable gravity anomaly. This poster describes the procedure used to map the cumberlandite ore body with a LaCoste & Romberg gravimeter, including field procedures and corrections for elevation and tidal effects.

Urquhart, Gerald [4] *see Lovis, William*

Urton, Gary (Harvard University)

[96] *The Paradigm of the Knotted String as a Model for the Structure and Organization of Storage Facilities in the Inka Empire*

To date, we have a wealth of studies, both archaeological and ethnohistorical, of Inka storage facilities, as well as an equally extensive collection of works dealing with the Inka knotted-string recording device, the khipu (or quipu; Quechua: "knot"). While we know that the khipu was used to record information on the contents and disposition of the storehouses located in state administrative centers, we have not to date developed a comprehensive theory that would allow us to articulate the nature of the connection between the structural characteristics and account recording principles of the khipu, on one hand, and the structural and organizational features of Inka storage facilities, on the other. This study argues that there was an intimate link – both formal and conceptual -- between these two institutions of Inka statecraft.

Urunuela, Gabriela (Universidad de las Americas) and Patricia Plunket (Universidad de las Americas, Puebla)

[156] *The Standardization of the Thin Orange Ceramic Tradition: The Formative to Classic Transition*

Evidence from the site of Tetimpa in the state of Puebla, Mexico, demonstrates that Thin Orange emerges as a trade ware during the Late Formative. Although goblets and drinking vessels dominate the assemblages, the specific shapes vary widely, reflecting the individualized exchange relations that characterized this period. We suggest that Teotihuacan's selection of this ceramic type as a major component of its long distance commercial networks resulted in the standardized morphology and paste found during Classic times.

Uruñuela, Gabriela [136] *see Robles-Salmerón, Amparo*

Utrilla, Pilar [177] *see Aura, J. Emili*

Uunila, Kirsti (Calvert County MD Department of Planning) [3]
Discussant

Vail, Gabrielle (New College of Florida), Christine Hernandez (Tulane University)

[178] *The Dynamic Duo: Rain and Fertility Rituals in Postclassic Yucatan Featuring Chaak and Chak Chel*

Data from Maya codices and murals provide important information for interpreting artifact assemblages excavated from cave and cenote contexts throughout the Yucatán peninsula. Our analysis of these materials—in particular, incensarios, effigy vessels, and metates—in conjunction with scenes depicted in painted imagery suggests that these loci were used for the performance of rituals dedicated to a complex of rain and fertility deities. Of special interest is the inclusion of artifacts linked to female deities having associations with fertility and the events of creation, an aspect of these collections that has received little attention in the past.

[178] *First Chair*

Valcarcel Rojas, Roberto [97] *see Laffoon, Jason E.;* [97] *see Mickleburgh, Hayley L.*

Valdez, Fred (University of Texas At Austin) [91] *Discussant*

Valencia, Mauricio [195] *see Garza, Silvia*

Valencia, Robert [225] *see Darling, J Andrew*

Valentín, Norma [64] *see López Luján, Leonardo*

Valentine, Benjamin (University of Florida), John Krigbaum (University of Florida) and Richard Meadow (Harvard University)

[189] *Isotopic Perspectives on Harappan Mobility: A Faunal Baseline*
Isotopes of strontium, lead, and oxygen can give a high-resolution perspective on broad changes in human mobility suggested by protohistoric South Asian archaeology. Comparison between Harappan and Late Harappan mortuary populations at the sites of Farmana and Sanauli in northwest India will show how migration patterns varied with apparent changes in a broader Indus ideology. We present the results of faunal enamel and sediment analyses from Harappan sites dating between the late 3rd millennium BC to the early 2nd millennium BC. These data allow the characterization of 'local' isotope ranges and are a first step towards tracking ancient Harappan migration.

Vallieres, Claudine (McGill University)

[245] *Living with Garbage and Ancestors: The Case-study of Mollo Kontu in Tiwanaku, Bolivia*

This paper presents the result of an intra-site analysis of the faunal remains found in garbage pits, both in a residential and mortuary area of the urban center of Tiwanaku, Bolivia. These areas, separated by approximately one hundred meters, were occupied roughly from AD 600 to 1100. Though their architectural remains differ markedly, these areas are strikingly similar in their ubiquity of garbage pits. A detailed analysis of the faunal data from each pit aided with data from ceramics and paleoethnobotany allows a discussion of residential life, burial practices and garbage disposal in Tiwanaku.

Van Buren, Mary (Colorado State University) and Claire Cohen

[255] *Technological Diversity and Stagnation: The Political Economy of Small-scale Silver Production in the Southern Andes*

Spanish mine owners relied on indigenous technology for the production of silver in the southern Andes immediately following the conquest, but declining ore quality resulted in the introduction of mercury amalgamation in the 1570s. This technology required large amounts of capital and was thus controlled by Europeans who dominated the industry for the next two centuries. However, the archaeological record at Porco, a mining center in southern Bolivia, indicates that this period was characterized by a diverse array of techniques used to produce silver, rather than the disappearance of small scale production. This paper examines the conditions that fostered technological diversity in Porco and the processes that led to its eventual decline.

Van Der Elst, Judith (University of New Mexico) and Heather Richards-Rissetto (University of New Mexico)

[24] *Rethinking Digital Data Collection and Dissemination from a User Perspective*

We are immersed in a data-rich environment, however many archaeologists still emphasize data collection rather than making use of existing data. We argue that simultaneous changes in database/digital data repositories and methods and educational goals are needed in order to create digital environments that encourage archaeologists to take advantage of existing datasets. While digitization has become an integral part of archaeology, the ability to integrate large digital datasets for analytical purposes is in the formative stages. Our work focuses on using geospatial technologies to address issues of data utility from multiple angles including data collection, databases, methods, and digital tools.

Van Der Leeuw, Sander (SHESC) [113] *Discussant*

Van Dyke, Ruth (Binghamton University)

[14] *Art "To Think With:" Toward an Aesthetic Southwest Archaeology*
Building upon theoretical insights of LaTour and others, some

colleagues have collapsed the boundaries between “art” and “science,” recognizing that archaeologists use both aesthetic and analytical methods when interpreting the past. Science serves us well in many respects, but to connect with the lives, decisions, and experiences of ancient Southwest peoples, we must embrace intuitive, aesthetic forms of data-gathering, interpretation, and representation. Methods range from phenomenological fieldwork to film, narrative, hypertexts, and fiction. Art “to think with” can challenge and expand our understandings of the ancient Southwest, illuminating what we know well, where we need work, and what dimensions we have yet to consider.

Van Dyke, Ruth [51] *see Baxter, Erin*

Van Galder, Sarah, Justin Lev-Tov (Statistical Research, Inc.) and Richard Ciolek-Torrello (Statistical Research, Inc.)

[154] *Consuming Ethnicity and Producing Hybridity in Dietary Decisions of Native Americans in post-contact southern California*
In southern California, contact between the Hispanic and aboriginal populations greatly altered indigenous subsistence strategies. In this talk we compare pre- and post-contact zooarchaeological remains from sites in the Los Angeles basin. The introduction of foreign foods and technologies coincided with changes in animal processing and procurement for both native and introduced species. Aboriginal fishing yields increased whereas large mammal yields decreased, despite the introduction of domesticates. Additionally, the condition of many post-contact specimens suggests that mammal remains were not as intensively processed as earlier. This evidence provides insights into the adjustment of the area’s Native populations to Hispanic colonization.

Van Nest, Julieann (New York State Museum)

[140] *Cahokia’s Landscapes: A Geoarchaeological View From the Mound 34 Area*

This paper explores the diverse landscapes in the Cahokia area, as backdrop to tapping the rich, primary sources of geoarchaeological data informing us about earthen architectural details. Cores and profiles highlight the complicated history of both pre-mound and mounding events at Mound 34. Soils were deeply truncated in the mound area. One fill unit, containing feasting debris, was quarried from elsewhere, signaling symbolic significance attached to its source. In the copper area, water and soil was intimately mixed, then sealed. A case is made for the need to create and curate a soil and sediment archive fostering basic comparative research.

Van Nest, Julieann [259] *see Arntzen, Kristen*

Van Pool, Todd (University of Missouri), Christine VanPool (University of Missouri—Columbia) and Gordon Rakita (University of North Florida)

[235] *Excavation of the 76 Draw Site, Luna County, New Mexico*
Donald Brand reported that 76 Draw, a site about 10 miles southwest of Deming, New Mexico, was the northernmost Casas Grandes settlement he encountered. This past summer, students affiliated with the University of Missouri and the University of North Florida surveyed, mapped and began excavations at the site. Although the site is not in the condition it was when Brand visited it in the 1928, it still has intact deposits and is large relative to other Jornada Mogollon and Medio period settlements. We discuss our preliminary findings based on the excavation, which indicates that the artifact assemblage contains Mogollon plainwares, Chihuahuan polychromes and El Paso Polychrome, and architecture that shares affinities with Casas Grandes and Jornada Mogollon architecture.

Van Zandt, Tineke (Pima Community College) and David Stephen (Pima Community College)

[235] *Archaeological Survey North of Bagdad, Arizona*
In contrast to much of the rest of the Southwest, the western periphery of the Prescott Culture remains poorly known. The area is remote and has suffered from a general lack of scholarly attention. The Burro Creek/Pine Creek Archaeological Survey began in 2003 as

a joint venture between Pima Community College and the BLM. This is the first comprehensive archaeological survey within a greater study area encompassing over 500,000 acres of BLM, USFS, Arizona State Trust, and private lands. This poster summarizes the research goals of the project and describes the sites located, dating from the Archaic through Historic periods.

VanderVeen, James (IU South Bend)

[97] *Evaluating Classic Taino Culture History: An Interesting Intersection of Carbon Dating, Cholesterol, and Ceramics*

Archaeologists traditionally use decorated ceramics as indicators of cultural differences. The conventional wisdom regarding the pottery made by the Tainos of the Caribbean hints at a distinct, linear timeframe and exclusive ethnic influences in their designs. But recent excavations in the Dominican Republic are challenging this assumption with evidence of two separate decoration styles present in the same sites, at the same time, and with the same food content. The spatial, temporal, and functional distribution of recovered pottery sherds is more homogeneous than expected, suggesting that the diverse forms of surface ornamentation may potentially reflect small scale social distinctions.

[97] *First Chair*

VanDerwarker, Amber [85] *see Thompson, Victor D.*; [254] *see Wilson, Nathan D*

Vandiver, Pamela [240] *Discussant*

VanPool, Christine (University of Missouri-Columbia) and Todd VanPool (University of Missouri)

[128] *Materiality of Water at Paquimé*

The materiality of ritual dedication, continuing, and closure of architectural features is evident at Paquimé (Casas Grandes), Chihuahua, Mexico. Important places for the animation of beings were associated with water, as mostly clearly discerned with the reservoirs, Walk-in-Well, canals, and the site’s placement and layout. We discuss the various cases of ritual dedication and closure at Paquimé, and describe their social importance. Ultimately we proposed that the inalienable objects used in ritual dedication and closure keep water animated, helping make Paquimé the center place of the Casas Grandes World.

VanPool, Christine [200] *see Oswald, Chris M.*; [235] *see Van Pool, Todd L.*

VanPool, Todd [128] *see VanPool, Christine S.*; [200] *see Oswald, Chris M.*

Vargo, Barbara and Katherine Kelly (Army Corps of Engineers Seattle, Washington)

[108] *A Comparative Analysis of Projectile Point Types from the Duwamish and Marymoor Sites, Puget Sound Region, Washington.*
Recent studies of projectile point types in the Pacific Northwest suggest that type variability and distribution are more complex than previously thought. The comparative analysis of projectile points from the Duwamish (45K123) and Marymoor (45K19/A - 45K19/B) sites with other sites in the region suggest that although a high rate of variability in the morphological attributes of these points exists, this variability does not signify new point types, but rather, an expansion of the influence of existing styles. This paper outlines the continuing analysis of Pacific Northwest point types and raw material variation.

[108] *First Chair*

Varien, Mark (Crow Canyon Archaeological Center)

[19] *The Village Ecodynamics Project: Modeling Long-Term Interaction Between Pueblo People and Their Environment in the Northern Southwest*

The Village Ecodynamics Project (VEP) is a long-term, multidisciplinary study that examines the interaction between Pueblo Indians and their environment using a computer simulation and the analysis of an archaeological database with over 15,000 sites. Phase

I of the VEP was recently completed. Phase II began in 2009; it doubles the size of the study area in southwestern Colorado, and it includes a second study area of comparable size in the Rio Grande valley just north of Santa Fe, New Mexico. This paper presents the results of the Phase I of the VEP and outlines the objectives for Phase II.

[130] *Discussant* [19] *First Chair*

Varney, R. (PaleoResearch Institute), Chad Yost (PaleoResearch Institute) and Linda Scott Cummings (PaleoResearch Institute)

[172] *Paleoenvironment: Pollen, Phytoliths, and Models for the Avenue of the Saints Corridor, NE Missouri*

Archaeoclimatic models were run for the north and south ends of this linear project in northeast Missouri. Stratigraphic samples representing most of the Holocene and accumulated from several sites within the project area combine to create a record of early Holocene forests and middle Holocene (Archaic) thinning of the forests. Changing composition of the forest from Early to Middle Holocene, as well as changing frequencies of persistent members of the vegetation community provide an indication of the context in which people lived. Human activity appears to have created a cultural landscape that included more nut trees and open areas.

[10] *First Organizer*, [10] *Discussant*

Vasilev, Sergey (Institute for the Material Culture History)

[177] *Old Traditions, New Tendencies: The Final Paleolithic Culture Development in Siberia*

The paper deals with the study of culture manifestations in Siberia during the Younger Dryas. In spite of the relative scarcity of data and lack of detailed paleoenvironmental reconstructions for the time span under consideration, we could argue about the continued dense human population at all main drainage areas in Southern Siberia. The Final Paleolithic saw the important changes in subsistence activities manifested by the diversification of hunting practices and increase in specialized reindeer procurement, especially in the Yenisey valley. At the same time the huge area around the Lake Baikal witnessed the increase in fishing and the dispersal of harpoons and fishhooks.

Vasquez, Javier [87] *see Condon, Peter C.*

Vaughan, David

[255] *Slavery, Mining and Interaction in Colonial New Mexico*

The debate over whether Spanish miners compelled Pueblo Indians to work in New Mexico's silver mines is reexamined through comparisons of the written and archaeological records of mining interaction during the early colonial period. The results reveal previously unseen aspects of the story of colonial mining on New Spain's northernmost frontier, as well as clear changes in the nature of mining interactions over time. Further insight is gained suggesting a relationship between these changes in interaction, technological syncretism, and the development of a new, multi-ethnic mining tradition in New Mexico.

Vaughn, Kevin (Purdue University), Laure Dussubieux (The Field Museum), Ryan Williams (The Field Museum) and Sarah Cross (Purdue University)

[121] *Changing Political Economy in Nasca: A Pilot Compositional Analysis of Ceramics from the Kroeber Collection*

We report on LA-ICP-MS of a sample of Nasca ceramics collected by Kroeber in the 1920's and curated at the Field Museum. The analysis was conducted for two principal reasons: (1) to add chronological depth to a growing database of compositional data of Nasca ceramics, especially by including samples from Middle Nasca through the Middle Horizon; and (2) to test the efficacy of LA-ICP-MS when compared to INAA. The results have implications for our understanding of changes in Nasca political economy over time and also demonstrate that LA-ICP-MS is an effective alternative to INAA when considering compositional techniques.

Veerawan, Sutee (University of Arizona)

[121] *Technological Variation of the Production of Glazes on Khmer*

Ceramics from Ban Kruat, Thailand

Khmer stoneware was made by groups of potters in Cambodia and northeastern Thailand between the 9th and 14th centuries CE. Scholars have previously recognized important variations in pastes, glazes, and forming techniques among different stoneware types. The research presented in this poster use LA-ICP-MS to examine differences in the production of glazes on Khmer stoneware from 13 kiln sites located in Ban Kruat area, northeastern Thailand. The analysis reveals that chemical compositions vary markedly within and between glaze groups. Reasons for these variations will be considered, and the implications for understanding technology and production organization will be explored.

Vehik, Susan (University of Oklahoma)

[220] *Conflict and Fortification on the Southern Plains*

Indicators of violence among Plains peoples increases steadily after AD 700. However, the use of fortification to protect against rising violence develops much later on the southern Plains compared to more northern areas. This study concludes that southern Plains peoples first use aggregation rather than fortification as a defense mechanism. After AD 1450, lifestyle changes and epidemic disease bring about the use of fortification on the southern Plains.

