

**ABSTRACTS OF INDIVIDUAL PRESENTATIONS****69<sup>th</sup> Annual Meeting, Montreal Canada, March 31-April 4, 2004****Abbott, David (Arizona State Museum), Alexa Smith (Arizona State Museum) and Emiliano Gallaga (University of Arizona)**

[185] *Testing the Relationship Between Sophisticated Pottery Economics and Ballcourt Ceremonialism Among the Hohokam*

Compositional analyses of Hohokam ceramics from the Phoenix Basin, Arizona, have traced pottery exchanges with a precision unsurpassed anywhere in the world. A previous application of these techniques has indicated complex and sophisticated pottery economics during the Sedentary period, when thousands of specialist-made pots were distributed each year via periodic marketplaces associated with the playing of a ceremonial ballgame. To further test that proposition, our present NSF-funded analyses of collections from Las Colinas and elsewhere suggest that the production and distribution of clay containers were drastically reorganized precisely at the time the Las Colinas ballcourt was abandoned.

**Abbott, Lawrence (New South Associates)**

[106] *An Assessment of Lithic Extraction Technology at a Metavolcanic Quarry in the Slate Belt of North Carolina*

The Three Hat Mountain Quarry, 31DV51, is located in Davidson County, North Carolina. Prehistoric groups used this quarry as a rich and variable source of metavolcanic raw materials, which included rhyodacites and tuffs. Excavations at the site revealed stratified deposits of cultural materials. This paper will present a comparative assessment of these materials and will address issues regarding changes in extraction technology and reduction strategies over time. Particular attention will be given to how the differences in raw material types across the quarry may have affected the technological aspects of procurement and initial processing strategies.

**Abbott, Lawrence [127] see Gunn, Joel**

**Abe, Yoshiko (SUNY Stony Brook)**

[42] *Hunting and Butchering Behavior of Modern Evenki Reindeer Hunters in Siberia, Russia*

This is the first report from an ethnoarchaeological study of a small group of Evenki hunters in central Siberia. The study focused on hunting and butchery practices and is also an actualistic study of surface modification. The Evenki study group still relies on hunting to feed a small family-sized group throughout the year. By videotaping the butchery and spatially recording the butchery marks, I address the link between butchery activity and the actual mark on the bone. I also address the question of anatomy dictating their butchery pattern, by comparing the results of multiple butchery sessions conducted by different individuals and/or under different camp situations.

**Abu El-Haj, Nadia (Barnard)**

[131] *From Biblical Archaeology to Genetic Anthropology: the Search for Jewish History*

This paper explores two archaeologies of nationhood: an Israeli archaeological tradition and a transnational field of genetic anthropology. Examining the work of these two disciplines at different historical moments, the paper situates each in the wider social, political and scientific contexts within which they developed and in relation to which their scientific credibility was/is generated and sustained. Second, the paper will consider the relationship between specific forms of evidence and particular visions of identity. What are the differences between the imagined community-and, an understanding of history--envisioned via a relationship to artifacts and land versus one conceived via a genetic code?

**Ackerman, Robert (Washington State University)**

[24] *Early Coastal and Interior Adaptations: The Microblade Complexes of Alaska and the Yukon*  
Alaskan and Yukon cultural complexes with frontally fluted, wedge shaped microblade cores have an estimated date range of 10,500- 7000 BP, but recent discoveries in Alaska suggest an older age. Microblade assemblages of Paleoartic tradition or Denali complex has been found not only in interior river valley contexts but also along the coast of southeastern Alaska. Technological

comparisons with microblade cultural complexes of Siberia clearly suggest an Asian origin. The use of microblades as an early adaptive strategy for both interior and coastal cultures will be explored.

**Ackerman, Robert E. [99]** *see Endacott, Neal*

**Acuna, Freddy (ESPOL-Guayaquil), Florencio Delgado (Universidad San Francisco de Quito) and Jan Olson (University of Alberta)**

[163] *Early evidence of mound construction in lowland Ecuador*

In lowland Ecuador, early pottery manufacture, early use of domesticates and early village formation are the salient characteristics of the Valdivia society. It has been said that early mound construction begins in these period, but in most of the cases documented so far; mounds are small and appear to be more the result of debris deposition. In this paper we present evidence of a large mound built through various events during middle and Late Valdivia times. This evidence questions current ideas about the development of social complexity in the region.

**Acuto, Felix (Binghamton University)**

[184] *Remembering Tawantinsuyu: Inka domination and its aftermath in a 'marginal' region*

It has been frequently claimed that Inka rule on 'marginal' provinces was too short in duration to have had a great impact on local communities' history and culture, as it was the case on central regions of the empire. In this paper I attempt an alternative perspective, showing that during the occupation of certain areas of the Southern Andes, usually considered peripheral, the Inkas sought to influence local cultural practices and worldviews. Second, I explore the aftermath of Inka domination, demonstrating that Inka period left an indelible mark on local practices and memory.

**Adair, Mary (University of Kansas)**

[111] *Maize from the Central Great Plains: Introduction and Morphological Variability*

Two issues continue to be a focus of research on archaeological maize recovered from central Great Plains sites. The first, the timing of the initial introduction of this crop into an indigenous plant horticultural system in the eastern portion of the central Plains, is addressed by a series of AMS dates on early maize remains. The second issue deals with the ability to identify maize varieties according to descriptions of historic Plains types. Morphological characteristics of large samples of maize from several late prehistoric contexts are discussed and evaluated according to current typologies.

**Adams, Brian (University of Illinois)**

[11] *The Impact of Lithic Raw Material Quality and Post-depositional Processes on Cultural/Chronological Classification: The Hungarian Szeletian Case.*

The lithic assemblages from Szeleta Cave in Hungary represent a fundamental component of discussions of the Middle to Upper Palaeolithic "transition" in Central Europe. Based on typological aspects of the lithic assemblage, material from the site has been interpreted as the product of interactions between Neanderthals and modern humans. Specifically, the co-occurrence of purported "archaic" and "progressive" artifact types is cited as evidence of such interactions. This paper will discuss the influence of lithic raw material quality and post-depositional processes on tool morphology. It is argued that hypothesized "archaic" types are not reliable cultural or temporal signatures.

**Adams, Brian [9]** *see Edging, Richard*

**Adams, Catrina (Washington University) and James Barrett (University of York)**

[148] *Economic intensification in Norse Orkney: Preliminary results of paleoethnobotanical investigations at Quoygre, Westray, Orkney*

The transition from the Viking Age to the Medieval period involved expanding North Atlantic trade in staples including dried fish, fish oil, and grain, and thus necessitated increased farming and fishing activity. Tracking relative rates at which farming and fishing activities increased may elucidate how Orcadians reacted to changing regional economic conditions. We present preliminary analyses of paleoethnobotanical material from Quoygre, an Orcadian site occupied from c. A.D. 900-1600. Results of these analyses are compared with the pattern of earlier increased marine exploitation and later agricultural intensification evidenced by zooarchaeology and the presence of deep anthropogenic soils at the site.

**Adams, E. Charles** [130] *see* *Moreno, Teresa*

**Adams, Jeffrey** [2] *see* *Ritzman, Terrence*

**Adams, Jeffrey A. (Colorado State University), Michelle Glantz (Colorado State University) and Rustam Suleymanov (National University of Uzbekistan)**

[2] *Geoarchaeological investigations at Anghilak Cave, Uzbekistan: A new Middle Paleolithic site in Central Asia*

Geoarchaeological investigations were conducted at Anghilak Cave, a Middle Paleolithic site in southeastern Uzbekistan. Two years of excavations yielded typical Mousterian stone tools, hundreds of chipped stone debitage, and thousands of fragmented faunal remains; including tortoise, wild goat/sheep, cervid, and small mammals. Artifacts and bone are dense, occurring from the surface to 70 cm. They are contained within poorly sorted, weakly stratified sediments that are truncated at the surface and disconformably overlying oxidized, cross-bedded, laminated clays. Two continuous sample columns from the excavation area were described, collected, and analyzed in order to provide detailed documentation of sedimentary and pedogenic processes.

**Adams, Karen** [136] *see* *Hard, Robert J.*; [140] *see* *Huber, Edgar K.*

**Adams, Karen R.** [66] *see* *MacWilliams, A. C.*

**Adams, Ken** [83] *see* *Goebel, Ted*

**Adams, Phil** [7] *see* *Bates, Brian*

**Adams, Ron (Simon Fraser University)**

[174] *Keeping it Together: Feasting for Community Cohesion in the Indonesian Archipelago*

In many traditional societies, pre-colonial authority structures were not well solidified and could not be classified into traditional anthropological categories, such as chiefdoms. In both Tana Toraja and West Sumba, Indonesia, where traditional forms of social organization are not easily categorized into abstract terms, feasts have provided an important means of binding households and communities together. In this paper, it is argued that feasts in these two areas traditionally played a very critical role in creating alliances between communities and holding communities together in contexts characterized by conflict, shortages, and the absence of formalized authority structures.

**Adler, Daniel (Harvard University)**

[129] *Patterns of Lithic Reduction and Tool Use Along the Southern Slopes of the Caucasus: New Data from the Late Middle Palaeolithic Rockshelter of Ortvale Klde*

This paper presents results of a detailed analysis of lithic assemblages recovered from Ortvale Klde, a Late Middle Palaeolithic rockshelter in the Georgian Republic. Local patterns of lithic reduction and tool use, based on the recurrent unidirectional Levallois technique, the production of elongated blanks, and the manufacture of various scraper forms, appear more similar to those documented in the Taurus-Zagros than at nearby sites in the northern Caucasus. Such data suggest the Caucasus functioned as a northern geographic boundary to human mobility until ~33ka when we find evidence for the routine crossing of this traditional barrier to cultural and biological exchange.