[171] *see Drass, Richard*

Velazquez, Adrian (INAH) and Emiliano Melgar (INAH)

[67] *Tapachtli and Mullu in Mesoamerica and the Andean Region*

In Mesoamerica and the Andean Region shells of the genus *Spondylus* were very important for the production of elite and votive objects. The shells had to be dived in the sea and transported to the inland sites, where the objects were made using different techniques. Its importance resided in the symbolism conferred to them by the cultures of both areas. In the present paper a comparison between Mesoamerica and the Andean Region is presented, in relation to the use, production and meaning of *Spondylus princeps* and other related species.

Vellanoweth, Rene [31] *see James, Steven R.*; [232] *see Marty, Johanna V.*

Venables, Barney [4] *see Barker, Andrew L.*

Venter, Marcie (University of Kentucky)

[254] *Innovations in Cooking Technology: The Implications of Comal use in the Late Postclassic Tuxtla Mountains*

When examining Postclassic changes in the Tuxtla Mountains of Veracruz, few differences so readily distinguish the Late Postclassic from earlier periods than the introduction and rapid adoption of comals (tortilla griddles). While the particular timeline of their introduction varies somewhat throughout the Gulf lowlands, it is generally agreed that they are characteristic of late prehistory and have their likely antecedents in highland Mesoamerica. In this paper, I discuss the comal assemblage at Totogal, a Postclassic center in the western Tuxtla Mountains, and evaluate the possible mechanisms that resulted in their rapid implementation in the region.

[133] *First Organizer*; [133] *Discussant*

Vermeersch, Pierre

[177] *The Human Occupation of the Benelux during Younger Dryas*

After the Federmesser groups disappeared in the Benelux a hiatus in occupation seems to start with the Younger Dryas. The Ahrensburgian groups are new immigrants in the area. An overview of their presence will be presented.

Vermilion, Mary (Saint Louis University/Umsl)

[140] *The Loyd Site: A Moorehead Nodal Site*

This paper examines the Loyd site (11 MS 74), a Moorehead phase nodal site, located about 5 km northeast of Cahokia Mounds. Existing theories on nodal site function in the region were evaluated as were temporal changes in the sociopolitical climate during the Mississippian period. A general comparative analogy was employed

as a bridging argument to demonstrate some universal human behaviors that might be applied to the Cahokia/nodal site relationship. It is suggested that resistance to the polity may have been the reason for the existence of such sites at this critical juncture in the Mississippian period.

Vermilion, Mary [140] *see Iseminger, Bill*

Versaggi, Nina (Binghamton University (SUNY)), Michael Jacobson (Binghamton University (SUNY)), and Richard Kastl (Binghamton University (SUNY))

[180] *Balancing the Interests of Competing "Publics": A Critique of the "Pragmatic Approach" in CRM*

In academic archaeology, pragmatic approaches have involved descendents and descendent communities in formulating research, interpretation, and preservation plans. CRM encounters challenges to using this approach as archaeologists balance interests of multiple, sometimes competing, entities. This paper discusses a case study of community outreach from the Gilboa Dam Project that forms a critique of a pragmatic approach, and suggests ways to negotiate with competing "publics" in archaeological outreach.

Versaggi, Nina [180] *see O'Donovan, Maria*

Verslype, Laurent [123] *see Woods, William*

Veth, Peter [104] *see McDonald, Josephine*

Vicari, Mary Ann (Washington University in St. Louis)

[215] *Investigating Environmental Change and Population Movement at the Archaic/Woodland Transition in the Lower Illinois Valley*

Throughout much of eastern North America, Early Woodland cultures can be distinguished from Late Archaic cultures on the basis of lower population densities and an overall reduction in trade, settlement type diversity, and mortuary architecture. The tendency to downplay the Early Woodland as nothing more than "Archaic with pottery" ignores increasing evidence for environmental change and population migrations during this period, indicating a highly dynamic context for the development of Middle Woodland Hopewell culture. This paper examines existing Early Woodland archaeological and environmental datasets from the Lower Illinois Valley to assess evidence for increasing landscape instability and population movement.

Vicent Garcia, Juan (Instituto de Historia, CCHS CSIC (Spain))

[143] *Second Organizer*

Vierra, Bradley [248] *see McBrinn, Maxine E.*

Vigliani, Silvina (Postgraduate in Archaeology, ENAH)

[242] *Landscape Entities as Social Agents*

In many traditional societies, certain rocks or mountains, plants or animals can be understood as part of the social world. In that sense, landscape is something alive and dynamic, which, as social agent, structure the human action and is structured by it. Here I will adopt a relational perspective where the shared experience of dwelling is basic to understanding the process of incorporating the landscape. In this presentation, I will analyze the notion of landscape from the agency theory and identities negotiation perspectives in hunter, fisher and gatherers societies (central coast of Sonora, México), through the rock art study.

[242] *Third Organizer*

Villalpando, Elisa (Instituto Nacional de Antropología e Historia, Sonora)

[14] *Borderlands Archaeology: Viewing North from South*

Northwest Mexico archaeology confronts several problems. It is not part of the US Southwest as a political and ideological entity but northwestern archaeologists recognize a closer relation with Southwestern theoretical and methodological approaches than with Mesoamerican. Dissimilar legislation exists to move toward many issues both sides of the border, some for good some for bad. Ten

years from now borderland economic disadvantages will be astonishing, a broader collaboration will be needed in order to preserve and do research in archaeological sites.

Villamil, Laura (University of Wisconsin - Milwaukee)

[225] *Lowland Maya Post-Collapse Communities in south-central Quintana Roo, Mexico*

This paper examines the widespread reoccupation of abandoned Classic Maya sites in south-central Quintana Roo, Mexico, and explores the ways in which memories and vestiges of the past shaped social activity in the wake of the so-called Maya Collapse. I discuss how post-collapse communities formed by appropriating and transforming the built environment while at the same time rejecting the old spatial order. For populations displaced by the socio-political upheaval of the time, abandoned sites served as fertile ground in which new social strategies—including novel experiments at community organization—were adopted.

Vining, Benjamin (Boston University)

[85] *Assessing the Complexity of Built Archaeological Environments: A Multi-data Geophysical Approach*

The refinement of geophysical applications enables detailed resolution of internal site structuring, allowing archaeological inferences on the behavioral aspects contributing to site formation. Magnetometer and site-scale digital elevation data from four sites—Kota-Rentang, Indonesia; Mersa Gawasis, Egypt; Witz-Cah-Akal, Belize; and Kaymaçki, Turkey—characterize the sites' degree of organization and spatial variance. These data reveal variable site formation behaviors, ranging from the growth of ephemeral features through repeated use and accumulation, to the planning and construction of organized monumental sites. Such indices of spatial organization derived from remotely-sensed datasets ultimately describe the social mechanics that differentiate aggregated versus built archaeological environments.

Vint, James (Desert Archaeology, Inc.)

[44] *Persistence of the Las Capas Canal System, 950 B.C.-800 B.C.*

Recent excavations at the site of Las Capas in the Tucson Basin revealed extensive canal-irrigated fields that date from about 1250 B.C. to 800 B.C. The stratigraphic record documents superimposed canals and fields that remained consistent in layout from about 950 B.C. to 800 B.C., within floodplain deposits over a meter thick. Clusters of field houses likely represent households or "smallholders" who owned fields and were responsible for maintenance of canal segments within the overall system. The persistence of the system, and associated field house infrastructure, are testament to a well-developed, dedicated investment in farmland and early sedentary village life.

[44] *First Organizer*

Vivanco, Cirilo [18] *see McEwan, Colin*

Vlcek, David (BLM Pinedale Wyoming) and J.D. Drucker (BLM Pinedale Wyoming)

[72] *Research Opportunities in the Upper Green River Basin*

Research opportunities are available on BLM land and resources in the Upper Green River Basin. Our objectives for this poster are to encourage and inform professional archaeologists of these opportunities. Research funding may come from several available sources. Our million acres of public land contains a plethora of archaeological resources numbering over 6,000. Our presentation highlights a rich Early Archaic through Late Prehistoric site base. Rock Art sites, life-way analysis, settlement patterns, communal big game procurement sites and paleo-environmental reconstructions are available for your research.

Vogel, Gregory (Southern Illinois University Edwardsville)

[215] *The Utility of Historical Sources in Reconstructing Prehistoric Environments and Site Use*

Archaeological sites are commonly disturbed by historic modifications. Current landscapes and overall environments are

easily misinterpreted as "natural" or the result of slow changes over long periods of time. Historical sources such as aerial and ground-based photographs, early maps, illustrations, and text-based resources are often overlooked as vital resources of landscape information key to reconstructing prehistoric environments and site use. This paper demonstrates the utility of understanding historic landscape change through examples from Mound House, a Middle Woodland period mound center where historical sources have aided in interpreting archaeological information gathered through excavation, surface collection, and geophysical remote sensing. [162] see Lorenzini, Michele; [215] see Berg Vogel, Michelle A.; [173] First Organizer; [215] Second Organizer

Vogel, Kristen (Texas A&M) and Laura Gongaware (Texas A&M)
[80] *Protecting Against Destruction: The Failed Salvage Attempt of a Nineteenth-Century Steamboat and the Missouri State Legislation that Followed*

The early nineteenth-century steamboat Missouri Packet, one of the earliest to ply the Missouri River, sank in Missouri in the 1820s. It was rumored that specie was onboard. In 1988, the potential to find this cache led a salvage company to unearth the wreck. The site was crudely dug up. No silver was found. The hull remains were severely damaged in the process. Scant records of the site were kept. This case study explores the damage caused by treasure hunters to a site and demonstrates how the public and archaeologists can use such examples to encourage protective legislation.

[80] Second Chair [80] Second Organizer

Vogel, Kristen [80] see Gongaware, Laura L.

Vogel, Melissa (Clemson University)

[114] *Who's Intruding Now? Intrusive Burials, Looting, and Archaeological Investigations at El Purgatorio, Peru*

The archaeology of intrusiveness inevitably raises the question of subjectivity. Who is the intruder and according to whose perspective? Burials considered intrusive by modern archaeological standards may have been considered common practice from the perspective of the ancient people who interred them. Looting activities deemed destructive by archaeologists may be perceived as inconsequential or even a cultural norm by local communities. In fact, these same communities may consider archaeological projects to be intrusive into their daily lives and priorities. To illustrate, this paper will present evidence of intrusiveness at the site of El Purgatorio in the Casma Valley of Peru.

Volf, William (NRCS)

[249] *Pastures and Pitstructures: Applying Geophysical Techniques in a CRM Setting*

Southwestern Colorado is well known for its Ancestral Puebloan archeological resources that can often be identified, mapped, and evaluated based on surface observations. When prehistoric cultural locations have been converted to modern agricultural fields, the surface expression of the sites is often eliminated, limiting the information that can be gleaned from surface observations. A non-invasive manner to investigate these sites is through the use of geophysical instruments. This paper will discuss the application of geophysical techniques at archeological sites found in agricultural fields in Southwestern Colorado.

von Cramon-Taubadel, Noreen (University of Kent, Canterbury) and Ron Pinhasi (University College Cork)

[82] *Craniometric Data Supports Demic Diffusion Model for the Spread of Agriculture into Europe*

The question of whether agriculture spread into Europe primarily as a result of human migration (demic diffusion) or the diffusion of culture has been heavily debated. It has been shown that human craniometric variation is a reliable proxy for neutral genetic data. Therefore, we employ a large Mesolithic and Neolithic craniometric database to test alternative population dispersal scenarios based on a null evolutionary model of isolation-by-geographic and temporal distance. Partial Mantel test comparisons of craniometric distance

and each alternative scenario demonstrate that the craniometric data fit a model of demic diffusion significantly better than a model of cultural diffusion.

Vonarx, Amy Jo (University of Arizona)

[110] *Cycles and Events: Methodological and Interpretive Tools for Placing Fires in Time*

Sites with significant burning present the researcher with great methodological opportunities and interpretive challenges. One important arena of discussion: the possibilities for dating architectural fire events through relative and chronometric means. Recent work in early aggregated villages around the world highlights the potential for using microstratigraphy, micromorphology, archaeomagnetic and radiocarbon dating techniques to place fires in time. These studies emphasize that village landscapes display complex fire histories composed of cycles of practice and events. As such, architecture and locales should not be assumed to have burned contemporaneously, or only once, prior to analysis.

Waber, Nicholas [207] see Cooper, H Kory

Waggoner, Tricia [73] see Tomasic, John J.

Wagner, Friedrich E. [184] see Wagner, Ursel

Wagner, Gail (University of South Carolina)

[154] *Native American Plant Remains from Colonial South Carolina*
Beginning in 1526, the Spanish, English, and French attempted settlements along the South Carolina coast, and beginning in 1540 some expeditions reached the interior regions. By the 1660s, trade in Indian slaves and deerskins drove South Carolina Indian movements. Following the founding of Charles Towne in 1670, South Carolina Indians were involved in political maneuverings between the English to the north and Spanish to the south. I report on macrobotanical plant remains recovered from a number of interior and coastal Indian sites dating from 1500-1759, including sites associated with Cofitachequi, the Catawba, the Etiwans, and the Lower Creek.

Wagner, Mark (Southern Illinois University Carbondale), Heather Carey (US Forest Service, Shawnee National Forest)

[22] *The State of the Art: Recent Developments in Illinois Rock Art Studies*

Prior to 1995 it was believed that only a handful of Native American rock art sites survived in Illinois. Research conducted over the past 15 years, however, has resulted in significant new information regarding the rock art of the state. These include an increase in the number of known sites, the discoveries of the first charcoal drawings identified in the state, and the identification of two small caves containing prehistoric rock art designs. This paper summarizes these and other discoveries as well as presenting an overview of the numbers, locations, and types of sites and motifs contained within the state.

Wagner, Ursel (TU-Muenchen), Friedrich E. Wagner (TU Munich), Josef Riederer (Rathgen Forschungslabor Berlin), Rupert Gebhard (Archaeologische Staatssammlung Munich) and Werner Haeusler (TU Munich)

[184] *A Mössbauer Study of Celtic Pottery Production in Central Europe*

A long lasting study of Celtic pottery making during the heydays of Celtic Culture in Central Europe (300-15 BC) yields a rather uniform picture. The methods we have employed to study firing techniques and provenance are Mössbauer spectroscopy, neutron activation analysis, thin section microscopy and X-ray diffraction. Large numbers of original sherds, clays and technical ceramics have been investigated. Additionally test materials treated in the laboratory were used for comparison in the interpretation of properties observed in the original specimens. It turns out that the pottery from many settlements was strongly influenced by the Celtic Culture but produced locally.

Wake, Thomas (Cotsen Institute of Archaeology at UCLA),

Michael Davis (University of Kansas) and Tomas Mendizabal (INAC-DNPH-Panama)

[226] *Mortuary Feasting at Sitio Drago, Bocas del Toro, Panama*
Recent field work at has located a distinct cemetery mound among several low anthropogenic mounds visible across the 15 ha of Sitio Drago. To date the cemetery consists of 3 excavated coral slab cist tombs containing 4 sets of human remains. Another tomb has been identified and awaits excavation. The area immediately surrounding the tombs contains several dense concentrations of artifacts and faunal remains. The patterning of the contents of these concentrations differs from others found across the site. Results of laboratory analysis are discussed in the context of understanding ritual behavior associated with the dead.

[226] *First Chair*

Walker, Clifford J. [232] *see Binning, Jeanne Day*

Walker, Danny [22] *see Bies, Michael*

Walker, Phillip [122] *see Eng, Jacqueline T.*; [122] *see Schwarcz, Henry P.*; [122] *see Kuzminsky, Susan C.*; [122] *see Sholts, Sabrina B.*; [122] *see Erlandson, Jon McVey*

Walker, Renee (SUNY College at Oneonta) and Cynthia J. Klink (State University of New York, College at Oneonta)

[162] *Teaching Archaeology as Anthropology in Upstate New York*
Students in the anthropology curriculum at Oneonta take courses based on three levels, including introductory, area and laboratory/seminar courses. We also teach a local archaeological field school and conduct travel seminars to places of archaeological interest. Rather than having separate tracks, students are advised on course selection on an individual basis, which is one of the great benefits of a small program. We believe that this broad range of opportunities prepares our students for a wide array of career opportunities in archaeology and this is supported by an ever increasing number of our students that pursue graduate studies.

Walker, William (New Mexico State University)

[192] *A History of Practice in New Mexico's Borderlands*
This paper presents a practice based synthesis of the changing cultural landscape of southwest New Mexico's late prehistoric (A.D. 1000-1450) borderlands. This region was characterized by three periods and associated phases: early (A.D. 1000-1130); middle (1130-1300) and late (A.D. 1300-1450). Practice theory suggests that these periods track how artifact histories were shaped by emergent properties of changing systems of practices. This paper examines those practices and properties in order to understand the relationship among Mimbres people and others between the 11th and 15th centuries. Crucial themes in these relationships include climate changes, artifact agency, and rise of new religious movements.

[128] *Discussant*

Walker, William H. [158] *see Burt, Chadwick*

Wallace, Henry [44] *see Lindeman, Michael W.*; [128] *see Elson, Mark D.*

Walls, Gina [22] *First Organizer*

Wallis, Neill (University of Florida)

[225] *Distributed Objects and Distributed Persons in Ceramic Technologies of the Southeastern United States*

In the Eastern Woodlands, the widespread incorporation of wooden paddles, cordage, and fabrics into the earthenware vessel manufacturing process allowed for new indexical qualities among portable objects. Based on recent sourcing and technofunctional analyses, this potential for indexicality was expanded during the Woodland period in the Southeast when Swift Creek Complicated Stamped vessels were apparently exchanged as gifts among descent groups. This paper elaborates the ways that social persons were constituted and distributed through the manufacture and exchange of

earthenware vessels and how the integrated technologies of wood and earthenware may have transformed the dimensions of social space and time.

Walsh, Rory (University of Oregon)

[183] *Morphological and Statistical Analysis of Millet Tribe Taxa in Neolithic North China*

Sedentism and social complexity in the Neolithic in the Yiluo River Valley of Henan gave rise to early Chinese states. Farming of broomcorn and foxtail millet was essential to this process, but continued exploitation of wild and weedy millet species is evident even after the use of domesticated strains was firmly established. Modern references of domestic and wild species are examined for comparison to archaeological seed remains from multiple cultural stages. Magnified seed images will help taxonomical identification of millet species (demonstrating features used for identification), and statistical tests on morphological data may reveal population trends in the domestication process.

Walz, Gregory (University of Illinois at Urbana-Champaign), Christopher Flynn (University of Illinois at Urbana-Champaign) and Michael Smith (University of Illinois at Urbana-Champaign)

[219] *Recent Research at Fort Sully (14LV165), a Civil War Fortification Constructed to Defend Fort Leavenworth from Confederate Attack, Leavenworth County, Kansas*

NRHP site evaluation investigations were recently undertaken at Fort Sully (14LV165), a Civil War-era fortification located within Fort Leavenworth, Leavenworth County, Kansas. This paper summarizes the results of the evaluation investigations undertaken. Archival research indicates the fortification was constructed in 1864; however, Fort Sully was not called upon to defend Fort Leavenworth. The fortification was subsequently abandoned and has remained essentially undisturbed since 1865. The archaeological investigations indicate that the site, estimated to extend over approximately 2.5 hectares, is very well preserved and does contain subsurface deposits relating to the Civil War use of the fortifications in 1864 and 1865.

Wandsnider, LuAnn (University of Nebraska-Lincoln), and Simon Holdaway (Auckland University)

[119] *Lewis Binford and the Time-Space Continuum: Binford's Critique of the Pompeii Premise 25 Years On*

In 1981, Lewis Binford published "Behavioral Archaeology and the 'Pompeii Premise.'" While nominally a critique of early Behavioral Archaeology, the paper also introduced concepts that were fundamental to the development of what we term the "formational metaphysics." Here, we situate Binford's 1981 work, commenting on how we as students perceived it, and reflect on the implications of this paper today.

Wanzenried, Michael (University of Montana)

[108] *Landscape and Lithic Technologies in the Mid-Fraser: Procurement, Manufacture, and Use*

This paper takes a critical stance on how previous studies of lithic economies on the Canadian Plateau have lead to potentially false perceptions about the role of lithic materials in prehistoric societies. Using insights from human behavioral ecology and minimum nodes analysis, I examine the transport strategies and use patterns of lithic materials from the Bridge River Village. I then contrast the implications of those results with pre-existing hypotheses concerning the relative worth of particular lithic materials, their role in explanations of land use patterns, and their potential importance in Plateau socio-economies.

Wanzenried, Michael [39] *see Schirack, Maggie*

Ward, Christine (Statistical Research, Inc) and Shaun Phillips (Statistical Research, Inc.)

[87] *Early Formative Period Villages in the Tularosa Basin: The View from LA 152064*

The Mesilla phase (A.D. 200/400 to 1000) in the Jornada region is

known from the excavation of a few villages and other residential and logistical sites. LA 152064, low on an Organ Mountains' alluvial fan, appears in ways similar to other early villages in the region. Cotton and maize, a dense concentration of structures and other aspects of the site and its landscape provide a broader view of this period. In this paper, we compare and contrast this village with others, and begin the process of reconstructing an Early Formative period landscape in the Organ Mountains and adjacent basins.

Ward, Timothy [78] *see Galaty, Michael L.*

Warden, Robert (Center for Heritage Conservation, Texas A&M)
[91] *3D Documentation Methods for Artifacts and Architecture*
Since 2008, the Center for Heritage Conservation at Texas A&M has worked closely with the Maya Research Program in the Blue Creek region of Belize to develop fast and accurate recording methods at archaeological sites of varying complexity and extent. This presentation will show some of the results of our fieldwork in 2008 and 2009 that utilized photogrammetry, photography, structured-light scanning, laser scanning, and total station work in documenting several Mayan sites. The discussion includes information about the capabilities of these tools with our comments on and questions about their relevance to field and laboratory archaeology.

Warinner, Christina (Harvard University) [103] *see Tuross, Noreen C.;* [151] *First Chair* [151] *Second Organizer*

Warmlander, Sebastian [122] *see Sholts, Sabrina B.*

Warner, John (University of Kentucky)
[225] *The Selective Representation of the Past in Architecture: An Example from the North Coast of Peru*
Recently archaeologists have examined the many links between social memory, landscape, and architectural expression, demonstrating that the architectural mediation of social memory actively shaped sociopolitical relationships through reified acts of "remembering" and/or "forgetting". This paper will examine some of the ways in which specific architectural canons associated with Peruvian North Coast sites were politically manipulated as a means of consolidating power through both the selective acknowledgment and purposeful severing of ties to the immediate and distant past.

Warner, Vincent (AMEC Earth & Environmental)
[150] *REX East Excavations, Prehistoric Pottery Analysis from Site 23PI1344, Pike County, Missouri*
Recent investigations associated with the east portion of the Rockies Express Pipeline has identified site 23PI1344 located in the Mississippi River flood plain, northwest of Louisiana, Pike County, Missouri. This Middle to Late Woodland site yielded ten radiocarbon dates from features, which range from the Central Valley phase through the Ralls phase (AD 420 - 980). This paper discusses the ceramic assemblage and impact on local and regional ceramic interpretations.

Warwick, Matthew (University of Wisconsin, Milwaukee)
[245] *Zooarchaeology of the Rio Pukara Valley: New data from the northern Lake Titicaca basin Formative*
The Early to Late Formative period (ca. BC 2000 / 1500 – AD 350) within the Lake Titicaca Basin are marked by the rise of village life, the emergence of regional ritual and economic interaction, and increasing social complexity. My recent zooarchaeological analysis of the Huatacoa and Pukara sites shed light on human-animal interaction amongst two major, northern-Basin Formative societies: Qaluyu and Pukara. This paper summarizes the results of an intra-site, diachronic study of animal use and camelid herd management recovered from domestic, public and ritual contexts.

Waselkov, Gregory (University of South Alabama)
[250] *Making a Case for Coastal Subsistence Seasonality*
Coastal archaeologists are honing their interpretations of subsistence remains that reflect changing means of environmental exploitation,

resource intensification, and seasonalities of exploitation and settlement. Seasonality, in particular, is coming to be understood as far more complex than earlier seasonal round models once suggested. Unfortunately, archaeological methods to document and interpret subsistence seasonality (which is our principal portal to the multiple facets of residential mobility and sedentism) have many shortcomings. Even our best available methods have real limitations on seasonal resolution. Nevertheless, higher standard of analysis can provide a firm basis for models of coastal sedentism and mobility.

Washington (Siemthlut), Michelle [198] *see Welch, John R.*

Waskiewicz Pugh, Christina (Washington University in St. Louis) and Stanley Ambrose (University of Illinois, Urbana-Champaign)
[214] *Turkey Management and Bison Trade at T'aitōna (Pot Creek Pueblo)*

Turkey and bison bone collagen from the prehistoric pueblo region of Taos, New Mexico was analyzed for carbon and nitrogen isotopes. These samples date to roughly AD 1100-1326. The data show that early regional turkeys were likely wild, and that later in time the residents may have been beginning to practice turkey husbandry before leaving T'aitōna (Pot Creek Pueblo). Bison from earlier time periods come from a much smaller number of herds, suggesting that later Pueblos had increasing contact and trade networks with nomadic bison hunters.

Waskiewicz Pugh, Christina [214] *First Organizer;* [214] *First Chair*

Watanabe, Shinya (Nanzan University, Japan)
[145] *Social Dynamics and Cultural Continuity in the Peruvian northern Highlands: A Case Study from Middle Horizon Cajamarca*
In this paper, I use excavation data from the sites of El Palacio and Paredones to evaluate the social and cultural changes that occurred in Cajamarca during the Middle Horizon period. These data demonstrate the sporadic presence of Wari, Tiwanaku, and North Coast related material culture in this region of the Peruvian northern highlands. While excavation data suggest that the region was directly dominated by the Wari Empire during this period, it appears that the people of Cajamarca managed to maintain their own cultural traditions while engaging with Wari and other outside groups.

Waterman, Anna (University of Iowa) and Robert, H. Tykot (University of South Florida)
[184] *Evidence of Dietary Variability and Breadth at Los Millares (Almería, Spain) (c. 2700-1900 BC) Based on Stable Isotope Analysis of Human Remains*
The archaeological record for the Spanish Chalcolithic settlement site of Los Millares provides evidence of increasing political centralization and social stratification during the 3rd millennium BC. One special feature of Los Millares is its expansive cemetery complex from which human remains of numerous individuals have been recovered. This poster details the results of stable isotope analysis of human bone from 12 individuals recovered from tombs in the Los Millares cemetery. The goal of this study is to evaluate the dietary importance of aquatic resources and domesticated animals during this time of societal transition. Directions for further study are discussed.

Waters, Michael (Texas A & M University)
[224] *Geomorphic and Human Response to the Younger Dryas at the Buttermilk Creek Site and other Localities in Central Texas*
The Buttermilk Creek site, Texas, has a continuous occupation from 16,000 cal yr B.P. to the present. Archaeological evidence is present in channel margin and floodplain deposits. Multiple proxy data sets from the well-dated floodplain deposits contain evidence of the Younger Dryas. These data agree with the regional evidence for the Younger Dryas in Central Texas. Archaeological evidence from the Younger Dryas age deposits at Buttermilk Creek show no change in the intensity of occupation at the site.
[120] *see Keene, Joshua L.*

Watkins, Christopher (Arizona State University) and Sophia Kelly (Arizona State University)

[100] *Exchange Spheres and Social Boundaries in the Central Arizona Uplands: An Evaluation of the Verde Confederacy Model using Plain Ware Provenience Data*

The recently proposed Verde Confederacy model argues that 14th century settlements in central Arizona were part of a defensive alliance marked by persistent connectivity across the region. This paper evaluates the model with ceramic exchange data. Temper and clay characterization of plain ware pottery identified distinct compositional differences in pottery produced at different settlements, and allow us to track the movement of pots between villages. Preliminary data indicate the presence of two exchange spheres focused on Perry Mesa and settlements in the Verde River valley. These patterns hint at social boundaries among groups instead of a single, coordinated alliance.

Watkins, Joe (University of Oklahoma)

[7] *'Naturalizing' the Native, Appropriating the Ancestors: Kennewick and an Unintended Impact of Repatriation*

While the American military thought its way was the best means of handling the "Indian problem", and the American government felt legislating Indians out of existence would work, perhaps American archaeologists have a better idea. The ex post facto imposition of "American" on the earliest inhabitants of this continent has created the widespread idea that these first cultures are totally unrelated to Indigenous ones. This creates a bizarre version of cultural affiliation between the "Paleopeople" and the archaeologists who study them. This unintended impact of repatriation can become a potent means of disenfranchising Native cultures from their deep past.

[63] *Discussant* [63] *Second Chair*

Watson, Adam (University of Virginia)

[64] *Ritual, Cuisine, and Commensal Politics at Bc 57 and Bc 58, Chaco Canyon, NM*

The role of periodic pilgrimages and large-scale communal events figures prominently in several models of Chacoan sociopolitical dynamics. While these interpretations are partly based upon patterns of faunal procurement and consumption that may reflect commensal feasting in Great House settings, the possibility of similar practices in non-Great House contexts has not been thoroughly investigated. This paper presents the preliminary results of an analysis of the animal remains from two Chacoan small sites (Bc 57 and Bc 58) located in proximity to Casa Rinconada and explores the political implications of communal hunting, food preparation and distribution, and ritual use of fauna.

Watson, April [178] *see Brown, Clifford T.*

Watson, Brett (University of Calgary)

[202] *Technological Change In The Bagaces - Sapoa Transition, El Rayo, Nicaragua*

Excavations at the site of El Rayo in Pacific Nicaragua have yielded new information about tool variation and use during the Bagaces and Sapoa periods. Distinctions in chosen materials and forms are indicative of subsistence and lifestyle change. The results of a new micro-trace study on chipped stone tools will also be discussed.

Watson, James (Arizona State Museum, University of Arizona) and Jessica Cerezo-Roman (University of Arizona)

[158] *The Performative Transition of Mortuary Ritual in the southern Southwest*

A major change in the performance of mortuary ritual occurred in the southern Southwest in the first millennium A.D. Early Agricultural burial programs entailed non-patterned inhumation burial, expressing individual identity based on age, sex and shared socio-religious cosmology. Hohokam burial programs entailed patterned distribution of secondary cremations, expressing of vertical and horizontal social position in addition to age, sex and shared group cosmology. We propose that the emergence of patterns in the performance of mortuary ritual among the Hohokam reflect changes in social

expression whereas the shift to cremation reflects changes in the beliefs surrounding the disposition of the soul.

Watson, Patty [222] *Discussant*

Wattenmaker, Patricia (University of Virginia) [64] *Discussant*

Wauters, Valentine and Mafalda Martins (Université Libre de Bruxelles, Belgium)

[98] *Feasting for the Dead: Funerary Practices and Ancestor Veneration at Panquilma, Peruvian Central Coast*

In the Andes, since the first Spanish chronicles were recorded, one of the most prominent activities where ideology, economy and politics interacted in the configuration of social power is ancestor veneration rituals. This paper explores this relationship at the site of Panquilma. Panquilma is a Late Intermediate/ Late Horizon site located in the Peruvian central coast at less than a day's walk from one of the most important religious centers of the Andean world: Pachacamac. Recent research at the site has focused on the relationship between the different types of funerary structures registered along the site and remains of feasting activities located in the elite domestic sector of this community. In this paper we will present evidence about how the performance of ancestor veneration rituals and feasting activities were central in the political competition for prestige and authority among elite factions at the site.

Waweru, Veronica (National Museums of Kenya)

[129] *Aquatic-Based Economic Intensification During the Holocene at Lothagam, Turkana Kenya*

The Lothagam site in Turkana, Kenya has assemblages dominated by aquatic fauna, bone harpoons, ceramics, and lithic tools. Human remains are interred in cemeteries. The site's contents suggest changes in hunter/gatherer socio-economic organization not present in contemporary grassland or Late Pleistocene societies. The revised chronology of the Lothagam site presented here provides new dates on the timing of intensive extraction of aquatic resources, possible sedentism, and the earliest use of ceramics by fisher/hunter/gatherers at Lothagam. The new dates also allow temporal comparisons with other Early Holocene sites in the Turkana basin, and in regions further west and north.

Waweru, Veronica [53] *see Hildebrand, Elisabeth*

Way, Annie (Washington University, St. Louis)

[217] *Mound Mad: New Insights into the Sociopolitics of Settlement in the Late Prehistoric Lower Yazoo Basin*

Settlement evidence indicates that along Deer Creek in the western Lower Yazoo much of the late prehistoric population would have lived in a series of mound sites rather than in dispersed smaller farmsteads. Most models of spatial and sociopolitical organization for late prehistoric societies in the southeast are based on less top-heavy settlement patterns. This paper, however, examines the sociopolitical and spatial relationships between sites with and without mounds in this area. The environmental settings of sites and their ceramic assemblages provide possible clues to local late prehistoric land use and sociopolitical organization.