**Adovasio, James** [2] *see* *Manske, Kelly*

**Adovasio, James M. (Mercyhurst Archaeological Institute)**

[138] *Baskets on Stones: Incised Perishable Artifact Representations from Gault*

Analysis of a series of incised pebbles from the Clovis horizon at Gault has revealed patterns consistent with efforts to depict basketry. Items represented include both twined and plated materials in the form of "walls" as well as selvages. The patterns identified are consistent with basketry types known to have been produced in Early Archaic contexts in Texas and directly suggest that perishable plant fiber derived technology was part and parcel of Central Texas Clovis lifeways as well. The technology of the incised baskets is described and the "authorship" of the incisions is addressed.

**Agarwal, Sabrina (University of Toronto), Jennifer Johnson (University of Toronto), Bonnie**

**Glencross (Trent University), Ann Herring, and Shelley Saunders (McMaster University)**

[26] *A Biocultural Approach to Bone Loss in a 19th Century Archaeological Population from Belleville, Ontario, Canada*

The analysis of archaeological skeletal samples in combination with historical documents provides a unique opportunity to examine historical disease patterns. As bone loss is a growing health concern there has been steady interest to investigate the prevalence of osteoporosis in the past. Age and sex-related changes in radial bone density were examined in a 19th century archaeological sample excavated from Belleville, Ontario, using a Stratec pQCT scanner. Both sexes showed age-related change in bone density, with no significant sex difference, in contrast with modern populations. We suggest that lifestyle factors may have played a role in bone maintenance in the past.

**Agbe-Davies, Anna S. (The University of Pennsylvania)**

[12] *Social Aspects of the Tobacco Pipe Trade in Early Colonial Virginia*

For decades, archaeologists have dealt with Chesapeake-made smoking pipes of the early colonial era as symbols--as indicators of social identity or as media for social communication. Here, the author addresses equally compelling questions about social life in early Virginia by considering these pipes as objects of trade. The emphasis on the question of exchange leads us to confront such issues as elite power in a provincial economy, the role of social networks in local trade, and the effect of human relationships on modes of local manufacturing and consumption in a commodity-exporting colony.

Agbe-Davies, Anna S. [12] see Bauer, Alexander A.

**Agger, William A. (Gunderson Lutheran Medical Center) and Herbert Maschner (Idaho State University)**

[46] *Medieval Norse and the Bi-directional Spread of Epidemic Disease Between Europe and Northeastern North America.*

Medieval Norse transatlantic contact with northeastern North America began about AD 1000 and lasted for approximately 350 years. Without doubt, Norse expeditions west of Greenland sporadically encountered the indigenous inhabitants of the region. We consider the simultaneous expansion of the Norse and the demise of the Dorset Palaeoeskimo peoples to be substantially more than simple coincidence. We propose that this first European-North American exchange caused the decline by contagium of the Dorset, allowing the Thule, the predecessors of the modern Inuit, to advance into the Eastern Arctic without substantial opposition.

**Aguiar, Joao Carlos (Carta Arqueologica de Rio Maior) and Jonathan Haws (University of Wisconsin-Madison)**

[53] *A multi-proxy approach to reconstructing paleoenvironments in central Portugal between 30,000-20,000 bp*

Paleoenvironmental data are extremely limited for the Late Pleistocene of Central Portugal. Because all of the pollen cores come from postglacial deposits, inferences must be made from a variety of sources. These include marine pollen and foraminifera from deep-sea cores, regional pollen records from eastern Spain, charcoal studies from archaeological sites and faunal analyses. When combined, these proxy data enable a coarse-grained picture of pre-LGM environments. This paper incorporates the results of charcoal analyses from Vale de Obidos (central Portugal) with the available data to reconstruct the paleoenvironments in which people lived during the Gravettian (27,000-21,500 bp).

**Aguilar, Manuel (Cal State, Los Angeles)**

[145] *Philosophy and Symbolism of the Mesoamerican Ballgame*

The ballgame is one of the characteristic Mesoamerican institutions with a 3500 year history. Some 1500 ballcourts are known reflecting diverse symbolic functions as portals to the underworld, stages for recreating cosmic battles between celestial bodies, rituals of fertility ceremonies of warfare, affirmation of political rulers and scenes of human sacrifice. Ballcourts as architectural forms in the sacred landscape have disappeared but the function has been retained in Christian cemeteries in modern communities. In modern indigenous Christianity they are places to contact the ancestors and connections to the supernatural world of eternal life.

**Ahler, Stanley (PaleoCultural Research Group) and Fern Swenson (State Historical Society of North Dakota)**

[38] *In Ray Wood's Footsteps: A Chronometric Sojourn at Huff Village*

During 1999 brief fieldwork occurred at Huff Village, North Dakota, where Ray Wood's excavations in 1960 led to his classic synthesis of Mandan culture history. One of our goals was to acquire accurate radiocarbon dates from this pivotal site. In 1967, Wood reported five dates ranging from AD 1180 to modern, and by 1996, 14 dates provided little improvement in clarity. Six new dates provide a tight chronology centered at AD 1446. The recent analysis at Huff Village is one example from a comprehensive reassessment of Plains Village 14C dates to be reported in the festschrift honoring W. Raymond Wood.

**Ahlstrom, Richard (HRA, Inc.) and Heidi Roberts (HRA, Inc.)**

[48] *Native American Exploitation of Wetland Habitats in the Las Vegas Valley, Southern Nevada*

The availability of surface water was a critical determinant of Native American settlement throughout the Desert West, including southern Nevada's Las Vegas Valley. One of the valley's several desert oases is located on Las Vegas Wash in Clark County Wetlands Park. The recent excavation there of a pit house (the first to be fully investigated in the valley), along with previously undescribed evidence from excavations conducted in the 1970s, demonstrates an unexpected degree of sedentism ca. AD 550, shortly before the local introduction of ceramic technology. The role of wetland habitats during this and later periods of settlement is explored.

**Aimers, Jim (Miami University of Ohio)**

[135] *Maya Diasporas? Conceptualizing Population Movement in Relation to the Collapse in the Belize River Valley*

The Terminal Classic -Early Postclassic in the Belize Valley (ca. A.D. 800-1050) represents a period of rapid and dramatic change in settlement, architecture, and artifacts. Although populations decline, many stylistic changes at the time fused exotic elements with local styles and techniques, suggesting substantial interregional interaction after the Classic. Given that population movement is a human universal and a well-documented Maya practice in the Late Postclassic and Historic Periods, considerations of the collapse in the Belize Valley should include the possibility of multiple forms of population movement, including long-term, sustained, interregional population exchange.

**Alam, Shah (University of Hawaii)**

[167] *Urbanism in a political periphery: Economy and society at the Pyu centre of Sriksetra, 10th - 14th century*

Pagan is believed to have politically centralized and culturally integrated the Dry Zone of Burma. The prevailing view is that the rise of Pagan was due to the demise of the Pyu centre of Sriksetra in the 9th/10th century. Data from recent field research suggest that Sriksetra still functioned as a major urban centre during the Pagan period, and probably asserted a relatively high degree of economic autonomy from the political centre. Preliminary analyses of the data suggest that Sriksetra also asserted some degree of cultural autonomy from Pagan.

**Alconini, Sonia (University of Pittsburgh)**

[184] *Alliances and Local Prestige: Yampara Household and Communal Evolution in the Southeastern Inka Margins*

This paper evaluates the imperial effects on the domestic and communal economy of a local Yampara center in the southeastern Inka frontier. Based on extensive excavations in Yoroma, a local Yampara center, this paper discusses the settlement's evolution, and explores the imperial effect as seen in the changes of the domestic architecture, artifacts assemblages, craft production, circulation of prestige items, and shifts on funerary practices. While ethnohistory and regional analysis suggest an indirect imperial control, excavations revealed how local elites strengthened their power through imperial alliances as mechanisms of political consolidations and access to resources and prestige materials.

**Aldana, Gerardo V. (University of California Santa Barbara), Ian G. Robertson (Brigham Young University) and Joshua Watts (Arizona State University)**

[142] *Individual Style and Obsidian Craft Production at Teotihuacan.*

The large sample of stemmed spear-points interred as part of the spectacular sacrificial offerings of the Feathered Serpent Pyramid provides a unique opportunity for investigating the organization of obsidian workshops at Teotihuacan. A new method for describing biface morphology is used to quantify variation in the flake-scar patterns exhibited by these bifaces. The results are used in turn to make inferences about variation in skill levels, the nature of individual style, and the number of flintknappers responsible for making these artifacts.

**Aldenderfer, Mark (University of California, Santa Barbara)**[158] *Caves as Sacred Spaces on the Tibetan Plateau*

Caves, both natural and constructed, are important features of the sacred landscape of the Tibetan plateau. This paper reviews the pre-Buddhist and Buddhist use of caves and relates observed variability in their use to known cosmograms, important ritual practices, and the activities of mythological and historical figures.

**Aldenderfer, Mark [103]** see *Craig, Nathan*

**Alexander, Rani T. (New Mexico State University)**[110] *Internal Migration and Community Formation at Silvituc, Campeche, Mexico: Culture Contact on a 20th-Century Frontier*

Migration and the formation of multi-ethnic communities have become critical issues for Maya archaeologists because settlement shifts, changing regional hierarchies, emerging new frontiers, and mercantilist patterns of interaction that typify the lowlands after AD800 all depend on processes that relocate populations. In this paper I present results from an ethnoarchaeological study designed to examine how internal migration during the 20th century affected community formation, ethnic composition, residential architecture and spatial patterns at Silvituc, Campeche, Mexico. Extraction of chicle and precious hardwoods, as well as the availability of agricultural land, have attracted many to a new frontier.

**Alfonso, Marta (State University of New York, Binghamton) and Vivien Standen (Universidad de Tarapacá)**[147] *Dental pathologies and sociopolitical changes among the coastal and inland populations of the Azapa valley, northern Chile (AD 500-1500)*

Dental pathologies have been useful in the reconstruction of past populations' diet and life style. The study of diet, however, has more to offer since dietary prohibitions and norms are culturally prescribed and permeated by economy, social interactions and religion. Due to external influences, principally from the Circum-Titicaca area, coastal and inland population of the Azapa Valley, Northern Chile, went through sociopolitical changes that began during the Middle Horizon (500-1000 A.D.) and continued until the Late Period (ca. 1400-1500 A.D.). Six dental health markers were analyzed among these populations in light of the socio-political changes revealed by the archaeological record.

**Alix, Claire (University of Alaska Museum, University of Alaska Fairbanks)**[46] *Persistence and Change in Thule Wood Use, 1100-1350 AD*

Driftwood that originates in the Siberian and North American boreal forest is the major source of wood for people in the treeless Arctic. Comparison of wood characteristics in analysis of Early Thule artifacts from across the North American Arctic shows how persistent yet flexible Thule people were in their choice of wood. Variation from site to site is patterned in accord with local environmental conditions. The appearance of rare wood species in Thule assemblages provides a key to understanding driftwood circulation dynamics and/or cultural contacts.

**Allard, Francis (Indiana University of Pennsylvania)**[154] *Monumental Construction among Mobile Populations: Functional Considerations*

The construction and use of monumental structures by mobile herding populations is a widespread phenomenon that challenges earlier views of monuments as material expressions of agricultural surplus, that forces a consideration of the issue of labor mobilization in dispersed groups, and that brings to the fore differences in how hunter-gatherer and pastoralist populations relate to and use the landscape. This presentation discusses the applicability of various models to the phenomenon of monumental construction by mobile groups and suggests future avenues of research.

[174] see *Houle, Jean-Luc*

**Allard, Michel (Association Archéologies, France), Pierre Chalard (Institut National de Recherches Archéologiques Préventives, France) and Helene Martin (Institut National de Recherches Archéologiques Préventives, France)**[122] *Hunter-gatherers mobility and definition of their territories during the Upper Palaeolithic in South Western France. Cementochronological and petroarchaeological studies: last results from "Les Peyrugues" site in Quercy (Lot, France).*

The studies conducted in "Les Peyrugues" rockshelter, upper palaeolithic site in Quercy (South Western France), allowed to update data concerning the hunter-gatherers mobility and their territories exploitation. In that way, cementum analysis shows that all animal captures occurred

during the good season. The definition of the raw materials origin obtained from petroarchaeology, demonstrates evident contact between Quercy and Aquitania low plains (Perigord, Bergeracois). These results suggest that human groups have stayed in "Les Peyrugues" only during the good season. Hypothesis of a seasonal exploitation of the majority of the others upper palaeolithic sites in Quercy can be proposed.

**Allen, Catherine J. (George Washington Univ.)**

[10] *Bob Humphrey, Bricoleur*

Robert L. Humphrey was an archaeologist, a cartoonist and a fine artist who excelled in sculpture and collage. My paper explores the relationship between Humphrey the artist and Humphrey the archaeologist. I emphasize his orientation to "found objects," which provided the basis for his scholarly and artistic work, and which he continually interpreted and recontextualized for different purposes.

**Allitt, Sharon (Rutgers University)**

[26] *Gender and flaked stone artifacts*

Does gender comprise a more complex facet in the manufacture of flaked stone artifacts than commonly thought? Contemporary ideas tend to associate the manufacture of such artifacts with the male gender. Although body mass and strength may have an impact upon core reduction techniques, effecting attributes such as flake size; the quality and style of the finished tool may be the result of gender preference. The notion that in many prehistoric settings the manufacture of crafts remained the responsibility of the female lends support to the idea that contributions in flake stone manufacture by females may have been significant.

**Allsworth-Jones, Philip (University of the West Indies Mona Kingston Jamaica) and Esther Rodriques (University of the West Indies Mona Kingston Jamaica)**

[91] *The James Lee Collection UWI Mona Jamaica*

Dr James Lee edited "Archaeology Jamaica" in 1965-1986. He investigated Pre-Columbian sites on the island throughout that period. In 2000 he presented his collection and all accompanying documentary material to UWI. It has been under study since then, with financial support from the Jamaica bauxite industry and other sponsors. Preliminary results will be presented. Sites fully mapped by Dr Lee total 265. Material deposited comes to about 28,000 artefacts, 1200 shells, 390 human and 390 animal bones. Though it was not excavated, this material and the documentary evidence constitute an invaluable database regarding the PreColumbian occupation of the island.

**Almeida, Francisco [98] see Araújo, Ana Cristina**

**Alt, Susan [78] see Pauketat, Timothy**

**Alt, Susan M. (University of Illinois), Timothy Pauketat (University of Illinois) and Ross Hassig [175] *Re-Placing the State: From Cahokia to Tenochtitlan***

Comparing the developmental trajectories of two unrelated imperial and proto-state cases illustrates the utility of an "external-historical" view of polity formation, as opposed to typical archaeological constructs that emphasize internal political structure. Drawing on recent theories of "spatiality" (of Babba, Lefebvre, and Soja) and on Gramsci's "cultural hegemony," we characterize state-making as a fundamentally spatio-cultural process. The unofficial histories of centrality, plurality, and hybridity defined the ongoing practices and performances within which the official histories of elites and political institutions were situated.

**Altaweel, Mark (University of Chicago)**

[59] *Application of ASTER Satellite Imagery in Landscape Archaeology*

Multispectral satellite ASTER imagery has recently become available for scholarly research. This satellite system provides a relatively inexpensive way for archaeologists to study the archaeological landscape. In northern Mesopotamia, modern day north Iraq, hollow ways, sites, and canals have all been located using the ASTER system. ASTER has proven to be effective in both verifying results found in CORONA satellite data and locating potential archaeological features that cannot be easily detected on CORONA imagery. It is important, however, to establish known signatures, and then use these known signatures to help locate landscape features.

**Altaweel, Mark [54] see Christiansen, John**

**Altschul, Jeffrey (Statistical Research, Inc.) [171]** *Discussant*

**Alvitre, Cindi [69]** *see Douglass, John*

**Amartuvshin, Chunag [172]** *see Honeychurch, William*

**Amici, Randy [9]** *see Schulz, Margaret*

**Amick, Daniel (Loyola University Chicago), Paula Bryant (Loyola University Chicago) and Dawn Munger (Loyola University Chicago)**

[156] *Systematic Field Investigations of the Mueller-Keck Clovis Sites in Southwestern Illinois*  
These upland sites next to the American Bottom are known from private collections made 25 years ago. The several dozen Clovis tools from these plowed fields are distinguished by almost exclusive use of Attica chert from 200 km away. We report systematic survey of 60 acres with detailed topographic maps showing the patterning and context of Clovis artifacts on this landform. Excavations for undisturbed Clovis deposits in the unplowed adjacent woodlot include 36 probes and 24 square meters to depths of one meter. While partial survival of the buried Clovis horizon remains uncertain, we documented severe field erosion from plowing.

**Amick, Daniel [162]** *see Loebel, Thomas*

**Amundsen, Colin (CUNY Graduate Center)**

[148] *Multi-room houses on a multi-cultural landscape: Investigations into the cultural complexity of northern Norway in the medieval period*

This paper presentation will report on the faunal remains from a relatively unexplored and undocumented cultural phenomena along the northern Norwegian coastline. In this area of the world a unique culture group developed or immigrated along the coast of Finnmark, Norway and the Kola Peninsula, Russia between 1000 and 1600 A.D. The only identifiable cultural remains are a unique type of turf house, known as multi-room house that dots the shoreline. The significance of these sites is that they were part of a multicultural landscape where various ethnic groups participated either in the commercial fish trade of the Hanseatic League, or the fur trade out of Novgorod.

**Anaya, Yosi (Universidad Veracruzana and University of London)**

[144] *The Evolution of a Tradition: From Pilisal to Rebozo*

This paper will reflect upon the weaving tradition of the pilisal, which began among the pre-Columbian Central Veracruz Nahua, and its continuation in present-day Mexico. The pilisal, a woman's cloth garment used to wrap, shelter, and display, continued to be woven and worn until recently, when it was supplanted by the rebozo. This paper will establish links between the rebozo and traditions that existed among women of different native groups. By comparing the use of the pilisal and similar indigenous garments with the popular, universal rebozo, the rebozo is revealed as a continuity of the long weaving traditions of Mesoamerica.