Way, Michael and David Landon (University of Massachusetts, Boston)

[48] *Turtle Soup in a Sea of Mutton: African-American Foodways in the Northeast during the 18th and 19th Centuries*

This study explores the foodways of African Americans in the Northeast during the 18th-19th centuries. The African-American experience in New England followed unique social and economic trajectories, and foodways provide an entrée into these experiences. Faunal data from the Higginbotham House in Nantucket, Massachusetts, a late 18th century African-American household, is compared with other Northeastern African-American sites to establish broad and site-specific patterns. While many New England sites emphasize beef, pork, and mutton as staples, idiosyncratic dietary elements illustrate the interplay between foodways and identity. Food

had situational meanings that allowed for the maintenance of cultural heritage while challenging inequalities.

Weaver, Sarah (Ohio University), AnnCorinne Freter (Ohio University), Elliot Abrams (Ohio University) and Paul Patton (The Ohio State University)

[30] *Hopewell Sedentism and Food Production: A View from the Patton Site, Southeastern Ohio*

The settlement patterns, degree of sedentism, and subsistence strategies of Ohio Middle Woodland populations, heuristically termed Hopewell, have been greatly debated. The Patton site (33AT990), a Middle Woodland habitation located within the Hocking River Valley of Southeastern Ohio, provides evidence of a transition to sedentary food producing communities. Excavation uncovered a rectilinear wattle and daub house surrounded by domestic activity areas, evidence of burning and rebuilding, well preserved refuse and storage pits, macro-botanical data, and an artifact assemblage indicative of a continuous long-term, or sedentary, site occupation.

Webb, Elizabeth [5] see Prentice, Andrea

Weber, Mara-Julia (Zentrum für Baltische & Skandinavische Archäologie) and Sonja B. Grimm (Forschungsbereich Altsteinzeit des Römisch-Germanischen-Zentralmuseums)

[177] *Impact of Dryas III on Human Behavior in Germany and Austria*

Following a thorough review of high-resolution environmental archives, the paper examines archeological implications of human adaptation to changes in the natural environment. Of special interest are two divergent biotic regions, within which two different traditions (tanged point complex and curve-backed point complex) of Dryas III in Germany and Austria are found. Settlement discontinuity during Dryas III is questioned and the potential further existence of established social networks, expressed by comparable developments such as microlithization is considered. It is discussed whether Dryas III acted as an accelerator or a brake in the process of regional diversification of the Mesolithic.

Webster, David (Penn State University)

[153] *A Chinese Traveler Among the Maya*

Zhou Daguan, a Chinese traveler, visited Angkor in 1296-97 and left us the only lengthy "historical" description of Khmer society. Imagine that Zhou Daguan was later magically transported to the northeastern Peten region of the Classic Maya Lowlands. What might he see that he found similar to Angkor? What would strike him as very different? What might his observations imply about the parallel (or not) evolution of tropical forest civilizations?

Webster, Laurie (University of Arizona)

[37] *Cordage Twist and Cultural Identity: A Cautionary Tale from Basketmaker Culture*

Several recent studies have used cordage-twist direction as a point of departure for exploring cultural identity in the archaeological record. Despite the strong contributions of this research, most studies fail to distinguish between cords used as ropes or ties and the yarns used in fabric construction. Using Basketmaker textiles as a case study, I compare the patterned variability in the twist direction of cordage and the warp and weft elements of sandals, aprons, tumplines, and twined bags to show that correlating twist direction with Basketmaker culture is not as simple as it seems.

Weed, Carol (Vanasse Hangen Brustlin, Inc.) [252] Discussant

Weeks, William (University of Arkansas)

[104] *Antiquity of the Midewiwin: Early Documents, Origin Stories, Archaeological Remains, and Rock Paintings*

From the northern Woodlands to the Great Plains, the Midewiwin is a Native American sodality of Central Algonquian and some Western Siouan peoples emphasizing health and longevity through attention to holistic medicine. Its origins remain uncertain. Four data sets are analyzed to evaluate whether the Midewiwin originated historically or prehistorically, including 1) 15 early, colonial written documents, 2) 55

traditional, indigenous origin stories, 3) excavated artifacts and features from 12 archaeological sites, and 4) imagery from 388 rock paintings. Results indicate a general correspondence among the four bodies of evidence that something like the Midewiwin probably originated in remote antiquity.

Wegener, Robert (Statistical Research, Inc.), Karry L. Blake (Statistical Research, Inc.), Richard Ciolek-Torrello (Statistical Research, Inc.) and William M. Graves (Statistical Research, Inc.)

[33] *Data Recovery at Christiansen Border Village: Nonriverine Late Archaic/Early Agricultural Period Archaeology and Mid- to Late-Holocene Cienega Environments in the Borderlands of Southeastern Arizona*

Data recovery efforts by Statistical Research, Inc., at Christiansen Border Village documented 3,000 years of aboriginal land use and included a regional study of Mid- to Late-Holocene cienega environments throughout southeastern Arizona. This work expands our understanding of Late Archaic/Early Agricultural land use with evidence of maize cultivation at 980–800 cal B.C. and likely cultivation of cotton at 820–510 cal B.C. The Late Archaic/Early Agricultural remains at the site are interpreted as the result of a rich hunter-gatherer heritage that flourished during the rigors of the mid-Holocene and ultimately incorporated Mesoamerican domesticates in nonriverine Borderlands locales.

Wehrberger, Kurt (Ulmer Museum) and Nicholas Conard (Universität Tübingen, Institut für Ur- und Frühgeschichte)

[157] *Lion Man and Waterbird - Art and Symbolism in the Swabian Aurignacian*

One of the main cultural elements of the Swabian Aurignacian is the appearance of sculptural art. About 45 figurines, mainly fragments, are known. The tiny sculptures were carved out of mammoth ivory and represent large animals such as horse, mammoth and feline. Others depict animals such as waterbird or fish. Unique is an archaic female figurine. Nearly all figurines exhibit incisions, often strung together forming complex patterns. A few figures represent fantastic creatures, which combine zoomorphic with anthropomorphic elements. Especially the lion man implies a spiritual aspect to the figurines.

Weinstein, Richard [251] see Hays, Christopher

Weinstein-Evron, Mina [16] see Bar-Oz, Guy

Weir, Donald (Commonwealth Cultural Resources Group Inc.), Charles Moffat (Commonwealth Cultural Resources Group Inc.), Katherine Guidi (Commonwealth Cultural Resources Group Inc.), Kathryn Egan-Bruhy (Commonwealth Cultural Resources Group Inc.) and Michael Hambacher (Commonwealth Cultural Resources Group Inc.)

[150] *A Walk Through Time Across Illinois: An Overview of Phase I and Phase II Investigations Along the REX-East Pipeline*

Archaeological survey of a nearly 200 mile long corridor across central Illinois identified 483 archaeological sites. Test excavations were conducted at 63 of these sites. These investigations provided a wealth of information regarding prehistoric land use patterns through time across the state. This paper will provide an overview of these results particularly highlighting aspects of the Early Archaic, Middle Archaic and Late Woodland periods. The results of this linear survey have significant potential to shape current understandings of cultural sequences, land use patterns, and predictive modeling within Illinois and the greater midcontinental United States.

Weisler, Marshall (University of Queensland) and Roger Green (University of Auckland)

[68] *Rethinking the Chronology for Colonization of Southeast Polynesia*

The dating evidence for the colonization process of southeast Polynesia (Mangareva, Pitcairn Group and Rapa Nui or Easter Island) is reviewed. We consider the stratigraphic context of the 14C determinations, their calibration, and the island, archipelago and

regional settlement patterns. We conclude that Mangareva and the Pitcairn Group were settled before A.D. 1000, Rapa Nui about A.D. 1000, Hawai'i about A.D. 800-900, and the Marquesas about A.D. 700-800. The earliest direct dates on sites will always be at the tail of any normal distribution illustrating a radiocarbon dating corpus for the overall colonization process, and not at its chronometric centroid.

Weisler, Marshall [68] see *Weisler, Marshall I.*

Weisman, Brent (University of South Florida)

[170] *Front Yard, Back Yard: Neighborhood Archaeology in Urban Tampa, Florida*

Doing archaeology right where people live brings immediacy to the processes of site interpretation and heritage making not usually present in more remote projects. When people can peer down into their buried history or the history of their neighborhood as they move about in the course of their daily lives, public archaeology suddenly becomes very personal. Memory and imagination blend together to create connections to a past that are both highly idiosyncratic and of the political present. Three projects in Tampa aimed at unearthing the forgotten history of the recent past will be examined as case studies.

Welch, Daniel (Texas A&M University) and Daniel Welch (Texas A&M University)

[161] *Dispersal of Volcanic Glass Resources in Ceramic-Period Samoa: Resource Control and Long-Distance Trade*

Geochemical analyses of volcanic glass artifacts from the Samoan Archipelago suggest that ceramic period inhabitants acquired the raw material from a single, currently unknown source. In light of this understanding, additional highland and coastal sites across the archipelago are tested under EDXRF and support the consensus that raw volcanic glass originated from a single outcrop that provisioned ceramic making inhabitants for over 2000 years. To understand the organization of lithic resources during the ceramic period, theoretical models regarding potential archaeological correlates of ceramic period resource control as well as probable direction of resource dispersion are discussed.

Welch, Daniel [4] see *Pevny, Charlotte D.*

Welch, John (Simon Fraser University), Dana Lepofsky (SFU) and Michelle Washington (Siemthlut) (Sliammon Treaty Society)

[198] *Assessing Collaboration in a Community-Based Heritage Stewardship Program in British Columbia*

Many archaeologists tout the benefits of working with descendent communities, and rightfully so. But how is collaboration being defined and evaluated? Our archaeology and stewardship field school with the Tla'amin First Nation on the British Columbia coast offers one means for harmonizing historically divergent interests on the part of First Nations, Canadian society, and researchers. The program provides contexts for advancing academic, community, and societal goals in research, education, and outreach. Our application of common-sense partnership principles suggests qualitative and quantitative measures of collaborative success and raises questions concerning the prospective value of shared collaborative standards and criteria.

Welch, Paul (Southern Illinois University) [257] *Discussant*

Wells, Benjamin [73] see *Lemke, Ashley K.*

Wells, E. Christian (University of South Florida)

[123] *Alkaline Earth Metals as Human Activity Markers in Archaeological Soils*

Soil phosphates have long been recognized to indicate past human activity in the archaeological record. Only with recent advancements in analytical instrumentation have archaeologists begun to consider other chemical elements. The significance of alkaline earth metals (especially Mg, Ca, Sr, Ba) as markers of ancient human activity has been recognized recently, but very little research has been done to understand their interrelationships in chemical residues. Their

usefulness in archaeological soil chemistry has therefore been limited. This poster considers acid-extractable alkaline earth metals characterized with ICP-OES from a range of archaeological soil surfaces in Honduras to determine their relevance for interpreting ancient human activity patterns.

[65] see *Moreno-Cortes, Jose E.*; [204] *Third Organizer*; [259] see *Rothenberg, Kara A.*; [258] see *Darley, Zaida*

Wells, Joshua (Indiana University South Bend) [24] *First Organizer*; [24] *Second Chair*; [24] see *Kansa, Eric C.*

Wendrich, Willeke (UCLA)

[24] *W.M. Keck Program in Digital Cultural Mapping at UCLA*

Over the past decade, digital humanities at UCLA has distinguished itself by developing cutting-edge research in geo-temporal mapping using a wide-range of digital information archives. The undergraduate curriculum in digital cultural mapping represents the next phase of development for digital humanities. The program enables undergraduate student research, especially in archaeology. Spin off classes concentrate on mapping and spatial analysis of archaeological village-, city-, and landscapes. The curriculum builds upon projects that have been tested in the classrooms and labs at UCLA, including the Digital Roman Forum, the digital Encyclopedia of Egyptology, Hypermedia Berlin, and HyperCities.

Wendt, Carl (Cal State University - Fullerton) and Jason De Leon (University of Washington)

[156] *The Political Economy of the San Lorenzo Polity: A View from the Countryside*

Long-distance monument transport, large scale public construction, and works of art are often cited as evidence that Olmec leaders wielded a great deal of political and economic power over local followers and often over large regions. Using data from excavations at the site of El Remolino in the San Lorenzo hinterlands, we argue that power in the San Lorenzo polity was largely confined to the ideological realm. Moreover, our analysis indicates that the San Lorenzo Olmec elite and leaders did not exhibit the degree of economic control over commoner households that elites in later state societies typically wielded.

Wendt, Carl [133] *Discussant*; [156] *First Organizer*

Wentz, Rachel (Florida Public Archaeology Network) and Michele Williams (Florida Public Archaeology Network)

[236] *Medicinal Plant Usage among the 7,000-Year-Old Windover Population*

The Windover site is an Archaic mortuary pond located near the east coast of Florida. It produced the well-preserved remains of 168 individuals, allowing a comprehensive look at life and health 7,000 years ago. This research examines medicinal plant usage among the people at Windover. Historical accounts and ethnographies provide details as to how aboriginal populations have utilized local flora for specific conditions. By correlating medicinal plants identified among the Windover burials with the pathologies identified on their remains, we may infer medicinal plant usage among this population during Florida's Archaic.

Wenzel, Jason (University of Florida)

[170] *Historical Archaeology as Public Archaeology in Orange County, Florida*

Originally chartered as Mosquito County in 1824 and renamed Orange County in 1845 after its chief agricultural product, the county along with its seat, Orlando, attracted some of Florida's early inland settlers, agriculturalists and vacationers. Today, Orange County encompasses a very dynamic and diverse community. Research collaborations among students from four regional colleges have brought together neighbors and descendent communities through archaeological fieldwork at select local historic sites and cemeteries. Partnerships with the Florida Public Archaeology Network, the Oakland Nature Preserve and the Orange County Library System have provided venues for disseminating the research to a broad and

diverse audience.

Wernecke, D. Clark [38] see *Collins, Michael B.*

Wernke, Steven (Vanderbilt University), Ericka Guerra Santander (Universidad Nacional de San Agustín) and Steven Wernke (Vanderbilt University)

[188] *Colonial Commonplaces: Household Archaeology at an Early Doctrinal Settlement in the Colca Valley, Peru*

Very little is known of how the material world and habitual routines of everyday domestic life changed among Andean communities during the tumultuous early years following the Spanish invasion. Here we present a close-in view of household organization at a Franciscan doctrina in the Colca Valley, established between the 1540s and 1560s and abandoned during the 1570s. Drawing on extensive excavations from several domestic structures, we analyze variation in the organization of domestic space and differences in their artifact assemblages to infer how households of distinct status and identity responded and adapted to the convulsive changes around them.

Wernke, Steven A. [138] see *Yim, Ronald*

West, Allen, Albert Goodyear (University of South Carolina), David Anderson (University of Tennessee), James Kennett (University of California, Santa Barbara) and Thomas Stafford, Jr. (Stafford Research, Inc.)

[224] *Multiple Lines of Evidence for a Human Population Decline during the Initial Younger Dryas*

Three analytical methods are used to test whether human demographics changed near the Younger Dryas (YD) onset: (1) frequency analyses of projectile points, using the Paleoindian Database of the Americas (PIDBA, <http://pidba.utk.edu>), (2) summed probability analyses of radiocarbon dates, and (3) analyses of usage patterns at Clovis-age quarries. The results strongly suggest that across parts of North America, Europe, and Asia, a major human population decline and reorganization occurred near 12.9 ka and continued through the early part of the YD. These changes include replacement of Clovis-age peoples by regional-scale cultures, potentially reflecting decreased range mobility and increased population isolation.

West, G. James [56] see *Johnson, John R.*

Weston, Tim [28] see *Weston, Timothy*

Weston, Timothy (Kansas Historical Society)

[28] *The Kansas Anthropological Association, Stewards of Kansas Archeology*

Starting in the 19th century, amateur archeologists were instrumental in accomplishing serious archeological research in Kansas. Avocational contributions to the discipline expanded greatly with the organization of the Kansas Anthropological Association in 1955. During the last 55 years KAA members, both as individuals and in groups, have contributed to archeological study of Kansas in a variety of ways: offering expertise in specific topics, recording sites, doing field and laboratory work, publishing reports, and performing public education/outreach. Preservation of sites and artifact collections by documentation and by raising public awareness is a long-term goal of the organization.

Wheeler, Derek [166] see *Gaylord, Donald A.*

Whelan, Carly (UC Davis)

[6] *Prehistoric Subsistence-Settlement Patterns of the West-Central Sierra Nevada Foothills*

The Sierra Nevada was one of the last regions of California to experience systematic archaeological excavation and remains one of the most poorly understood, particularly the region's western foothills. Though subsistence-settlement patterns have been of longstanding interest to archaeologists working in the area, few systematic studies of prehistoric subsistence change or diachronic change in land use

have been carried out. I have recently excavated several sites in the west-central Sierra Nevada foothills in order to clarify the prehistoric subsistence-settlement patterns of the region and determine how they have changed over the course of the last several thousand years.