**Anchukaitis, Kevin [136]** *see Horn, Sally*

**Andersen, Bente (University of Copenhagen) [128]** *Discussant*

**Anderson, Lisa [65]** *see Rieth, Christina B.*

**Anderson, Phoebe S. (University of Washington)**

[94] *Shellfish, Storage and Winter Subsistence in the Pacific Northwest Coast*

In the Pacific Northwest Coast, shell middens date from approximately 4,500bp to the present. Within many of these sites a transition occurs from predominately mussel to mostly clam shells. It has been argued that although this region is rich with larger game most of the year, mussels were an important winter resource. Eventually, overexploitation of mussels through winter use resulted in spring harvesting and storage of clams. A model is developed to test this argument using relative abundance, shell size, and seasonality data.

**Andrefsky, William (Washington State University) [76]** *Discussant*; [83] *see Wallace, Erin*

**Andres, Christopher R. (Indiana University), Gabriel D. Wrobel (University of Mississippi) and Sarah J. Wille (Indiana University)**

[50] *Re-Shaping the Center: A Diachronic Look at "Downtown" Chau Hiix*

Investigations at Chau Hiix, Belize suggest the community's architecturally circumscribed center was imbued with considerable symbolic importance after A.D. 800 as indicated by evidence of ritual activities and constructions concentrated at this point on the landscape. While some practices documented at the site point to persistence of Classic period ceremonial traditions, others imply departure from long-established frameworks of symbolic conduct. This paper examines architectural, ceramic, and mortuary data to suggest that the shifting "worldviews" of residents and visitors to Chau Hiix were reflected in a reconceptualization and reorganization of space in the community between the Classic and Colonial periods.

**Andrews, Bradford (Independent)**

[142] *Skill and the Question of Blade Crafting Intensity at Classic Period Teotihuacan*  
Defining the scale and organization of Classic Period Teotihuacan's obsidian tool industry is an important research objective. One question of interest is whether its craftsmen were full-time or part-time specialists? This paper assesses the craftsman skill reflected by surface collections from workshops as a means for inferring specialist labor intensity. Skill is measured by tabulating the frequencies of attributes that represent core-blade production errors. Comparing this information to core-blade workshops from Epiclassic Xochicalco indicates that Teotihuacan may have had only part-time blade producers.

**Andrews, John [74]** see *Dyke, Arthur*

**Andriashek, Caroline [4]** see *Owczarek, Jolanta*

**Andrus, Fred (Savannah River Ecology Laboratory, University of Georgia), Monica Carroll (Department of Geology, University of Georgia), Chris Romaneck (Savannah River Ecology Laboratory, University of Georgia), Keith Stephenson (Savannah River Archaeology Research Program)**

[101] *Mussel Shell Geochemistry as a Means of Measuring Season of Capture in Fluvial and Lacustrine Sites*  
Freshwater mussel shell geochemistry provides data concerning season of capture and thus the season(s) of site occupation. Oxygen isotopes in mussel shells vary temporally due to temperature, precipitation, and evaporation, and thus shell margin values may reflect season. Similar analysis of marine molluscs is a useful tool for determining coastal subsistence strategies. While freshwater and marine mollusc shells share properties, critical differences complicate mussel analysis. These include living shell erosion, poor preservation potential, and habitat-based environmental variation. These issues are addressed using modern and archaeological valves from the central Savannah River watershed, South Carolina to develop a reliable analytical method.

**Andrus, Fred [163]** see *Sandweiss, Daniel*

**Anduze, Richard A. [140]** see *Phillips, David*

**Angelo, Dante (Stanford University)**

[184] *Memory and Imperialism: Long-Term Traces of the Inka Occupation in the Margins of the Empire*  
The Inka occupation along the Southern Andes has been subject to important theoretical and methodological inquiries, not only in terms of archaeological but also ethnohistorical work. However, the impact of the Inka expansion in what has become its marginal provinces still needs to be addressed, particularly in reference to how power was negotiated then and how is now interpreted in terms of identity and social memory. This paper evaluates different data collected in the Southern valleys of the present Bolivia, to consider issues that seemingly contradict models and perspectives, both top-down and bottom-up, in terms of individual and social agency.

**Angelo, Dante [131]** see *Kojan, David*

**Angulo, Jorge (UNAM)**

[22] *Ethnic Alliances and the Urban Transformation of Teotihuacan*  
This paper is an abbreviated version of a larger study that correlates the processes of urban transformation and political organization at Teotihuacan. From the Late Formative to the Protoclassic period, regional caciques established a set of centralizing alliances at Teotihuacan dividing the earliest city plan into several diverse ethnic barrios. Breaking with the traditional

concept that the great city evolved from an established and sustained urban plan, this paper identifies both old and new archaeological evidence in supporting a view that changing and shared economic, political and ideological orientations based on governing alliance formations structured early Teotihuacan.

**Anselmi, Lisa (University of Toronto)**

[26] *An exploration of Northern Iroquoian copper-based metal forms from the Early and Middle Contact periods*

During the Early and Middle Contact periods, Native metalworkers recycled European-introduced, copper-based metal trade kettles and sheet material into smaller forms which were useful to themselves and their communities. This paper will discuss the techniques used to manufacture these objects, their final forms, and possible pre-contact antecedent forms. It also presents evidence for use-contexts of these objects. Though specifically focused on objects created by the Wendat/Huron, this paper explores similarities and differences between these forms and those manufactured by other Northern Iroquoian nations such as the Seneca, Onondaga and Mohawk.

**Anthony, David (Hartwick College) [135] Discussant**

**Antignac, Gislaine [23] see Turq, Alain**

**Aoyama, Kazuo [79] see Emery, Kitty F.**

**Arakawa, Fumiyasu [72] see Glowacki, Donna**

**Araujo, Astolfo (Laboratório de Estudos Evolutivos Humanos - LEEH-USP), Walter Neves (Laboratório de Estudos Evolutivos Humanos - LEEH-USP) and Luís Piló (Laboratório de Estudos Evolutivos Humanos - LEEH-USP)**

[168] *Holocene dryness Events during the Holocene and the 'Archaic Gap' in Central Brazil*  
Archaeological data produced in the last decades for Brazil, coupled with recent paleoenvironmental studies, suggests that during the mid-Holocene vast areas of central Brazil ceased to be occupied by human groups. Independent data coming from dated human skeletons, rockshelter stratigraphy, and chronology of open-air sites converge to the idea that these areas were depopulated or altogether abandoned. Paleoenvironmental data suggests that dryness events constitute the major cause behind the observed trends. This phenomenon expands the already perceived notion that climatic stresses had a major role in the shaping of human settlement patterns in marginal environments, such as deserts and high-altitude settings.

**Araújo, Ana Cristina (Instituto Português de Arqueologia) and Francisco Almeida (Instituto Português de Arqueologia)**

[98] *Macrolithic Technology in Mesolithic Portugal: functional markers, raw-material constraints or cultural and ethnic issues?*

Recent discovery and excavation of Portuguese Early Mesolithic contexts with important and often exclusive macrolithic assemblages have been changing the previous models of the last hunter-gatherers adaptations concerning lithic economy. The sites presented in this paper are located in Southern Portugal, both on coastal areas - on top of the present cliffs - and inland - in the main valleys - and seem to document a different settlement and subsistence system as well as a distinct technological tradition. Recent studies and analyses carried out on the archaeological components of these sites, especially on the lithic technology, allow us to consider the hypothesis of being facing human communities with specific adaptive patterns, probably related to the nature of the exploited territories, site function, raw-material availability and economy. Distinctive social and technological traditions may also play an important role in these patterns.

**Arbolino, Risa (Smithsonian/NMNH)**

[20] *Changes in Residential Patterns and Landscape Use in the Coalition Period*

Recent projects in the Taos area of New Mexico have emphasized Coalition phase dynamics. By examining the process of aggregation through labor organization and landscape use, I attempt to link social organization to farming strategies. This paper will explore the record of residential patterns and farming systems through the shift from discrete unit pueblos to the aggregated village of Pot Creek Pueblo. The main goal of this research is to see how the archaeological record of farming relates to the agricultural needs of people through time, and how these variables are reflected in the architectural record of settlement.

**Arbuckle, Benjami [153]** *see Wattenmaker, Patricia*

**Ardren, Traci (University of Miami)**

[144] *Mending the Past: Ix Chel and the Invention of a Modern Pop Goddess*

Recently archaeologists have begun to examine the ways in which knowledge about the ancient past is consumed and appropriated. The Contact-Period Maya supernatural patron of weaving known as Ix Chel has become a common image in modern marketing and cultural revitalization movements within the greater Maya area. This paper explores the relevance of a re-imagined deity to modern communities as both a native symbol of gender-specific household roles and an exoticized commercial symbol of Mayan-ness. I conclude with suggestions about why the Weaving Goddess continues to retain meaning and significance among various modern communities along the Caribbean coast and beyond.

**Arendt, Nicole (University of Arizona)**

[115] *Modeling Agave Production at the Marana Mound Site*

Evidence for large-scale cultivation of agave in rockpile fields is associated with many Classic period Hohokam communities, including the Marana Community, and primarily with the Marana Mound site. Models incorporating estimates of the number of plants, and dendroclimatic reconstructions of rainfall correlated with an index of productivity, allow the reconstruction of the potential agave productivity in the Marana Community's and mound site's rockpile fields. Agave could have been a major food resource, as well as a means for reducing risk, for the mound site and community as a whole.

**Areshian, Gregory E. (University of California at Los Angeles)**

[80] *Growing Ethno-Cultural Identity by Adapting to Empires: The Case of the Armenian Civilization during the 3rd - 7th Centuries A.D.*

The paper analyses correlations between historical and archaeological data reflecting the development of the Armenian civilization within the areas of dominance of the Sasanid and Eastern Roman Empires. The period between 224 A.D. and 484 A.D. was characterized by resistance of the Armenian elite of Parthian origin to the Sasanid imperial aggression which is documented archaeologically by a spread of military settlements. During the subsequent period lasting until 640 A.D. (first Arab raid into Armenia) mutual concessions have allowed for an unprecedented growth of Armenian ethno-cultural identity manifested by the blossom of a specific tradition of Christian architecture, literature, and pictorial arts.

**Arford, Martin [136]** *see Horn, Sally*

**Arias, Veronica M. [170]** *see van der Elst, Judith*

**Arkush, Elizabeth (UCLA)**

[132] *Warfare in the South-Central Andes: Constraints and Choices*

In applying practice theory to warfare, we must distinguish those aspects of warfare with room for cultural idiosyncrasy from those that are strongly constrained by external pressures. In the Late Intermediate Period, the extent of warfare across the Andes, including the Titicaca Basin, suggests warfare practice was constrained by environment, geography, and the size of social groups. But variation between sites and periods demonstrates that people exercised choice, and developed new social norms, about many strategic or military aspects of life, from choosing allies and signaling group strength to the structure of communities and the relationship between status and warfare.

**Armand, Dominique (Universite de Bordeaux I) and Anne Delagnes (CNRS)**

[122] *The contribution of site function analysis to understanding the process of change in the Middle Paleolithic sequence of Ardenac (Southwestern France).*

For the Palaeolithic record of Western Europe, mostly documented in caves deposits, the processes of changes are often difficult to perceive due to the lack of reliable geological features for the distinction of successive archeological sets. In this context, we have turned towards a multicriteria analysis combining environmental, biostratigraphical, archeozoological and technological data leading to a more accurate diachronic approach. Applied to the Middle Palaeolithic cave of Ardenac, this approach reveals several major changes in the function of the

site which seem to be related to groups with different technical traditions.

**Armit, Ian (Queen's University Belfast)**

[148] *Beyond Dalriada: Cultural connections between Scotland and Ireland in the 1st millennium AD*

Studies of cultural connections between the coastal regions of Atlantic Scotland and Ireland have been hampered by factors including the separate agendas and national traditions of different researchers, and a tendency to be led by pseudo-historical questions. This paper advocates a more strictly archaeological approach, focusing on the observable patterning of material culture across parts of the region. Parallels in the development of ceramics, for example, show chronological and geographical patterns which confound any expectations drawn from historical accounts. Similarities in the development of house forms provide another instance of cultural parallelism which requires some form of archaeological interpretation.

**Arndt, James L. [125]** see *Ollendorf, Amy L.*

**Arnold, Dean (Wheaton College, IL)**

[16] *Culture, Meta-Culture, Ethnoarchaeology and Ethnographic Analogy*

In order to have more effective ethnographic analogies, this paper argues that focus should take place on individual technological sub-systems (such as ceramics) in order to derive 'meta-cultural' features that transcend spatial, temporal and cultural boundaries. The paper then suggests such features that have come out of ethnoarchaeological research on ceramic production in the last 39 years in Mexico, Peru and Guatemala and how it has contributed to both general 'processual analogies' that have wide-spread application, and to direct historical analogies that are more spatially and temporally limited.

**Arnold, Jeanne (UCLA) and Anthony Graesch (UCLA)**

[74] *Ethnoarchaeology of Contemporary American Households: Uses of Space, Time, and Artifacts in the Everyday Lives of Working Families*

This multi-media poster highlights methods and preliminary results of a 3-year ethnoarchaeology project on space, artifacts, and the organization of home activities - part of a larger multidisciplinary project - in the everyday lives of working middle-class families in an urban Pacific Coast setting. Video clips of narrated home tours and family life accompany depictions of time/space/artifact data sets, including digital photographs of indoor/outdoor household spaces and artifacts, timed space-by-space observation data for all residents, architectural drawings (house plans), and questionnaires. Useful new data are emerging on working family household organization, multi-tasking, 'stacked' uses of key spaces (kitchens, garages), and technologies.

**Arpin, Trina (Boston University)**

[15] *The Use of Space in the Levantine Neolithic: Insights from Micromorphology*

Identifying changes in intra-community relations and the emergence of differences in status is crucial to understanding the Levantine Neolithic, particularly the emerging complexity of the Pre-Pottery Neolithic B. Micromorphology can provide valuable information on changes in the use of structures and open spaces within sites. A study of five Southern Levantine sites, spanning the PPNA through the early pottery Neolithic, analyzed samples from deposits found throughout the sites. This detailed approach has helped clarify the distribution of storage, stabling, and production spaces across sites.

**Arroyo, Barbara [93]** see *Neff, Hector*

**Arroyo-Kalin, Manuel A. (University of Cambridge), Eduardo G. Neves (Universidade de São Paulo), James B. Petersen (University of Vermont), Robert N. Bartone (Binghamton University) and Fernando W. da Silva Costa (Universidade de São Paulo)**

[168] *Anthropogenic Landscape Transformations in Amazonia: a pedo-archaeological perspective*

Anthropogenic landscape transformations in the central Amazon suggest the emergence of complex human ecosystems from 500 to 1000 AD, associated to Barrancoid, Paredão and Guarita pottery traditions. Ongoing research by the Central Amazon Project focused on demographically denser, socially more complex pre-Columbian Amerindian societies invites a consideration of the agricultural hinterlands that putatively supported their populations. Questions,

issues, methods, and preliminary results of research on the variability of anthropogenic modification of soils are presented in order to: 1. frame discussions of extensive versus intensive prehistoric agriculture; and 2. examine emergent properties of anthropogenic landscapes in the Central Amazon.

**Arroyo-Kalin, Manuel A. [168]** *see Petersen, James B.*

**Arthur, John (University of South Florida)**

[32] *Pottery Style in a Caste Society: An Ethnoarchaeological Study of the Gamo of Southwestern Ethiopia*

This paper explores how social status and the distribution of pottery influences variation in ceramic style. Gamo potters use two different methods to distribute their pottery: a weekly market system and a patron-client relationship between potter and consumer households. Gamo society is a caste society, where potters are one of the lowest caste groups and are forced to rely on selling pottery as their only means of economic livelihood. Therefore, the social relations between potters and consumers within this strict caste system affect the variation in pottery style within Gamo society.

**Asch, David [100]** *see Van Nest, Julieann*

**Asch Sidell, Nancy (Archeobotanical Consulting)**

[111] *The History of Maize in Northern New England*

Quantitative analysis of carbonized plant remains from sites in Maine and Vermont reveals that maize is present at sites occupied after ca. 850 B.P. in Vermont and 570 B.P. in Maine. Various archeobotanical indicators are used to trace changes in plant assemblages from the Late Archaic through the Contact period in order to assess the relative importance of maize at northern New England sites, to consider the impact of maize agriculture on woody plant communities, and to document changes in the utilization of annual and perennial herbaceous plants.

**Ashley López, Michael (UC Berkeley) and John Ristevski (UC Berkeley)**

[25] *Documenting the visible and the invisible: Development of a digital documentation methodology.*

This paper describes an archaeological field school aimed at providing students with the opportunity to explore a full range of digital imaging and 3D spatial techniques and to actively participate in recording the site of Tambo Colorado, an Inca palace complex located on the south coast of Peru. The methodology highlights an integrated approach to the collection of spatial data using laser scanning and associated texture data capture through the collection of spatially registered digital photography. This spring 2004, the students will participate in an interdisciplinary course in Archaeology and Architecture in preparation for the 2004 summer season.

**Ashmore, Wendy (UC Riverside)**

[143] *Consecration and Remembrance in Sacred Space at Quirigua, Guatemala*

Several portions of the Classic Maya settlement at Quirigua materialize consecration and remembrance by the community, its leaders and planners. Early Classic Group 3C-7 is today one of the least understood examples. Within the first century of the dynastic center's existence, this small complex was the focus of public gatherings involving burning, display of at least one royal portrait monument, and offerings of blood sacrifice. Despite substantial subsequent flood damage, the complex saw continued visitation through the ninth century. Moreover, it was the northern border and likely focus of a large public plaza that complemented--or rivaled--Quirigua's Great Plaza.

**Atalay, Sonya (UC Berkeley) [151]** *Discussant*

**Atalay, Sonya (UC Berkeley)**

[131] *Multiple Voices for Many Ears in Indigenous Archaeological Practice*

This paper examines the role that 'Gikinawabii', a traditional form of Ojibwe pedagogy and knowledge (re)production, plays in the formation of 'Indigenous Archaeologies', and explores its complementarity to more dominant Anglo-American archaeological approaches. Understandings and interpretations of critical sites in Native North America are examined to compare the processes of knowledge production utilized in each case. The ethics and practice of producing archaeological knowledge for a non-academic audience are central to this examination, as

participatory research and popular education methods are suggested as part of a decolonizing process useful in the democratization of archaeological knowledge for Indigenous and local communities.