Whitaker, Adie (Far Western Anthropological Research Group, Inc.) and Jeffrey Rosenthal (Far Western Anthropological Research Group)

[197] *What Turned the Tide? Late Prehistoric Shifts to Energy Maximizing Economies in the Mountains and Rugged Coastline of California*

The record in California is replete with examples of sudden shifts in subsistence economy, particularly within the past 1500 years. The tacit assumption is that shifts from simple forager adaptations to highly intensified, energy-maximizing economies occurred similarly across the state. However, studies in the Great Central Valley, the San Francisco Bay Area, and along the Southern Coast document intensive subsistence economies going back several thousand years. Why, then, were other regions so slow to adopt intensified subsistence economies? We attempt to answer this question through an examination of the ecological and historical differences between "Early Intensifier" areas and "Late Intensifier" areas.

[197] *Second Chair*

White, Andrew (University of Michigan)

[88] *A Computational Exploration of the Effects of Network Size and Structure on the Outcomes of Cultural Transmission Processes*

Mathematical models of cultural transmission often assume that information transfer occurs within an unstructured, "global" pool of individuals. Human cultural systems, however, are comprised of individuals connected to one another through overlapping, ego-based networks of social connections. I use a simple computational model to (1) represent ego-based networks of varying size and structure and (2) explore how variation in a single "stylistic" variable is related to the attributes of the networks mediating the transmission of the variable. Results suggest that network properties may have important implications for understanding spatial and temporal patterns of archaeological artifact variability.

White, Christine [5] see *Prentice, Andrea*

White, Christine D. [138] see *Surette, Flannery K.*

White, Devin (Integrity Applications Inc.)

[235] *Customizing Google Earth for Archaeological Research and Education*

Crow Canyon Archaeological Center has embarked on an effort to use Google Earth to support a wide array of internal research and education activities. The main goal of this effort is to provide researchers and participants with ways to interactively explore the rich material culture and archaeological landscapes of the northern Southwest. This is done by creating and publishing multiple custom layers in Google Earth that provide over 400,000 square kilometers of recent orthoimagery and other remotely sensed data; historical imagery; vector data—including locations of known prehistoric roads; site maps, photos and descriptions; and 3D models of reconstructed buildings.

White, Devin A. [160] see *Coffey, Grant*

White, Jonathan [20] see *France, Elizabeth L.*

Whitehead, William (Ripon College)

[123] *Using pXRF to Identify Local versus Non-local Wood Use in the Lake Titicaca Basin*

This poster will present the data from a growing database of pXRF elemental analysis for wood and other botanical materials from the Tiwanaku culture site of Tiwanaku in the Lake Titicaca Basin, Bolivia. The procedures and methods used to collect the data will be presented and ways of integrating this data across South America will be emphasized. Ideas for integrating this data with other material

types will also be highlighted.

Whitley, Carmen M.T. [104] see *Whitley, David S.*

Whitley, David and Carmen M.T. Whitley (Stirling University)

[104] *Add Madness and Stir? Cognitive and Emotional Difference and the Origins of Behavioral Modernity*

Meg Conkey has made many contributions to archaeology, not the least involving feminist theory and Upper Paleolithic research.

Motivated by third-wave feminism, we consider recent studies on cognitive and emotional difference and their implications for the emergence of modernity, including schizophrenia as the possible inspiration for ritual action; high-functioning autism and its implications for leadership; and affective diseases and their correlation with artistic creativity. These studies suggest that human cognitive and behavioral evolution involved more than our traditional Cartesian rationalist model has assumed.

Whitley, David S. [104] see *Whitley, David S.*

Whitley, Tamara (Bureau of Land Management)

[223] *Managing Sacred Landscapes: Native American Consultation and Painted Rock*

The Carrizo Plain National Monument contains the largest concentration of pictograph sites in California. Painted Rock, the most renowned of the Carrizo sites, is a sacred site to the Chumash and Yokuts peoples. The Native American values associated with Painted Rock have played a pivotal role in site management. The Carrizo Native American Advisory Committee has been a central element in planning and management, especially with regard to developing guidelines for cultural tourism at Painted Rock. Painted Rock provides an example of the kinds of Native American concerns and roles vital in the management of sacred sites.

Whitlow, Raymond (SUNY Buffalo)

[117] *Linking Spatial Theories and Archaeological Data with the help of Formal Ontology*

As information systems have become increasingly specialized, GIS users have adopted formal ontology to ensure semantic interoperability between subfields. Formal ontology has two advantages for archaeologists concerned with spatial analysis: first, the metatheoretical definition of spatial concepts in archaeology and archaeological theory, and second, the development of geodatabases which accurately reflect those concepts. Using Basic Formal Ontology's SNAP-SPAN, a modular and spatio-temporal ontology, I discuss the appropriate level of representation for a set of archaeological data and demonstrate the utility of formal ontology to archaeology by linking space-time geography concepts to a geodatabase of Neolithic sites in Romania.

Whittaker, William (University of Iowa)

[85] *Limitations of Expectations: Ground-Penetrating Radar Survey of Five Frontier Forts*

Ground-penetrating radar (GPR) survey of five frontier forts in the Upper Midwest reveal that expectations about the location and survival of fort-era features can affect interpretation of GPR results. Discussed are GPR survey results from Fort Johnson (1814), Second Fort Crawford (1829), Fort Atkinson (1840), Fort Des Moines No. 2 (1843), and Fort Dodge (1850). Two of these fort surveys produced no useful data, the remaining three produced different levels of coherence and conformity to expected features.

Whittington, Stephen (Wake Forest University), Beverly Hancock (Museum of Anthropology, Wake Forest University), Kyle Bryner (Museum of Anthropology, Wake Forest University), and Tina Smith (Museum of Anthropology, Wake Forest University)

[76] *The Museum of Anthropology's Online Artifact Database as a Tool to Support Teaching and Research*

The Museum of Anthropology at Wake Forest University is developing and implementing a database system and online

information service to promote and preserve its collections and make information contained within its digital database freely accessible. The museum has received three federal grants to address high-priority collections stewardship activities aimed at maintaining and improving the management of archaeological, ethnographic, and archival collections to fulfill its educational mission and strategic goals. The overall goal of the three-phase project is to provide broad public access through the Web to cataloging information and digital images for all objects and archival records in the collections.

Whittle, Alasdair (Cardiff University)

[61] *The Language of Difference: Early Neolithic Society in Southern Britain in the First Half of the Fourth Millennium Cal BC*

How do we go about characterising the nature of social relations in early Neolithic (first half of the fourth millennium cal BC) societies in southern Britain, and elsewhere? Top-down evolutionary approaches seem to carry too much generalising baggage and too many prior assumptions, and we end in a mire of diversity, with imprecise and unspecific terms like 'pre-chieftdom' or 'transegalitarian'. A bottom-up approach may be much more fruitful, though that may still require us to pull in terms like 'lineage' or 'descent group' or 'community' from a wider, generalising literature. Combined, however, with the new chronological framework provided by the completion of a recent major dating project, in conjunction with Bayesian modelling, such an approach offers the opportunity to examine the emergence of specific variation in time and space in new detail. This paper concentrates on the 38th and 37th centuries cal BC in southern Britain.

Whittlesey, Stephanie

[248] *The Middle Archaic Period in the Tucson Basin*

Maize appeared in late Middle Archaic contexts in the Tucson Basin as early as 2100 B.C. Farming features such as ditches, architectural structures, and other evidence of long-term residential stability are absent, however, and the population was extremely small. This supports models that suggest maize did not transform lifeways initially (e.g., Wills 1988) and calls our attention to processes that produced the irrigation systems, formal architecture, and high population density of the San Pedro phase. This paper offers some possibilities for explaining this rapid and extraordinary transition.

[141] *Discussant*; [158] see *Reid, J Jefferson*

Wiant, Michael (Illinois State Museum--Dickson Mounds)

[173] *Deep Site Methodology: A View from Koster*

At Koster site, archaeologists discovered 13 stratigraphically distinct middens: the deepest of which is 8.6 m below ground surface, the most extensive of which has an area of at least 1,000 square meters. During a decade of investigation, methods of discovery, excavation, documentation, recovery, and analysis evolved, as did understanding of the archaeological potential of landscapes. These developments ushered in profound changes in archaeological methods, especially those applicable to the discovery and excavation of deep, stratified, multi-component deposits. Despite these advances, there remain stiff challenges in deep site archaeology, not the least of which is that posed by thick middens.

[176] *Discussant*

Wichienkeo, Aroonrut [153] see *Buckley, Brendan M*

Widga, Chris (Illinois State Museum, Landscape History Program)

[214] *Paleoecology of the Pleistocene Extinctions: Stable isotopes and Landscape-Use of Mammoths, Mastodons, and Bison*

This paper presents isotopic results (C, O, Sr) from Midwestern Mammuthus, Mammot, and Bison to understand patterns in late Pleistocene landscape-use of both extinct and surviving taxa. Serial enamel samples of Mammuthus jeffersonii and Bison from late Quaternary contexts exhibit similarities in overall landscape-use. However, regardless of geological age, Bison show limited migration and highly flexible diets. Furthermore, isotopic analyses of Midwestern proboscideans (collagen) show an increase in inter-taxonomic niche overlap post-LGM. Although preliminary, these

results demonstrate the potential of isotopic research in furthering our understanding of late Quaternary landscapes and the potential of human impact on faunal populations.

Wiederhold, James [4] *see Pevny, Charlotte D.*

Wiemann, Michael [139] *see McKillop, Heather*

Wiens, Clifton (Editorial Story Development) [141] *Discussant*

Wilcox, David (Museum of Northern Arizona) [152] *Discussant*

Wilcox, David [40] *see Herr, Sarah A.*

Wilcox, Michael (Stanford University)

[7] *Genes and Cultural Identity: Boundaries, Boundary Makers and the Cultural Mythology of DNA*

What is the relationship between DNA and Culture? Are Native Americans and other Indigenous Peoples held to a different standard in the formulation of ancestry, identity and affiliation? This paper reviews the cultural significance and symbolic meaning of DNA within American society and examines the premises and processes of DNA as an agent of cultural clarification.

[66] *First Chair* [66] *First Moderator*

Wilkinson, Brenda (Bureau of Land Management, Socorro) and Andrew Duff (Washington State University)

[223] *Research Partnerships in Wilderness Study Areas: the Archaeology of Chaco Period Communities and the Challenges of Collaboration*

The Mesita Blanca and Eagle Peak Wilderness Study Areas in western New Mexico are central to understanding the Chacoan system's southern frontier. A partnership between Washington State University and the BLM's Socorro Field Office has produced new understandings of two Chaco period (A.D. 1050-1130) great house communities, especially related to the identity of community residents and interactions between distant great house communities and Chaco Canyon. The project has included collaboration with local Native communities to incorporate their interests and to communicate project results. Here, we summarize research results, describe Native involvement, and touch briefly on the challenges associated with partnerships.

Willems, Willem (Faculty of Archaeology, Leiden University)

[227] *Discussant*

Willerslev, Eske (Prof Eske Willerslev, Centre for GeoGenetics)

[62] *Ancient DNA and Early Peopling of the New World*

Two recent ancient DNA studies affect views of the early peopling of the New World. Analysis of coprolites from the Paisley Caves in south-central Oregon revealed Native American presence c. 14,600 years BP. A second study of the first complete mitochondrial DNA of an early inhabitant of Greenland suggests that an independent migration from Siberia took place c. 4000 years BP, independently of the earlier Native American migration and the later Inuit migration. The results from these two studies will be presented with progressing work on human migration into the New World including Greenland Vikings, Inuit and pre-Clovis.

Williams, Bryn (Stanford University)

[48] *Bao Yu and Chop Suey: Archaeology and Chinese/American Food*

Chop Suey, General Tso's Chicken, Chinese Chicken Salad. Inarguably American Chinese dishes such as these can be found in Chinese restaurants across the United States. On the other hand, dishes made with foods such as bao yu (abalone) and you yu si (dried squid) are rare indeed. This paper asks how archaeology can help untangle the genesis of American Chinese food. Were individuals living in urban Chinatowns preparing different foods for their families than Chinese American cooks serving non-Chinese? What can culinary patterns such as these tell us about ethnogenesis and culture change in 19th Century North America?

Williams, Craig [22] *see Jansen, Susan*

Williams, Emily (University of Kansas) and Jack Hofman (University of Kansas)

[72] *Distribution of Folsom Artifacts in Nebraska*

This study is part of a Plains-wide investigation of Folsom archaeology. Private, public, and government agencies provided the basis for the ongoing development of the database used in this study. The occurrence of Folsom points, performs, fragments, and channel flakes in Nebraska are summarized. Artifact distribution maps and tables were created by county, lithic material, and physiographic region with the general goals of documenting the variability and patterning in Folsom artifact occurrences. Special attention is paid to Keith and Lincoln counties and the North and South Platte drainages where the greatest numbers of Folsom artifacts were found.

Williams, Gregory (University of Colorado Denver & Aims Cmty. College)

[111] *Rock Art and Ritual Behavior in West-Central Colorado - Visual, Landscape, and Acoustic Indicators*

By employing Roy Rappaport's detailed criteria for distinguishing various types of ritual behavior this presentation expands on previous work to examine the rock art of the Uncompahgre Plateau of western Colorado utilizing visual and acoustic indicators of prehistoric ritual behavior in a landscape context. This research suggests that not all rock art can be attributed to ritual behavior and identifies a new combination of several objective measures to establish a link to ritual behavior in the study area which includes visual imagery, landscape context, and acoustics.

Williams, J. Craig [62] *see Campbell, Peter B.*

Williams, Justin (Washington State University)

[190] *Variability within Nodule Choice of Modern Flint Knappers*

Ten Flint Knappers were asked to examine ten flint nodules and asked to assess the suitability of each nodule for reduction into several pre-designated lithic tool types. The ten nodules were of the same raw material and approximately the same weight. There were significant differences in the opinions of the flint knappers pertaining to the suitability of the nodules for various types of reduction. This suggests that the source of variability in lithic tools and debitage lies not only in the production of the tool, the shape and size of raw materials, but also the perceptions of various flint knappers.

Williams, Justin [120] *see Andrefsky, William*

Williams, Mary (Heritage Program Manager, Bitterroot Nat'l Forest)

[43] *Challenges of Remote Site Investigation and Management in the Frank Church Wilderness, Bitterroot National Forest*

Designated Wilderness comprises nearly one-third of the Bitterroot National Forest's 1.6 million acres, with the most remote lands lying within the Frank Church River of No Return Wilderness. Cultural sites within "the Frank" present the Forest's one-person Heritage program with a diverse set of management problems, ranging from accomplishment of Sec. 110 surveys in the back country to restoration of historic buildings within the parameters of Wilderness regulations. This poster illustrates the management issues and physical obstacles involved in managing Wilderness sites, from locating and recording a high-elevation cairn assemblage in the Clearwater Mountains to restoration of a 1930s miner's cabin deep within the Salmon River canyon.

Williams, Michele [236] *see Wentz, Rachel K.*

Williams, P. Ryan [121] *see Sharratt, Nicola O.*

Williams, Patrick (Chicago Field Museum), Augusto Cardona (CIARQ), Kirk Costion (U. Pittsburgh), Robin Coleman (Northwestern U.) and Veronique Belisle (U. Michigan)

[145] *Obsidian as a Commodity of Interregional Exchange in Wari sites of Southern Peru*

We present new obsidian sourcing data from four regions in southern Peru where Wari influence was present: Moquegua (Cerro Baul and Yaway), Arequipa, Chuquibamba, and Cusco. The data highlight changes in obsidian exchange patterns outside of major Wari administrative centers. Results indicate disparate patterns of Wari influence on interregional exchange during the Middle Horizon.

[159] *Discussant* [188] *Discussant*

Williams, Patrick R. [121] *see Dussubieux, Laure*

Williams, Ryan [121] *see Brum, Misty CM*; [121] *see Vaughn, Kevin J.*

Williams, Veronica (CONICET- UBA)

[23] *Pottery Manufacture, Proveniences, and Pigments of Pre Inca and Inca Archaeological Sites in Southern Andes*

Interdisciplinary in Archaeology put together different kinds of scientific methods, techniques or approaches in order to know human behavior in the past. In this opportunity I will try to offer a set of result about pottery production and use during pre-Inca and Inca times in Northwest Argentina and North of Chile. Fragments from a couple of archaeological sites of those regions were analyzed by INAA; Raman microscopy x-ray powder diffractometry and x-ray photoelectron spectroscopy to determine the pigments used in the decoration.