**Atherton, Heather (Columbia University) and Nan Rothschild (Barnard College)**

[90] *Issues of Ethnicity and Identity at San Jose de las Huertas, NM*

The spatial margins of the late Spanish Colonial Borderlands had a simpler social system than did more central places. The complex caste system described in Spanish Colonial documents appears to have been simplified, but it is not clear how it was manifested. Archaeological excavations at San Jose de las Huertas, a late 18th to early 19th-century "buffer" site near Placitas, New Mexico, suggest that the occupants were using a mixture of indigenous Pueblo and imported Spanish material culture. This paper considers whether this mixture represents pragmatic choices or an expression of identity.

**Attarian, Christopher J. (Baker College)**

[163] *Elite continuity and social change during the Gallinazo and Moche periods.*

Moche elite centers arise directly from Gallinazo elite centers in the Chicama Valley. Gallinazo centers formed during the later years of the Gallinazo culture phase. Settlement patterns and the distribution of elite pottery on Gallinazo sites suggest that a late Gallinazo settlement shift preceded the emergence of Moche elite and formed the demographic foundation of the rise of Moche social hierarchy. The distributions of both funerary and domestic pottery types as well as the characteristics of the sites in which they are found support this observation.

**Atudorei, Viorel [25] see Gladwell, Randi**

**Audet, Carolyn (Vanderbilt University) and Jaime Awe (Belize Institute of Archaeology)**

[116] *The Form, Function, and Significance of Causeway Termini Structures at Baking Pot, Belize: Implications for Lowland Maya Ritual Architecture.*

In their study of lowland Maya prehistory, archaeologists have traditionally argued that structures associated with causeways were locations for ritual activity. Causeway termini structures, located just outside site centers and adjacent to causeways, are common features at many sites. Unfortunately, few of these buildings have been excavated, thus their function has remained largely hypothetical. This paper reports on the excavation of two causeway related structures at the lowland site of Baking Pot. Data collected by our investigations allow us to address questions regarding the form, function, and importance of these structures within ancient lowland Maya communities.

**Audouze, Françoise (CNRS)**

[152] *Settlement location and hunting in the Upper Palaeolithic in Western Europe*

Recent excavations and detailed analyses of faunal remains in France has changed our perception of the location and the organization of Upper Palaeolithic settlements. In many cases, it appears that bone accumulation results from multiple hunting episodes and not from mass kills. The question of the relation between hunting and site location has thus to be looked upon from a new perspective. We can only be sure that settlement location is determined by hunting choices in the few cases where hunting is specialized. This paper addresses whether, when the game is locally abundant, settlements are occupied all year round or not.

**Ault, Bradley (University at Buffalo, S.U.N.Y.)**

[97] *'Domestic Space in the Greek City-State' Revisited*

In 1990 Michael Jameson published an important article, 'Domestic Space in the Greek City-State' (in Susan Kent, ed., *Domestic Architecture and the Use of Space*. Cambridge UP), that served as a harbinger of new work taking place on ancient Greek houses and households. This paper will trace the developments in archaeological approaches to the study of Greek houses that have taken place in the intervening years. In considering the work of a number of scholars at a variety of sites, I hope to show that it goes some way towards bridging the "great divide" between Classical and anthropological archaeology.

**Aultman, Jennifer [7] see Bon-Harper, Sara**

**Awe, Jaime (Belize Institute of Archaeology) [116] Discussant**

**Awe, Jaime** [116] *see Gibbs, Sherry*; [116] *see Audet, Carolyn*

**Babson, David** [100] *see Newman, Lynn*

**Bacharach, Joan (National Park Service, Museum Management Program)**

[155] *Sharing US NPS Archeological Collections*

The United States National Park Service has 388 units located throughout America. Over 320 parks and centers have museum collections that document the broad diversity of American culture and environment from prehistory to the present. Archeology collections constitute nearly a third of the 100 million items in NPS park museums. The paper will discuss NPS policies and procedures for documentation, and preservation and protection, and access to and use of NPS collections. It will include NPS work in digitization and development of web features to make NPS archeology collections widely available to professional colleagues, educators and the general public.

**Backer, Anna (Alpine Archaeological Consultants, Inc.)**

[139] *Regional Archaeological Contexts of the Kern River Corridor*

The Kern River archaeological program has been a massive undertaking involving a large transect of land on which cultural resources span the prehistoric and historic cultural sequence. Multiple projects in the pipeline corridor have documented a large, regional database, providing an opportunity for addressing questions about cultural evolution in the Great Basin. In particular, Dames & Moore carried out a long-term project, supplying ecological, cultural, and chronological data. One of Kern River's mitigation objectives was to compile and present their findings in an accessible format, for management and synthetic purposes. These data can now be integrated with our results.

**Backhouse, Paul (Museum of Texas Tech University/Bournemouth University)**

[125] *Conceptualizing the social use of space around a prehistoric hearth pit*

Hearth pits are one of the single most ubiquitous features recorded from prehistoric hunter-gatherer contexts. Historically, a high degree of morphological variability exists within the components and perceived function of these structures. Previous research strategies have focused attention largely on aspects of their utilitarian or economic yield. A complimentary approach is offered which situates the hearth pit as a contextual center or locus of activity within a social framework of individual and group dynamics. The results of the investigation indicate that such an approach is extremely useful in examining the use of bounded and unbounded space at a site level.

**Bácsmegyi, Gábor** [123] *see Gyucha, Attila*

**Bacus, Elisabeth (University College London)**

[149] *Social Identity in Bronze Age Northeast Thailand*

The Bronze Age (ca. 2000-500 BC) is one of Mainland Southeast Asia's better documented periods; our understanding of this period though remains under-theorized with debates primarily focused on the dating of the adoption of bronze production and the nature of social organization. Drawing upon approaches positing material culture as central to the formation, maintenance and negotiation of social identities and relations, I analyze burials from sites in northeast Thailand to elucidate the expression and intersection of gender and other social identities during the Bronze Age. The results provide new insights into status and social relations, and their interplay with craft goods including those produced in the new medium of bronze.

**Bae, Kidong** [24] *see Norton, Christopher J.*

**Baggett, Clint (AMEC Earth and Environmental), Barbara Vargo (AMEC Earth and Environmental), Henry McKelway (AMEC Earth and Environmental), Richard Stalling (AMEC Earth and Environmental) and Douglas Reeves (LTC, Alabama Army National Guard)**

[127] *Looking For Evidence In All The Wrong Place - An Examination of total Site Assessment and Mitigation on Pelham Range Alabama*

The Phase II Archaeological Survey of 01Ca52 located in FM-ARNGTC/Pelham Range, Alabama provided important information about ceramic typology, food subsistence strategies, and lithic technology for a Late Woodland/Early Mississippian community in the Upper Coosa River Valley.

The cooperative effort of the Alabama National Guard, AMEC, and the Alabama Historical Commission to document, preserve and protect the site for future investigation is presented as a case study of the successful implementation of a non-destructive mitigation strategy. The results of this study highlight the importance of assessing all components of a survey area, regardless of its condition.

**Bagwell, Elizabeth [90]** *see Windes, Thomas*

**Bagwell, Elizabeth A. (University of New Mexico)**

[48] *In Field Compositional Analysis of Architectural Adobe*

Compositional analysis of archaeological materials is for the most part an expensive, destructive process performed by specialist. Further, these analyses are frequently performed on small easily artifacts with the hope of identifying their source and/or geographical spread. The composition of architectural elements – particularly adobe and mortar – is rarely examined. Here I present the results of a compositional study at a cliff-dwelling in Sonora, Mexico. This non-destructive technique, based loosely on the macroscopic study of ceramic temper, can be performed by any archaeologist during normal site recording and provides insight into architectural construction episodes.

**Bailey, David G. [31]** *see Newlander, Khori S.*

**Baird, Melissa F. (University of Oregon)**

[176] *Symbolic and Contextual Analysis of Two Pictograph Sites in Lake Clark National Park, Alaska*

In this paper, I use available ethnographic, ethnohistoric, and archaeological data to examine two pictograph sites located in southwestern Alaska. Specifically, this paper considers possible meanings of the imagery, including the circumstances of when they were made, and the broader social beliefs and behaviors they may reflect.

**Baker, Joe (PENNDOT Cultural Resources Program)**

[178] *...a Way, continuous from Katahdin in Maine to Springer Mountain in Georgia...*

Since walking the Appalachian National Scenic Trail (AT) some 23 years ago, helping to maintain and manage it as a volunteer, and assisting with and conducting a number of archaeological projects along it, the author has had many opportunities to reflect on the AT's unique, high-elevation archaeological heritage, and the future study and management of that heritage. This paper will offer some observations on prehistoric and historic land use and settlement of the Appalachian crest, and on the challenges facing both the historic preservation and trail communities in the next 23 years.

**Baker, Joe (PENNDOT Cultural Resources Program) and Harris, Matt (Temple University)**

[178] *A Gap in Time: Context, Geoarchaeology, Archaeology, and Resource Management at the South Mountain Battlefield*

Fox Gap, an out-of-the-way mountaintop crossroads on the Washington and Frederick county line is the site of a Native American lithic reduction station, a 19th century hardscrabble farm, a portion of the Appalachian Trail (AT) Corridor, and most famously, a limited but brutal engagement in the American Civil War. This paper discusses the results of document research, geoarchaeological studies, and archaeological testing that were used to write a management plan for this portion of the AT. The project also featured an important collaboration between the historical, archaeological and environmental communities in the successful completion of the project.

**Baker, Suzanne [3]** *see Shoup, Daniel*

**Balachandran, Sanchita (Yale-University of Pennsylvania Institute of Fine Arts Expedition to Abydos, Egypt)**

[130] *Conservation, Archeology, and Advocating for Objects at the Abydos North Cemetery, Egypt*

The Yale - University of Pennsylvania Institute of Fine Arts Expedition to Abydos, Egypt, took its first objects conservators to the excavation of the Abydos North Cemetery (ANC) in Fall 2002. This paper describes the challenges and rewards of defining the conservator's role. It addresses ways in which the preservation of historical artifacts were advocated for, and how excavation strategies were changed as the result of trust between various members of the team. In some

cases, excavation was encouraged even when the material was not of research interest to archaeologists. In others, retrieval of artifacts was opposed on conservation grounds.

**Baldia, Maximillian O. [52]** *see* *Staeck, John*

**Bale, Martin (University of Toronto)**

[149] *Mumun Period settlements and social inequality in the Taehwa River valley, Korea*  
In this paper I consider architectural and household data from twenty settlement sites in the Greater Ulsan area, South Korea. These sites are dated to the Mumun Pottery Period (c. 1500-300 B.C.). I identify a number of leadership strategies and provide a brief analysis of social changes. The majority of houses across all sites contained very similar artifacts, and prestige artifacts were largely absent. However, in the period that led up to the onset of wet-field rice agriculture, many of the largest houses at key settlements were located in the highest part of the village.

**Balkansky, Andrew (Southern Illinois University)**

[84] *Survey and Excavation at the Tayata Site: A Formative Center in the Mixteca Alta*  
The archaeological site at Santa Cruz and Santa Catarina Tayata, Oaxaca, dates from the Early Formative period, and was the precursor to urban Huamelulpan. Intensive survey and excavation in both monumental and residential contexts concerns the timing and pattern of early political centralization at Tayata as well as its abandonment. Tayata was among the several regional polities which emerged by the late Early Formative and interacted on a Mesoamerican scale. Tayata and other Mixteca Alta centers equaled their peers in scale and complexity, making the macroregion one of Mesoamerica's core zones of early political development.

**Ball, Terry (Brigham Young University)**

[108] *Creating searchable data bases for archaeobotanical reference collections.*  
This presentation will introduce and demonstrate Phyto-file, a user-friendly software available from the Society of Phytolith Research for creating searchable databases for phytolith and other archaeobotanical reference material.

**Bandy, Matthew (University of California - Berkeley) [77]** *Discussant*

**Banning, E. B. (University of Toronto), Alicia Hawkins (Laurentian University) and S. T. Stewart (University of Toronto)**

[170] *The impact of visibility on survey detection functions*  
Archaeologists have long been aware that visibility differences have a great effect on the likelihood of detecting sites or artifacts in archaeological survey. They have rarely, however, attempted to measure this effect. In a series of field experiments on simulated artifact distributions, we quantitatively examine the impact of varying visibility on surveyors' detection functions and discuss its implications for survey design.

**Banning, Edward (Ted) (University of Toronto) [97]** *Discussant*

**Barba Egido, Rebeca [42]** *see* *Dominguez-Rodrigo, Manuel*

**Barber, Sarah (University of Colorado) and Arthur A. Joyce (University of Colorado)**

[160] *First Among Equals? Elite Status Groups in Terminal Formative Coastal Oaxaca*  
In this paper, we explore the ambiguous character of elite status during the Terminal Formative period in the lower Rio Verde valley. This period was marked by the development of a complex regional political system characterized by urbanization and political centralization. Yet the style of life and symbolism that characterized elite status at this time contained persistent references to a more egalitarian, communal identity. The equivocal material manifestations of elite status may have derived from the tension embodied in elite attempts to distinguish themselves from commoners within the framework of a more traditional egalitarian and communal ethos.

**Barberena, Ramiro [168]** *see* *Franco, Nora*

**Barclay, Robert (Canadian Conservation Institute)**

[104] *Conservation of historic space craft beyond Earth*  
As we contemplate the problems of preservation of spacecraft and other structures outside the confines of our own atmosphere-whether on other planets or out in space-we are met with

challenges of deterioration and decay far different in nature and severity than those experienced in terrestrial museums. This paper explores some of the major agents of deterioration of historic spacecraft and structures, and suggests a few avenues of exploration and research.

**Barkai, Ran (Institute of Archaeology, Tel Aviv University)**

[85] *Innovations and developments in Neolithic and Chalcolithic Bifacial Woodworking Tools from the Levant*

Flint axes, chisels, adzes and other bifacial tools were used in the Levant for 7,000 years (~12,000 - 5200 uncalibrated years before present). These stone tools went through many changes in shape and properties during this long period. About 2500 bifacial tools from 24 sites were systematically analyzed, covering the Natufian, Pre Pottery Neolithic, Pottery Neolithic and Chalcolithic periods. The results indicate rapid changes along time, reflecting dynamics in architecture, economy and social organization. The growing effectiveness of bifacial tools is related to the general trend of production intensification and was thus supported, encouraged and comfortably adopted by Neolithic - Chalcolithic communities.

**Barkai, Ran [129]** *see Gopher, Avi*

**Barker, Alex (Milwaukee Public Museum) [171]** *Discussant*

**Barker, Graeme (University of Leicester)**

[158] *Sacred and profane in Neolithic cave use in southeast Asia: the Niah Caves of Sarawak*

The archaeology of cave use in SE Asia is commonly summarized as a first phase (late Pleistocene/early Holocene) of caves as living sites, followed by a second phase (Neolithic onwards) of caves as burial sites. However, excavations in the Niah cave complex (Sarawak, northern Borneo) provide hints of the structured deposition of some 'domestic' refuse of Pleistocene and early Holocene foragers, and of subsequent cave use variously for habitation, and/or burial, and/or rock art. The evidence for overlapping concepts of sacred and profane amongst Holocene forager-farmers is compared and contrasted with contemporary cave use elsewhere in SE Asia.

**Barlow, K. Renee (Salt Lake Community College)**

[111] *Archaeological Evidence for Maize Agriculture Among the Fremont*

Current evidence for prehistoric farming and foraging strategies in the Fremont region are investigated through a review of plant macrofossils, artifact assemblages, architectural features, site locations, and human remains. Spatial and temporal variation in degree of sedentism vs. residential mobility, reliance on maize vs. wild foods, and overall land use patterns are explored. New evidence from granary, pithouse, and rock art sites in Range Creek Canyon are included, along with the results of "plant and harvest" maize horticulture experiments.

**Barnard, Hans (Cotsen Institute, UCLA)**

[82] *Nomadic pottery production*

Much like their settled counterparts, nomadic people frequently use very distinctive ethnic markers, cultural as well as material. Pottery is not usually associated with nomads as elaborate installations are thought to be necessary for its production. Proof to the contrary has recently come to light, in California and in Egypt. Research on ancient material, as well as experiments on modern, show that pottery must certainly be considered in the study of nomadism.

**Barnes, Ethne [48]** *see Carpenter, John*

**Barnes, Gina L. (University of Durham)**

[58] *The tectonic setting of the Japanese Palaeolithic*

Contributing to the long duration of Fujimura's deception in the recently exposed netsuzo jiken (site-salting incident) was our lack of expectations about where in the Japanese Islands we might expect to find Early Palaeolithic remains if they were present. This paper examines the tectonic setting to provide a background and framework for deducing expectations about the land surface at any point in Pleistocene time when human occupation might have occurred. This top-down approach is opposite to the standard bottom-up method of interpreting stone objects when they are discovered in certain geological strata.

**Barnes, Jodi (American University)**

[178] *Cultural Resources, Community and the Appalachian Trail: A Path to Preservation and Education*

The Appalachian Trail is more than just a simple footpath, it is cultural and natural resources; it is community. This paper will discuss the development and the production of cultural resource training workshops for the Appalachian National Scenic Trail as well as how the trail clubs and managing partners work together to interpret, manage and preserve cultural and natural resources.

**Bar-Oz, Guy (University of Haifa, Israel) and Natalie Munro (University of Connecticut)**

[55] *Multivariate intersite taphonomic comparisons: Unraveling grease and marrow processing in the Levantine Epipalaeolithic*

Advances in taphonomic and zooarchaeological research highlight problems of equifinality in the interpretation of prey body-parts. Moreover, methods of recording taphonomic data are diverse, complex, and often unexplained, resulting in incompatible datasets. Thus, we advocate the use of multivariate taphonomic analyses and more standardized research protocols. A systematic and detailed research protocol has been applied to five Levantine Epipalaeolithic assemblages to illustrate this approach. Multivariate inter-site taphonomic analyses point to insignificant post-depositional biases and similar gazelle bone processing procedures. Analyses of cortical elements indicate high correlations between bone fragmentation and marrow content while highly fragmented cancellous elements suggest grease processing.

**Barrera, Raul (I.N.A.H.)**

[166] *La penetración mexicana en la región norte de Guerrero: arqueología y fuentes*

Se presentara un avance de la dinamica de las conquistas mexicas en los siglos XV y XVI con base en los escasos trabajos arqueologicos que se han efectuados en la region norte de Guerrero asi como de la contribucion de las fuentes historicas.