Williams-Beck, Lorraine A. [241] *see Anaya Hernandez, Armando*

Williamson, Ronald F. [60] *see Birch, Jennifer*

Willis, Kevin

[168] *Decomposition of Child-Sized Remains in Dumpsters*

Research on the decomposition of child-sized remains has been done by depositing pigs in a variety of ways; however, a comprehensive literature review showed there is not much study, if any, on the decomposition of child-sized remains in a dumpster. Three small pigs were used as a substitution for child-sized remains. Two pigs, one in a black plastic bag, were placed in commercial dumpsters and the third placed on the ground as a control. The data suggests the decomposition rate of remains placed in a dumpster will be noticeably inhibited when compared to remains outside dumpsters.

Willis, Lauren (University of Oregon), Andrew R. Boehm (Southern Methodist University) and Metin I. Eren (Southern Methodist University)

[74] *Fish Bones, Cut Marks, and Burial: Implications for Taphonomy and Faunal Analysis*

In a previous study, we demonstrated that butchering fish can result in upwards of 500 cut marks per fish. However, cut marks are rarely observed on fish bone from archaeological sites, despite various ethnographic studies that describe fish butchering techniques for consumption and drying. To test the discrepancy between the experimental results and archaeological observations, we buried 13 butchered fish skeletons for 27 months to observe whether the cut marks are still visible after exposure to post-depositional taphonomic processes. These results contribute to the understanding and interpretation of taphonomy, aquatic faunal assemblages, and prehistoric butchering practices.

Wills, Wirt (University of New Mexico)

[131] *Formation Processes and the Pueblo Bonito Mounds*

A preliminary reconstruction of the formation history is presented of two earthen mounds at Pueblo Bonito in Chaco Canyon. This reconstruction incorporates new stratigraphic descriptions and geoarchaeological interpretations of trench profiles originally exposed by National Geographic Society excavations in the 1920s, as well as previously unpublished stratigraphic data from the late 19th century and remote sensing data obtained between 2007 and 2008. Mound history reflects a complex interplay between floodplain processes and the growth and occupation of Pueblo Bonito.

[118] *Discussant*; [132] *First Organizer*

Wilshusen, Richard (University of Colorado Museum) and Scott Ortman (Crow Canyon Archaeological Center)

[235] *Big Gatherings to Big Pueblos: Using Architecture, Rock Art, and Linguistics to Study Organizational Change*

We suggest that a common change in many Early Formative societies is the redefinition of relationships between individuals, households, the community, and the landscape. We focus on these conceptual realignments in the northern Southwest between AD 600 and 940 and look for evidence of this transformation in rock art, architecture, and Tanoan languages. We illustrate several findings. Among them is that ritual knowledge appears to have been distinct from, but correlated with, household status in the economic and political realms. In contrast, during the period of early village formation knowledge and status came to be associated with specific lineages.

[128] *Discussant*

Wilson, Andrew [92] *see Fatkin, Danielle S*

Wilson, Carrie

[15] *Cahokia – More than You Would Think*

Cahokia encompasses more than just that site proper. In order to really think about the totality of Cahokia, sites on the west side of the Mississippi River and elsewhere also have to be considered. In my observations from an indigenous perspective, Cahokia consisted of pre-tribal people – the Dhegiha and perhaps the Chiwere Sioux—and, as in any river city, people brought goods for trade and distribution. Not only was Cahokia a place for exchange of goods but for ideas. In this paper I will explore those topics as well as the importance of the sites to American Indian people today.

Wilson, Christopher (Flinders University, Australia)

[63] *discussant*

Wilson, Gregory (UC-Santa Barbara) and Dana Bardolph (UCSB)

[110] *Up in Smoke: The Mode of Abandonment of Mississippian Burned Structures in Western Illinois*

The occurrence of burned buildings in the Mississippian American Bottom and Central Illinois River Valley dramatically increased after A.D. 1100. A comparative analysis of floor artifact assemblages is offered to evaluate the mode of abandonment of burned buildings in both regions. Variability among floor assemblages suggests there were different modes of abandonment leading to building incineration.

[83] *Discussant*

Wilson, Gregory D. [115] *see Steponaitis, Vincas P.*

Wilson, Jeremy (Indiana University-Purdue University, Indianapolis), Dawnie Steadman (Binghamton University, SUNY) and Jennifer Bauder (Binghamton University, SUNY)

[83] *Modeling Mississippians: The Orendorf Skeletal Sample, Understanding Regional Population Dynamics, and the Relationship to Recent Theoretical and Methodological Advancements in Bioarchaeology*

Socio-political reorganization in the central Illinois River valley during the late 12th and 13th centuries renders the Orendorf skeletal sample critical to understanding the population dynamics of late prehistoric societies in the region. The current paper highlights the previous research on warfare at Orendorf (Steadman, 2008), stresses critical theoretical and methodological shifts in bioarchaeological research, and presents more recently completed examinations of 1) the relationship between childhood survivorship patterns and porous skull lesions, and 2) sex differentials in adult mortality patterns. These findings are further contextualized in comparisons to recent re-analyses of Dickson Mounds, Morton, Norris Farms, and Crable.

Wilson, Matthew [215] *see Brugam, Richard B.*

Wilson, Nathan (Arizona State University), Amber VanDerwarker

(University of California-Santa Barbara) and Philip J. Arnold III (Loyola University-Chicago)

[254] *Recent Research at Teotepec, Veracruz, Mexico: New Insights from a Regional Center*

The archaeological site of Teotepec is a discontinuously occupied Prehispanic center in the Tuxtla Mountains of southern Veracruz, Mexico. Recent surface and subsurface testing by the Proyecto Arqueológico Teotepec (PAT) suggests occupation at the site was primarily Middle Formative and Late Classic/Epiclassic. Preliminary interpretations of the data provide new insights into Teotepec's local sequence, as well as into regional Classic/Postclassic transitions and possible unique linkages to the surrounding Gulf Lowlands.

Wilson, Nathan [133] Discussant; [254] First Organizer

Wilson, Wayne [147] see Hauser, Neil

Wilson Marshall, Lydia (University of Virginia)

[53] *Improving Identity, Creating Community: Fugitive Slave Settlements in 19th-century Kenya*

This paper explores how fugitive slave settlements in 19th-century Kenya can contribute to broader anthropological understandings of community formation. Improvised under stress by people of dissimilar cultural backgrounds and social experiences, such groups provide useful examples of how cultural heterogeneity affects community creation. In 2007-2008, I conducted a year of archaeological fieldwork on fugitive slave communities in Kenya's coastal hinterland. This doctoral research was household-focused and specifically considered settlements' economic organization and internal cultural diversity. Using my dissertation research results as a springboard, this paper considers what insight into community and identity such newly formed groups offer.

Wilton, Derek [90] see Loring, Stephen

Windes, Thomas [84] see Lipe, William D.

Winemiller, Terance (Auburn University at Montgomery) and Virginia Ochoa-Winemiller (Auburn University at Montgomery)

[65] *Shared Cultural Identity at Chichicaste and Dos Quebradas, Olancho, Honduras*

In the past, many researchers have interpreted the physical and cultural geography of Olancho in terms of degrees of acculturation. Cultural materials recovered at Chichicaste and Dos Quebradas suggest that the ancient inhabitants were neither subordinate nor peripheral to high civilizations west and south of Honduras. Instead, these groups appear to have maintained unique cultural identities while involved in local and regional interactions with groups living in and beyond the Intermediate Area. We discuss how our research has relevance in the lives of local community members and can influence their perceptions of a shared responsibility for preservation of cultural patrimony.

[65] First Chair [65] Third Organizer

Wingfield, Laura (Georgia State University)

[260] *Barely There but Still Telling: Ancient Nicoyan Dress, Body Decoration, and Jewelry and Possible Roles for All the Sexes, c. 800 BCE-300 CE*

Female, male, gender-ambiguous, and intersexed earthenware figures from Greater Nicoya were barely adorned. Their costume was usually limited to a pubic covering for females and the gender-ambiguous and headwear, body decoration, and jewelry for all sexes. Body decoration spirals in visionary patterns, perhaps representing images seen in shamanic trance. Nicoyan jewelry depicted on these figurines is mirrored in actual finds of greenstone pendants--likely Mesoamerican imports--and shell necklaces and ceramic earspools. Analysis of dress, body decoration, and jewelry will be presented, particularly in relation to suggested sexual and politico-religious identities for ancient Nicoyans of c. 800 BCE-300 CE.

Winkler, Daniel (University of Wisconsin-Milwaukee)

[46] Plainview Lithic Technology and Late Paleoindian Social Organization in the Western Great Lakes

The focus of this paper is human use of Plainview lithic technology as represented by lithic debitage and tools from two sites in southern Wisconsin. This work takes an assemblage approach to understanding the structure of the lithic economy in use at the site, in order to examine mobility, site structure, household makeup, and ritual in the western Great Lakes during the early Holocene (circa 8600 BP). The study is focused on the structure of the Plainview lithic economies, examining tools and debitage to determine how groups in the western Great Lakes created, modified, and maintained their tool kits.

Winter, Jr., Eugene C. [38] see Crowley, Suanna Selby

Winterhalder, Bruce [197] see Culleton, Brendan J.

Wiseman, James [34] see Ostovich, Marta E.

Wisner, Meredith (University of Iowa)

[234] *Bison Subsistence at Cherokee Sewer, IA: Toward a More Complete Picture*

The Cherokee Sewer is a late Paleoindian to Middle Archaic archaeological site located in northwest Iowa. It is one of the eastern most bison localities for the plains. The site was originally excavated in 1976 and results were published in the early 1980's. More recent studies of the collection have examined bison dentition and fetal remains. A large portion of the collection is highly fragmented and was largely overlooked in previous analyses. Change in subsistence habits involving bison exploitation between the Paleoindian and Archaic assemblages will be reassessed using modern quantitative methods on the complete bison collection.

Witschey, Walter (Longwood Univ / Tulane Univ-MARI) and Clifford T. Brown (Florida Atlantic University)

[178] *5,000 Sites, and Counting: The Inspiration of Maya Settlement Studies in 2010*

From inspiration comes involvement and creative insight. Where half a century ago budding archaeologists were infused with excitement by "Gods, Graves, and Scholars," today the wealth of free aerial imagery, satellite photos, and space shuttle datasets provides an unprecedented opportunity for self-directed learning and personal pursuit of young dreams. This paper provides results from the Electronic Atlas of Ancient Maya Sites, illustrates 70 years of progress since the MARI map of the Maya area was last updated and published, and provides examples of student-directed settlement pattern activities with the 5,000 sites in the Maya area.

Witt, David (SUNY Buffalo)

[235] *Remote Sensing at Ancestral Pueblo Sites: The Use of ASTER & Hyperion Imagery in Determining Site Locations*

Remote sensing has proven to be a valuable tool in archaeological surveying. This project incorporates imagery obtained from the ASTER and Hyperion space-borne instruments to develop hyper-spectral signatures for known surface sites in the San Juan River Basin of northwestern New Mexico. These sites include larger complexes such as Aztec Ruins and Salmon Pueblo, as well as smaller sites throughout the region. The resulting signatures are then applied throughout the surrounding area in an attempt to determine the locations of currently unknown surface sites. The predicted locations of these sites will be ground-truthed to determine the validity of the model.

Wobst, Martin (University of Massachusetts) [174] Discussant

Wojtczak, Dorota [58] see Hauck, Thomas C.

Wojtowicz, Rob [60] see Birch, Jennifer

Wolf, Marc (GWE Corp.) and Thomas Guderjan (University of Texas at Tyler, Texas)

[91] *Maya Settlement Patterns in Northwestern Belize: Environmental Relations, Resource Availability and Local Site-Planning Traditions*
 Nearly two decades of formal and informal survey work in northwestern Belize, combined with similar detailed research in adjacent portions of Mexico and Belize have yielded a large database of Maya settlement patterns. In this discussion, we argue that the locations of centers with public architecture as well as smaller communities can best be understood in terms of their relationship to critical resources—particularly agricultural lands. Also important in regards to these settlements is the relative degree of continuity between the built Maya world and the natural environment. Further, the locations of some macro-centers within the Northwestern Belize area can only be understood in relation to other local settlements.

Wolf, Marc [229] see *O'Mansky, Matt*

Wolf M.A., Sibylle

[157] *Personal Ornaments and Ivory Working Technology in the Ach and Lone Valleys*

Researchers found numerous ivory artifacts including personal ornaments during excavations at Hohle Fels Cave (Swabian Jura) between 1997 and 2009. Here I present the Aurignacian pendants and ivory pieces, focusing on the operational sequence and comparing the Hohle Fels assemblage with others from nearby Vogelherd and Geißenklösterle. This study focuses on the technological aspects of ivory working as a means to address the use of symbolism and social organization in the Aurignacian.

Wolff, Christopher (Smithsonian Institution), Robert Speakman (Smithsonian Institution) and William Fitzhugh (Smithsonian Institution)

[161] *The Utility of pXRF in the Assessment of Slate Procurement and Exchange by the Maritime Archaic of Newfoundland and Labrador*

Slate was used frequently by Maritime Archaic peoples of Newfoundland and Labrador; however, the procurement and movement of this material has been little studied beyond generalized typologies. This poster presents a study utilizing a portable x-ray fluorescence (pXRF) instrument to analyze slates used by Maritime Archaic groups. This technique was tested because it is non-destructive and can directly analyze artifacts. The results are mixed, with some success at discerning broad patterns in slate distribution and identifying preferred use of certain slates for specific tool types, but limited in the evaluation of exchange of materials from specific procurement locations.

Wolff, Christopher [60] see *Holly, Donald H.*; [123] *First Organizer*; [161] *Second Organizer*

Wolff, Nicholas (Boston University)

[259] *Living Spaces and the Micromorphological Perspective: Recent Examples from the South Italian Bronze Age*

In recent years soil micromorphology has emerged as a powerful tool in understanding uses and concepts of space, as well as site formation processes more generally, and has provided critical insight into our understanding of the domestic built environment in a variety of archaeological settings. In this paper I discuss recent results from several new Bronze Age residential sites in Calabria and Sicily. Through micromorphological study of occupation deposits, living surfaces, and building materials I will demonstrate how this technique allows a unique means of approaching the social process of creating, inhabiting, and eventually abandoning the locus of everyday life.

Wolverton, Steve (University of North Texas), Lisa Nagaoka (University of North Texas) and Scott Ortman (Crow Canyon Archaeological Center)

[19] *Assessing VEP Productivity Predictions with Zooarchaeological Relative Abundance Data in the Mesa Verde Region*

Habitat modeling under the umbrella of the Village Ecodynamics Project (VEP) produces spatio-temporal predictions about crop/land productivity. Prey animals are known to respond to high crop

productivity in modern settings in a variety of ways, usually positive ones for the animal populations. Zooarchaeological relative abundance data are used to assess whether or not productive areas of the Mesa Verde region produce catchments with high foraging (hunting) efficiency through time and across space in the region.

Wolverton, Steve [235] see *Hoffman, Amy*; [4] see *Barker, Andrew L.*; [235] see *Randklev, Charles*

Wolyne, Renata (Edinboro University of Pennsylvania)

[50] *The 1970s: The Impact of Koster Site Media Relations on Press Coverage of other Archaeological Projects*

The 1970s saw the Koster Site publicized in nationally popular and prestigious print media. Koster staff worked closely with reporters to ensure the accuracy of information by providing them with detailed textual and visual sources. Public interest was aroused thereby demonstrating the allure of the far past in North America. Was the success manifested by Koster a 1970s aberration or was this the start of a trend toward growing interest by the press in North American archaeology?

[141] *First Organizer*; [141] *First Chair*

Wood, W [220] *Discussant*

Woodfill, Brent

[229] *Rediscovering Early Classic Trade Patterns at the Highland-Lowland Frontier: A New Case for Cave Archaeology*

The unexpected discovery of stone coffer with Early Classic lowland sculpted images and inscriptions in a cave in the northern Guatemalan highlands has had great implications for our understanding of highland-lowland interaction. This discovery proved to be the “tip of the iceberg,” however, in terms of the importance of subterranean evidence in this region. For the past decade, cave investigations been an essential part of regional investigations in central Guatemala, and through cave research it has been possible to push back the known period of intensive use of the western trade route by several hundred years, to the mid-Early Classic.

[229] *Second Organizer*

Woods, Alexander (University of Iowa)

[184] *Quantifying Quality: Mechanical Knapping Revisited*

This study examines the relationship between a number of raw material characteristics and the dimensions of experimental blades produced on a hydraulic test stand. The ultimate goal of this research is to develop a meaningful way to quantifiably measure the quality of a lithic raw material.

Woods, Julie (University of Massachusetts, Amherst), David V. Hill (Center for Big Bend Studies, Sul Ross State University), Elizabeth S. Chilton (University of Massachusetts, Amherst), and Matthew T. Boulanger (Missouri University Research Reactor)

[161] *Giving Voice to Choice: Integrating Scientific, Ethnographic and Historical Analysis to Understand 17th Century Native Pottery from Western New England*

Native ceramics from the 15th through 17th centuries from Western New England exhibit a tremendous diversity of stylistic elements and technical attributes. With minimal ethnographic data and historical documentation available, archaeologists must rely on analytics to understand potter's choices in vessel production. We contrast the results of three different approaches to analyzing ceramic assemblages—vessel lot analysis, ceramic petrography and neutron activation analysis—from three Algonquian sites in the Middle Connecticut River Valley Region. This case study illustrates how archaeometry can be used to evaluate hypotheses derived from more traditional analyses of material culture.

Woods, Marilee [121] see *Cisse, Mamadou*

Woods, William, Bailey K. Young (Eastern Illinois University), Ines Leroy (Centre de Recherches d'Archéologie Nationale),

Laurent Verslype (Université catholique de Louvain), and Paul Hudson (University of Texas-Austin)

[123] *Geoarchaeological Investigations of a Medieval Castle and Outer Bailey (Walhain, Belgium)*

In the village of Walhain in central Belgium stand the ruins of a feudal fortress and its associated outer bailey and moat complex. Ongoing excavations begun in 2003 not only revealed important medieval structures in place, but substantiated that much of the site was the result of medieval engineering. A coring program begun in 2005 and analysis of recovered soil samples has allowed us to better understand the preconstruction local environment, the history of the initial construction and subsequent transformation of the site, and the differential use intensities of its raised earthen platforms.

Woodson, Kyle (Gila River Indian Community--CRM Program)

[44] *New Insights on the Snaketown Canal System and Hohokam Irrigated Fields*

A recent study of the Snaketown Canal System along the Middle Gila River has enhanced our understanding of Hohokam canal systems and irrigated fields. Over 75 years of archaeological research in the Snaketown area and the relatively undisturbed surface terrain have facilitated a detailed reconstruction of the system layout. The definition of field areas allows the estimation of command area, which is the portion of land that was subjected to irrigation. The data from Snaketown continue to provide new insights on Hohokam canal irrigation technology and how farmers adapted to environmental and social changes throughout a millenium of irrigation agriculture.

[44] see Wright, David K.

Wooley, Chris [27] see *Proue, Molly*

Wopschall, Kayla (University of Washington)

[194] *Explanations in Late Quaternary Extinctions: The Inappropriate use of Analogy to Create Global Models*

Late Quaternary mammal extinctions have been debated for decades. Popular explanations include human overkill, abrupt climate change, and more recently, extraterrestrial impact. The popularity of these arguments is based on two factors: 1) the dependence on and overutilization of analogy and 2) the catastrophic nature of the explanations, allowing the creation of a global model. Focusing on the human overkill argument, we explore explanations based on flawed comparisons. This, along with an overview of the history of analogy in archaeology and ecology, shows the inherent problems with global models of these extinctions, and why these remain the most popular explanations.

Worman, F. Scott (University of New Mexico) and James L. Boone (University of New Mexico)

[259] *People, a Plague on the Planet? A Landscape Geoarchaeology Study of Islamic Portugal*

Archaeological surveys in the Lower Alentejo region of Portugal have documented a dramatic increase in rural population densities during the Islamic period (711 – 1248 C.E.). Landscape-scale geoarchaeological investigations show widespread, severe soil erosion in densely populated areas during the 12th Century. A program of OSL and radiocarbon dating, along with a comparison of the history of landscape change in two surveyed areas, shows that environmental degradation during the Islamic period was anthropogenic. A detailed consideration of the processes of landscape change, augmented by archaeological and documentary data, provides insights into the complex human-environment interactions that ultimately led to catastrophic degradation.

Wright, David (Gila River Indian Community), Kyle Woodson (Gila River Indian Community) and Wesley Miles (Gila River Indian Community)

[44] *Hohokam Irrigated Agricultural Fields on the Middle Gila River* Recent excavations near Upper Santan Village along the Middle Gila River uncovered a section of the prehistoric Santan Canal System that includes irrigated agricultural fields. The fields are located in the intermediary zones between a main canal, two distribution canals,

and at least four lateral canals. Contrasting sediment morphology, paleobotany, and chemical signatures have been documented between hypothesized fields and natural strata. The excellent preservation of the fields is attributed to their depth of burial and position at the distal end of an alluvial fan. These factors allow for one of the most comprehensive views of Hohokam irrigated fields unearthed to date.

Wright, Joshua (Stanford University)

[64] *Inequality on the Surface: Horses, Power, and Practice in the Eurasian Bronze Age*

Animals are an implicit part of all Inner Asia monuments from the human ecology of the pastoral nomads who built them to the distinctive, patterned, faunal deposits that are placed into the monuments. This paper focuses on the monuments, and monumental constellations, as concepts of order and locales into which horse remains were deposited. The thesis that monuments and the consumption of horses are central to landscapes of inequality will be critically examined through the study of several areas of dense monumental construction in Mongolia.

Wright, Patti (University of Missouri-St. Louis), George M. Crothers (William S. Webb Museum of Anthropology, University of Kentucky)

[51] *Women in Archeology: An Explicitly Humanistic Approach -- A Paper in Honor of Patty Jo Watson*

The career and intellectual contributions of Patty Jo Watson continue to inspire and influence the archaeological research of women (and men) worldwide. Pat has been at the forefront of theoretical discussions and a pioneer in the archaeology of caves, gender, and food production. Her field experiences include work in Iraq, Iran, Turkey, China, Arizona, New Mexico, Kentucky, and Tennessee. Here, we discuss her achievements and the ways in which they serve to challenge and inspire today's archaeologists.

[151] *Discussant*

Wright, Patti [162] see *Corella, Elijah J.*; [211] *First Organizer*

Wright, Rita (New York University)

[51] *Pioneers of the Past and New Frontiers*

The first scholar that comes to mind when most people name an archaeologist working in my geographical area (South Asia and neighboring regions) is Mortimer Wheeler. But others, a few women pioneers, made important contributions, and though these have been acknowledged by European scholars, few U.S. scholars know their work. Fast forward to the 1980s, a new picture emerges when increasing numbers of women entered the field but with different levels of success. Today, a more promising picture emerges, and in this talk, I try to place these three "eras" in the historical and political contexts of the time.

[17] *Discussant*

Wright, Wendy Ann (Portland State University) [3] *Discussant*

Wriston, Teresa (University of Nevada, Reno) and Gary Haynes (University of Nevada, Reno)

[53] *An Early Farming Village Revealed, Hwange National Park, Zimbabwe*

In 1966 Robinson described a buried Early Farming Village near the confluence of the Lukoji and Kapula Rivers in Hwange National Park, Zimbabwe. He reported 26 decorated ceramics similar to the Gokomere Tradition associated with AD 570 +/- 110 and AD 810 +/- 90 radiocarbon dates, making this one of the earliest Farming sites in Hwange National Park. Recent investigations revealed many daga lined floors on top of nearly complete, intentionally-buried decorated pots eroding from the walls of the Kapula River. Salvage excavations of the exposed ceramics revealed great variability in decorative styles and form along with coiled copper.

Wrobel, Gabriel (University of Mississippi), David Glassman (University of Southern Indiana), and James Tyler

[91] Human Osteology of Blue Creek, Belize

This paper describes the result of analyses performed on the human skeletal collection from the Blue Creek site in northern Belize. The sample consists of over sixty individuals of all ages and both sexes, representing both Preclassic and Classic periods. Variations among the burials, including date, location, body treatment, grave furnishings, sex and age, are compared to biological data related to health and diet.

Wrobel, Gabriel [99] see Morton, Shawn G.; **112** see Andres, Christopher R.

Wu, Chia-chin (UC Berkeley)

[74] The Impacts of Food Processing on Parenchymous Tissue of Roots and Tubers: the Diagnostic Value of a Tissue Degradation Attributional Analysis in Identifying Specific Drying and Cooking Transformations

The nature of food processing activities and the inevitable impact they have on parenchymous tissues can be understood through physical and anatomical changes observable in systematically processed tubers. Roots and tubers were subjected to detailed food processing activities, which damaged the parenchymous tissue and modified its anatomy in specific ways. Tuber processing stages produce distinctive, identifiable damage in some tuber species. These various attributes are diagnostic and can be useful for identifying taphonomic, cultural transformations, and identities of roots and tubers. The focus of this study is to present the various tissue degrading attributes resulted from tuber processing events to illuminate their diagnostic value.

Wu, Chunming [155] see Jiao, Tianlong

Wu, Xiaohong (Peking University)

[155] Recent Uses of Radiocarbon Dating in International Projects in China

The radiocarbon laboratory at Peking University was founded in 1972. Starting in the 1990s, when international collaborations began, the Peking University lab was involved in research on early agriculture and pottery at Xianrendong in Jiangxi. Subsequently, as the lab was developed through interactions with other laboratories around the world, international collaborations in China have increasingly used the labs facilities for dating. Here we discuss the dating of materials from Xianrendong, Yuchanyan, Zhongba, Tianluoshan, and Donghuishan as representative cases of such collaboration and discuss the changes to procedures that these collaborations have brought about.

Wu, Xiaolong (Hanover College) [95] Discussant

Wu, Xinhua [155] see Jia, Peter Weiming

Wunderlich, Robert [147] see Hauser, Neil

Wurtz, Michelle (Geo-Marine, Inc.), Duane Peter (Geo-Marine, Inc.), James Harrison (Geo-Marine, Inc.)

[231] Prehistoric Inhabitants of the West Fork of the Trinity River Valley – Merely Passing Through?

Prehistoric sites along the West Fork of the Trinity River frequently reveal very limited stone tool assemblages with equally limited expressions of formal features. Recognition of distinct activity areas is frequently difficult. Site 41TR198 offers a unique data set related to use of the West Fork flood plain between 2300 and 500 years B.P. Multiple data sets recovered from discrete living surfaces suggest that groups frequenting the site may have been distinct from those exploiting the woodlands/prairie ecotone elsewhere. The presence of distinctive thermal features and a diverse faunal assemblage contribute to an emerging synthesis of northcentral Texas archaeology.

Wyatt, Scott [84] see Speller, Camilla F.

Wymer, DeeAnne (Bloomsburg University)

[244] Education is not the Filling of a Pail, but the Lighting of a Fire: A Tribute to William S. Dancey

William S. Dancey, as archaeologist, professor, mentor, and friend, has made a lasting impact upon the discipline of archaeology and the lives of several 'generations' of scholars and professionals within our discipline. This paper describes, discusses, and honors the multi-faceted career of Dancey and explores the role that he has played in developing both theoretical and methodological rigor in the field – and how he has instilled those principles and values within his students. The "Columbus Cabal" (sensu James Griffin) would thus like to offer a tribute to the individual who gave us guidance and inspiration.

[244] First Chair

Wynne, J. Judson [62] see Nicolay, Scott

Xie, Liye (the University of Arizona)

[216] The Use-life of Groundstone Axes at Erlitou, an Early Bronze Age Site in Central China

Use-wear analysis (low-power) of groundstone axes from Erlitou revealed intensive reuse of axes. Four functional groups were distinguished according to use-wear patterns. Most axes appear to have been used for multiple purposes. According to experimental results, tree felling and wood cutting produce the least pronounced edge damage, and wear traces from these activities could be easily removed or obscured by damage from other functions. High-power microscopy, and perhaps residue analyses, would be useful for examining the portion of the axe bevels some distance from the working edge as a means of determining both initial and secondary functions of these artifacts.

Yaeger, Jason (U. of Wisconsin & U. Texas - San Antonio)

[18] Transforming Sacred Space at Tiwanaku: Inka Sacrificial Offerings at the Pumapunku Temple Complex

When the Inka Empire expanded into Bolivia's Titicaca Basin, they encountered the ancient platforms and pyramids at Tiwanaku. Among these, they focused their ritual activities on the Pumapunku platform and adjacent spaces. By placing sacrificial offerings, building a canal and basin complex, and erecting buildings on and around the platform, they reconfigured the Pumapunku to create a venue appropriate for Inka rituals, and they transformed this sacred space to better fit Inka worldview and cosmogony. This paper examines the function and meaning of the changes that the Inka made at the Pumapunku, with a focus on the sacrificial offerings.

Yancey, Miranda [187] see Galloy, Joseph M.

Yang, Dongya (Simon Fraser University), Anna Prentiss (University of Montana) and Camilla F. Speller (Simon Fraser University)

[203] Ancient DNA analysis of canine bones and coprolites from the Bridge River Site, British Columbia

Mitochondrial DNA analysis was applied to archaeological canine bone and coprolites from Bridge River, a complex hunter-gatherer village on the Fraser River, British Columbia, to assess their relationship to other ancient and modern dog populations. Several different *Canis lupus familiaris* mitochondrial DNA sequences were recovered from the ancient remains, some of which matched sequences recovered from ancient dogs at other British Columbia Interior Plateau and Northwest Coast sites. Ancient DNA analysis was also applied to salmon vertebrae preserved within the canine coprolites, indicating that domestic dogs at Bridge River had access to sockeye salmon.

Yang, Dongya [84] see Speller, Camilla F.

Yang, Shugang [122] see Eng, Jacqueline T.

Yatsko, Andrew (U.S. Navy), Douglas Comer (Cultural Site Research and Management) and Kevin May (Cultural Site Research and Management)

[160] Cultural Implications of Viewshed Analyses at San Clemente

Island

San Clemente Island has evidence of occupation for more than 9,000 years, during which the prehistoric economies were strongly marine oriented. The distribution of island sites is generally consistent with this, with these optimally located to provide viewsheds across the surrounding ocean where resources moved important to humans, such as sea mammals and inter-island boat traffic. Within this prehistoric landscape there are also anomalies associated with apparent ceremonial sites. We examine the cultural dynamics implied in these sites' viewsheds, as well as those suggested by potential for reciprocal viewsheds among San Clemente Island, nearby Santa Catalina Island, and the California mainland.

Yatsko, Andrew [160] *see Blom, Ronald G.*

Yellen, John (National Science Foundation) [126] *Discussant*

Yellowhorn, Eldon (Simon Fraser University)

[63] *Discussant*

Yepez, Willey, Justin Jennings (Royal Ontario Museum)

[188] *Style and Power at La Real: Dynamic Discourse, Permeable Barriers and Cultural Convergence in Middle Horizon Arequipa*

We present the preliminary results of our study of the archaeology remains from La Real, a mortuary site in the Majes Valley that was discovered and rescued during a civil engineering project in 1994. Two Middle Horizon contexts were studied: the first was a cave filled with mummies that dates stylistically to the Middle Horizon 1, and the second a semi-subterranean structure packed with post-mortem offerings dating to Middle Horizon 2. By tracing changes in the artifact assemblage over time, we can begin to understand the dynamic events occurring in the Majes valley and their relationship to the Wari state.

Yerka, Stephen (U. of Tennessee, Archaeological Research Lab), Mathew D. Gage (University of Tennessee) and Nicholas P. Herrmann (Mississippi State University)

[24] *Curing the Data: Managing Information Systems and Digital Data at Tennessee's ARL*

The Archaeological Research Laboratory (ARL) at the University of Tennessee actively incorporates archaeological technologies into various educational, public, and private projects. In addition, ARL pursues research opportunities, which will benefit from the integration of digital technology. Potential conflicts relate to a varied stakeholder interface that requires malleable but secure access to cultural resources data including artifact databases, geophysical and GIS layers, and various state and federal historic properties' site file information. This paper examines the benefits and challenges facing an academically based archaeological research laboratory, and ARL's efforts to address these issues are highlighted through several recent projects.

Yerka, Stephen [24] *see Johanson, Erik N.*

Yerkes, Richard (Ohio State University) and Brad Koldehoff (ITARP University of Illinois)

[146] *New Perspectives on Dalton Adzes and Toolkits in the Middle Mississippi Valley*

Dalton adzes and toolkits from the American Bottom region are compared with those from northeastern Arkansas. Technological and use-wear analyzes reveal that adzes were made and used in similar ways - primarily for heavy woodworking, possibly for manufacturing canoes. Dalton toolkits are highly formalized, consisting of adzes, scrapers, and points used both as projectiles and knives. Dalton assemblages are often considered late Paleoindian. We argue that Dalton toolkits are hallmarks of an Archaic tradition that focused on woodland and riverine resources. Dalton foragers were the first groups to settle, fully utilize, and occupy the Mississippi Valley and adjacent Ozarks.

Yerkes, Richard [61] *see Parkinson, William A.*

Yeshurun, Reuven [16] *see Bar-Oz, Guy*

Yim, Ronald (Vanderbilt University) and Steven A. Wernke (Vanderbilt University)

[138] *From Pottery to Practice: A Contextual Ceramic Assemblage Analysis from an Inka Outpost and Early Colonial Mission in Highland Peru*

This poster investigates the organization and nature of ceremonial and domestic practices at the site of Malata in highland Peru during the transition from Inka to Spanish rule. First, we analyze variations within the ceramic assemblage to gain further understanding of the rituals that created political bonds between the Inka state and this community. Second, we examine ceramics from chronologically-controlled domestic structures to infer how colonial influences affected ritual and daily routines during the first post-conquest generation. The results indicate significant differences between ritual and domestic assemblages, and between the assemblages of households of different status.

Yingst, James R. [219] *see Sasso, Robert F.*

Yoder, David (William Self Associates), Bradley Newbold (Washington State University), Joel Janetski (Brigham Young University), Mark Bodily (Bureau of Land Management) and Sara Hill (University of Nevada Las Vegas)

[118] *Subsistence Change and Continuity During the Paleoarchaic/Archaic Transition on the Northern Colorado Plateau*
In the desert west, intensive use of small seeds as a dietary staple marks the transition between the Paleoarchaic and Archaic periods. Geib and Jolie (2008) have postulated that small seed use may have begun in the south and spread to the Great Basin through the Colorado Plateau. Work at North Creek Shelter suggests small seed use may have been in place by 9000 BP. But unlike in many other areas, Early Archaic occupants at NCS continued a focus on large game hunting. In addition, the replacement of stemmed points with side-notched styles suggests broad cultural changes at 9000 BP.

Yoffee, Norman (University of Michigan) [15] *Discussant*

Yohe II, Robert M. [232] *see Binning, Jeanne Day*

Yost, Chad (Paleo Research Institute)

[87] *Tropical Arrowroot Family (Marantaceae) Phytoliths and Starch Observed in Jornada Brown Bowl Fill Samples from Site LA 149260, Southeast New Mexico*

Fill collected from a Jornada Brown bowl recovered east of Carlsbad, NM (and other sites in the region) yielded phytoliths and starch diagnostic of the arrowroot family (Marantaceae) and resembling those produced by Calathea roots. Thalia is the only Marantaceae native to North America; however, these phytoliths bear no resemblance to those from Thalia roots. Calathea is native to Southern Mexico and has been cultivated as a root crop for over a millennium. This paper will present the results of ongoing Marantaceae phytolith reference work and information on Marantaceae root crop cultivation, storage, and possible trade networks with Mexico.

[10] *Discussant*

Yost, Chad [87] *see Boggess, Douglas H M; [172]* *see Cummings, Linda Scott; [172]* *see Varney, R. A.*

Young, Allison (College of Wooster)

[163] *An Assessment of the State of Civil War Battlefield Archaeology*
Battlefield archaeology is a significant subfield of historical archaeology. Battlefields of the American Civil War serve as ideal locations for its practice and development. This study will assess the state of civil war battlefield archaeology through discussion of representative cases including work done at Gettysburg, Antietam, Shiloh, and Fort Davidson in Missouri. It will also examine the methods and theories of battlefield archaeology and evaluate their effectiveness. The discussion of each battle will assess the

correlation of the material and historical records, report the state of preservation of each site, and examine how the public relates to each site.

Young, Bailey K. [123] *see Woods, William*

Young, Eric (Pennsylvania State University) [69] *Discussant*

Young, Janet [79] *see Ryan, Karen*

Young, Michael (Richard Grubb & Associates)

[97] *Technological Style and the Atlantic World System: A Case Study in African-Caribbean Pottery from Montserrat*

African-Caribbean pottery, or Colono ware, offers an opportunity to study the slaves' independent economic activity in the Caribbean. A paste typology was developed for an assemblage from Galways Plantation, Montserrat. X-ray radiography was performed to identify method of manufacture. A trend emerges in the Galways collection of an increase in plain types over time. This study combines theories formulated by prehistorians, historical archaeologists, and historians. The theories of technological style and style and theories regarding the economic changes within the Atlantic world system are employed to illuminate the systems of production, distribution, and consumption of this pottery and its transformations.

Young, Tatiana (Temple University)

[109] *Independence rather than Domination of Smaller Sites in Quintana Roo, Mexico*

It becomes increasingly difficult to maintain a hierarchical model as continuing data suggests independence of smaller sites through economic specialization. To adapt to the rain forest environment ancient Maya employed multifaceted agricultural strategies dependant upon the soil type, vegetation and landscape features. This approach differs greatly from Western monoculture which relies on a single agricultural technique employed in extensive vicinity. Settlement pattern was comprised of a mixture of farms and residences, which promoted economic self-sufficiency to the ancient Maya (agricultural facets were present in the core of some cities). Dispersion amongst the continual occupation did not reflect any tangible boundary between "urban" and "rural" settlements. Rather, smaller sites maintained independence from the domination of larger sites by means of economic self-sufficiency.

Youssef, Sam [58] *see Moncel, Marie-Hélène*

Yu, Pei-Lin (Ca. State U. Sacramento) [119] *First Organizer; [119] Second Chair*

Yuan, Jing [155] *see Campbell, Roderick B.*

Zachmann, Carl (Illinois State University, Normal)

[125] *A Study of Consumer Choice and Customer Loyalty from the Remedies Present at Two Midwest Historic Sites*

Embossed bottles are one of the few forms of text archaeologists can physically recover from mid-nineteenth to early twentieth-century soils. A comparison of the medicines purchased by the residents of a lower-working-class St. Louis, Missouri, neighborhood (23SL2229) and the upper-middle-class David Davis Mansion (11ML2725) in Bloomington, Illinois, goes beyond a review of nationally branded nostrums and a class based interpretation. The remedies presented at these two Midwest sites are able to inform historical archaeologists on local medicines, consumer choices, and customer loyalty.

Zafe, Zarley (Archaeological Research Center of St. Louis, Inc.), Joseph Harl (Archaeological Research Center of St. Louis, Inc.)

[2] *Unusual Pottery Vessels at the Alexander Jacob Site*

The more unusual pottery vessels recovered from the Alexander Jacob site will be discussed. These vessels include a hexagonal shaped bowl, exotic decorated jars, animals effigy lugs, a disc with spider web incisions, and a human effigy water bottle. These objects

will be compared to similar vessels found in the American Bottom. Some preliminary insights how the symbols on these vessels reflect changing ideas at the beginning of the Mississippian Period will also be discussed.

Zaragoza, Diana (INAH)

[195] *¿Tepantitla, lugar de peregrinaciones?*

Las recientes exploraciones realizadas en el sitio arqueológico de Tepantitla, en el estado de Hidalgo, nos hacen suponer que este lugar pudo haber sido utilizado por los otomies para ceremonias. En las pinturas rupestres de El Cajón también en Hidalgo, encontramos representaciones de personas alineadas portando vestimentas y adornos que me hacen suponer que son sacerdotes en peregrinación. En la Huasteca es común que se invite a sacerdotes y curanderos otomies a las ceremonias, por lo que no sería difícil pensar que estos sacerdotes en peregrinación fueran a realizar alguna ceremonia al sitio de Tepantitla.

[195] *First Organizer; [195] First Chair*

Zariñán, Nora N. Rodriguez (Escuela Nacional de Antropología e Historia)

[57] *El Águila Joven en Alta Vista, Zacatecas*

A partir de la recurrente aparición de vasijas con un mismo conjunto iconográfico, el águila, el rombo o círculo y la serpiente, en el área de Chalchihuites, Zacatecas, surge la pregunta respecto a su significado en tiempo y espacio para esta área. En un acercamiento a través de la analogía wixaritari se ha conseguido una interpretación, más allá de ello sin embargo, después de un largo trabajo, se han identificado convergencias en los contextos de uso y desecho del soporte material de dicho conjunto tanto etnográfica como arqueológicamente, así como la continuidad e identificación de lo que parece ser una deidad del Noroccidente de México.

Zaro, Gregory [112] *see Houk, Brett A.*

Zavala, Bridget (Universidad Juarez del Estado de Durango) and Eva Angelica Bravo Torres (Universidad Autonoma de San Luis Potosí)

[57] *Dwelling and Architecture in the Sextín Valley of Durango, Mexico*

This paper applies a landscape perspective to the archaeology of the Sextín Valley in northern Durango, Mexico based on results from the Proyecto Arqueológico Sextín. We use architecture as an entry point to demonstrate how places are created in several different temporal settings in the region. Specifically, we take into account aspects related to visibility, private vs public spaces, among factors, in order to understand how each of the locales was experienced by the agents who infused these places with meaning.

[57] *First Organizer; [57] Second Chair*

Zavala, Gina (Indiana University)

[196] *Community Involvement in Knowledge Creation at the Ground Level in Barahona, Dominican Republic*

In this paper I chronicle a community-based archaeological research trajectory in Barahona, Dominican Republic. After small-scale construction revealed a Taíno village beneath the modern barrio of Imbert, a group of community leaders approached the director of the national museum, Dr. Juan Rodriguez, with a request for archaeological work and assistance in creating a community museum. The Taíno site appears to have a long chronological sequence and associated cave features. This ground level approach supports the efforts of the people of Imbert to empower themselves by facilitating learning and including community voices in the creation of knowledge about the past.

[196] *First Chair*

Zawadzka, Dagmara (Université du Québec à Montréal (UQAM))

[22] *Pictures on the Shores of Deep Water: Temagami Area (Ontario) Rock Art within its Landscape Context*

Canadian Shield rock art, created by the Algonquian-speaking peoples, is most often associated with sacred places. This paper

discusses the rock art of the Temagami area of north-eastern Ontario within its landscape context. An understanding of rock art sites' place within the cultural landscape can be achieved by an examination of rock art's relation to natural resources, cultural resources (tangible and intangible), as well as to the paths travelled. Such a study sheds light not only on the place of rock art within the cultural landscape of Algonquian-speaking peoples, but also on the perception of the landscape itself.

Zborover, Danny A. [228] see *King, Stacie M.*

Zeanah, David, Brian Coddig (Stanford University), Douglas Bird (Stanford University) and Rebecca Bliege Bird (Stanford University)

[118] *Intensive Seed Exploitation, Central Place Foraging, and the Organization of Ground Stone Technology in the Australian Arid Zone*
We suspect that Australian foragers had to use fire to enhance grass seed productivity, because seed patches are too dispersed to make reliance on seeds worthwhile in climax vegetation. If so, the proliferation of ground stone in the arid zone during the Holocene signals the simultaneous emergence of fire-managed landscapes. We use foraging theory to model managed habitat mosaics relative to contemporary occupation sites in the Martu territory of Western Australia to generate testable predictions about the distribution and organization of ground stone technology. Implications for the development of ground stone technology in western North America are discussed.

Zedeno, Maria (University of Arizona), Dale Fenner, Sr. (Blackfoot Tribe) and Jesse Ballenger (University of Arizona)

[234] *If We Build It, Will They Come? Planning Bison Kills on the Two Medicine River, Montana*

The Two Medicine River of north-central Montana preserves abundant surface evidence for Late Prehistoric bison drive lanes, kill sites, encampments, and stone alignments which, together, demonstrate long-term success of communal bison hunting. Extensive drive lines insinuate themselves as a reasonable means to predict kill site locations; yet, drive lanes lead directly to stratified bone beds only in some cases. The absence of bone at the terminus of drive lanes must be explained as a result of taphonomy or the absence of a kill event. We review drive line placement and discuss the preparation and risk involved in the communal hunt.

[228] *Second Chair* [228] *Second Organizer*

Zedeno, Maria Nieves [228] see *Murray, Wendi F.*; [198] see *Hollenback, Kacy L.*

Zeidler, James (Colorado State University)

[89] *Archaeoastronomy, Community Plan, and Domestic Structure Orientation at Real Alto, Coastal Ecuador: Why Don't the Houses Face the Plaza?*

In previous studies of archaeoastronomical phenomena at the Valdivia site of Real Alto, coastal Ecuador (Zeidler 1984, 1998), overall community plan and individual structure orientations between Phases 3 and 7 were discussed in terms of a pronounced intercardinality, after which several different celestial phenomena were suggested as possible alignments. One question left unanswered, however, is why the domestic structures don't face inward toward the central plaza, as is common in Amerindian circular villages throughout South America. This paper addresses that issue by exploring the spatial patterning of similarly oriented dwellings at disparate locations within the village configuration.

Zeidler, James [164] see *Rush, Laurie W.*

Zelin, Alexey (ITARP, University of Illinois)

[83] *Orendorf Settlement D: A Middle Mississippian Town Ceramic Assemblage*

This paper reports preliminary results of the ceramic artifact analysis from the Settlement D occupation of the Orendorf site. The unfortunate circumstances in which the site was destroyed present a

most informative glimpse of the ceramic assemblage of a Spoon River Middle Mississippian town on the Illinois River bluff during the 13th century. The badly burned floor material provides an inventory of the vessel forms and locations in the buildings at a particular moment, while the unburned sherds from the pit features allow detailed descriptions of the vessels present.

Zetina-Gutiérrez, Guadalupe (Posgrado en Antropología FFyL /IIA UNAM)

[241] *Searching for Demographic Phenomena in Maya Archaeological Context*

Throughout the historic development of the Maya, population phenomena documented through ethnohistorical and ethnographical studies such as migration, demographic waxing and waning, contraction and expansion of human communities, cyclical mobility of households, settlements and corn-fields, as well as dual-residence, have constituted common strategies to address physical, biological, cultural, political, religious or psychological requirements. In this paper, I sum up how these issues have been studied in archaeological contexts by specialists in the Maya area through the application of demographic archaeology and Paleodemography.

[241] *First Organizer*; [241] *First Chair*

Zhang, Dongju [177] see *Elston, Robert G.*; [155] see *Morgan, Chris*

Zhang, Quanchao [122] see *Eng, Jacqueline T.*

Zhanwei, Yue [155] see *Stoltman, James B.*

Zhao, Hui [155] see *Qin, Ling*

Zheng, Tongxiu [155] see *Li, Min*

Zimmerman, Larry (IUPUI/Eiteljorg Museum) [7] Discussant [181] Discussant

Zovar, Jennifer (Vanderbilt University)

[121] *LA-ICP-MS Analysis of Ceramics from Late Prehispanic Bolivia*
Laser ablation - inductively coupled plasma - mass spectrometry was conducted on a sample of 100 ceramic sherds from the Late Intermediate Period site of Pukara de Khonkho, Bolivia and from Late Intermediate and Inca/Colonial contexts at the nearby sites of Khonkho Wankane and Chaucha de Khula Marka. The concentrations of 53 major, minor, and trace elements were considered in order to identify meaningful chemical characterization groups. This analysis, in conjunction with a more intensive analysis of ceramic form, decoration, and surface treatment, was used to address issues of craft production, population movement, and intercommunity interaction in Late Prehispanic Bolivia.

Zovar, Joel (University of Illinois-Urbana-Champaign)

[212] *Mallkus, Monoliths, and Museums: Developing a Cultural Resource Center in the Bolivian Altiplano*

Research conducted in the summer of 2008 demonstrated that museums in the department of La Paz, Bolivia have largely relegated Indigenous political agency to the prehistoric past, effacing 500+ years of Native struggle, compromise, and collaboration with colonial powers. This paper will briefly examine that research and explain how findings from this fieldwork informed plans for the construction of a cultural resource center in the heart of the Bolivian altiplano.

Zubrow, Ezra, Dustin Keeler (SUNY-Buffalo), Eva Hulse (SUNY-Buffalo) and Greg Korosec (SUNY-Buffalo)

[117] *Supra-regional Issues in Archaeology*

Globalization, environmental and climate change are global problems and it has become increasingly clear that small scale, regional scale, and even national scale studies do not allow one to understand the underlying causes or responses. Archaeology unlike climatology and geology has been slow to examine supra-regional scales. This paper examines the issues involved in doing research at a supra-regional scale and makes use of the climatic reconstructions from the world

climate model and prehistoric data from around the circumpolar area collected since 2006 by Social Change in the Environment in Nordic Prehistory and the International Collaborative Circumpolar archaeological project.

Zúñiga-Arellano, Belem [64] *see López Luján, Leonardo*