**Barrett, James [148] see Adams, Catrina**

**Barrett, Thomas (Greenhorne & O'Mara, Inc.)**

[8] *Tuxtlas Obsidian: Organization and Change in a Regional Craft Industry*

This paper presents the results of research into the obsidian industry in the Tuxtlas region of Veracruz, Mexico. During the Matcapan Archaeological Project and Tuxtlas Region Archaeological Survey, over 23,000 artifacts were recovered and analyzed to describe the behavior of the prehistoric industry. Analytic methods included geochemical characterization, technological analysis and pattern-recognition techniques. Also, an interpretive framework was developed based on economic theory, lithic replication and archaeological context. All artifacts were divided by debris types into stages associated with acquisition, production, distribution and consumption. Ultimately, this information tests the explanatory relevance of two opposing models of the obsidian industry.

**Barrientos, Tomás (Vanderbilt University), Arik Ohnstad (Vanderbilt University), Carrie Anne Berryman (Vanderbilt University), Arthur Demarest (Vanderbilt University) and Matt O'Mansky (Vanderbilt University)**

[119] *The Final Katun of the Classic Maya Kingdom of Cancuen*

Sequential renovations and expansions of the huge royal palace at Cancuen and its riches, workshops, sculptures, and dense population attest to the remarkable florescence of the site between A.D. 650 and 800. However, a third and final massive palace renovation project and domestic group modifications were left half-completed about A.D. 810. Meanwhile, defensive systems were begun but never completed around critical zones, including the royal palace. Defenses, artifacts, and osteological evidence at the site's major portage indicate a rapid, violent end at Cancuen. Implications of this evidence for the general decline of the west are explored.

**Barrionuevo, Monika (Museo Contisuyo)**

[71] *Marine shell-fish at Cerro Baul: domination or exchange with the coast?*

The presence of marine shellfish in both domestic contexts and ritual deposits at Cerro Baul, a Wari enclave in Moquegua, provides a unique opportunity to study the relationships between this expansive state, preferentially inhabiting mid-elevation locales, and contemporaneous groups that inhabited the coast. The discovery of local shellfish species at Cerro Baul would indicate a close relationship with coastal groups in Ilo, while the occurrence of spondylus in ritual contexts suggests to us the possibility of resource redistribution from the Wari heartland, or perhaps even direct contact with Wari colonies in northern Peru.

**Barton, Loukas (University of California, Davis)**[6] *Archaeobotanical evidence of Neolithic cereal production in North China*

The nature of the transition to agriculture in North China is notoriously elusive, and archaeobotanical data from this period are equally limited. As one facet of a larger project to assess the proposed agricultural character of the Neolithic in northern central China, this study looks at the proportional and metrical variation in archaeological plant remains collected across a spatial and temporal gradient. Preliminary results suggest that the region between the Yellow and Wei rivers in the Loess Plateau holds promise for further study concerning the early domestication of both *Panicum* and *Setaria* and the subsequent florescence of millet-based agriculture.

**Bartone, Robert N. (Binghamton University), James B. Petersen (University of Vermont) and Eduardo Goes Nevis (Museu de Arqueologia e Etnologia Universidade de Sao Paulo)**[168] *Regional and Community Settlement in the Central Amazon*

Archaeological research at the Rio Negro/Solimões confluence in the central Amazon provides evidence of pre-Columbian settlement. Two ceramic complexes relating to the broadly recognized Amazonian Barrancoid and Polychrome horizons are recognized: Barrancoid (ca. 200 B.C.-A.D. 800) and Guarita (ca. A.D. 800-1500), in addition to the local Paredão complex (ca. A.D. 800-1000). Changes and continuity in ceramics are reflected in settlement pattern both at community and regional scales. Evidence from 60 sites identified through survey and from extensive testing at four sites is presented and implications concerning the scale and intensity of pre-Columbian Amazonian societies are discussed.

**Bartone, Robert N. [168]** see *Arroyo-Kalin, Manuel A.*; **[168]** see *Petersen, James B.*

**Bartosiewicz, Laszlo [55]** see *Pike-Tay, Anne*

**Bar-Yosef, Ofer (Harvard University) [174]** *Discussant*

**Bar-Yosef, Ofer (Harvard University)**[39] *The role of climate during the YD and Early Holocene in the Levant*

It is suggested that the worsening climatic conditions during the YD were among the reasons why semi-sedentary foragers began to intentionally cultivate cereals and legumes. Early Neolithic communities, known as PPNA, probably cultivated annuals, tended certain trees and continued their extensive hunting and gathering. The increase in precipitation in the Levant facilitated the establishment of farming settlements, as well as spread of mobile foragers into the deserts during the PPNB. A short, abrupt climatic crisis around 8,200 cal B.P. is seen as one of the major causes for the collapse of the PPNB civilization in the Levant.

**Bar-Yosef, Ofer [122]** see *Meignen, Lilianne*

**Bar-Yosef Mayer, Daniella E. (University of Haifa)**[152] *What can we learn from Dentalium shells?*

*Dentalium* shells have long been recognized as a hallmark of the Natufian Culture where they were used to decorate skulls (or heads). Little attention has been paid to *Dentalium* shells from earlier or later sites. The frequency of *Dentalium* in a shell assemblage and the length of the *Dentalium* beads may reflect changes in the degree of mobility of hunter-gatherer societies.

**Basa, Louise A. (Iroquois Indian Museum, Howes Cave, NY) and Julieann Van Nest (New York State Museum, Albany, NY)**[65] *New Data on the Haviland Site: An Early Archaic Workshop in Schoharie County, New York.*

A conundrum frequently addressed by Dr. Funk was the rarity of Early Archaic sites in New York. Funk's Susquehanna Valley research found only a few Early Archaic components in stratified sites, partly because fluvial deposits of this age proved rare along the studied river reach. The Haviland site, located in the upper reaches of Cobleskill Creek near the Susquehanna-Schoharie divide, contains a shallowly buried Early Archaic component dating 8,000-9,000 BP (Ferguson 1995). The site contains abundant workshop debitage from the production of Kanawha bifurcate points. This paper discusses the site in the context of its proximity to a chert-rich cobble gravel bar that formed ca. 10,200 BP.

**Basalik, Kenneth (CHRS, Inc.) and Thomas Lewis (Chrs, Inc.)**[29] *Lithic Scatters and Quarry Sites: A view from the Poconos and Piedmont of Pennsylvania*

This poster focuses upon work at chert quarries in northeastern Pennsylvania and parallels seen with other work dealing with the procurement of quartz in southeastern Pennsylvania. The chert quarries are part of an archaeological district which includes approximately 60 archaeological sites. A model for quarry development is presented. This work is contrasted to work dealing with the procurement of quartz. Previous studies have viewed quartz as ubiquitous and acquisition has been viewed as a random event. Recent work suggests that procurement of quartz was purposeful and relates the exploitation of outcrops associated with the Chickies formation.

**Bassendale, Megan [116]** *see Helmke, Christophe*

**Bassett, Everett (University of Utah)**

[113] *Technology, mobility, and coastal foraging strategies*

A model of coastal foraging is presented which examines the relationship between potential cold water exposure and technological complexity for 92 ethnographic populations. Contradictory requirements of exposure-buffering and mobility result in strategies that incline toward the maximization of one factor to the detriment of the other. These trends become increasingly mutually exclusive at higher latitudes, mimicking Sewall Wright's concept of peaks and valleys within an adaptive landscape; similar trends do not occur among terrestrial foragers. The research identifies limitations on marine specialization and has implications for early patterns of migration and adaptation.

**Bates, Brian (Longwood University), Katherine Sutton (Longwood University), Gary Gossett (Longwood University) and Phil Adams (Longwood University)**

[7] *Thomas Jefferson's Lost Courthouse*

Although Thomas Jefferson's influence on courthouse architecture throughout the 19th century was profound, Jefferson was responsible for designing just two courthouses, both in Virginia. Jefferson's courthouse in Charlotte is still in use today. Jefferson's courthouse in Buckingham was destroyed by fire in 1869. This research project examined the site of the present Buckingham courthouse and discovered evidence of Jefferson's courthouse. This new evidence has allowed the research team to reproduce Jefferson's design for Buckingham Courthouse, thus gaining insight into Jefferson's ideas for a key piece of public architecture in the new American republic – the courthouse.

**Bathurst, Rhonda (McMaster University)**

[74] *Archaeological Parasites of Coastal Hunter-Gatherers*

Preserved parasite eggs of the broad fish tapeworm (*Diphyllobothrium latum*) and giant human roundworm (*Ascaris lumbricoides*) have been recovered from shell midden soil at several sites along the central coast of British Columbia, Canada. The quantification of parasite eggs derived from auger samples demonstrates variability in site distribution. This paper will discuss fish tapeworm as a line of archaeological evidence that can illuminate issues of population density, sedentism, food preparation, economic reliance, ecological reconstruction and health. The recovery of human roundworm also has implications for population aggregation, sedentism, living arrangements and food preparation habits.

**Bauer, Alexander A. (The University of Pennsylvania) and Anna S. Agbe-Davies (The University of Pennsylvania)**

[12] *Rethinking Trade as a Social Activity: Introduction*

Archaeological studies of trade and exchange, which have largely stagnated in recent years, would be reinvigorated by approaches that recognize trade to be a fundamentally social act. In this introduction to the session's theme, we briefly review the development of trade studies in archaeology, and show how recent theorizing on concepts of agency, community identity, context, and social meaning might be used to enrich our understanding of trade in the past.

**Bauer, Alexander A. [12]** *see Frchetti, Michael*

**Bauer, Jeremy [186]** *see Morgan, Molly*

**Bayham, Frank (California State, Chico), Deanna Grimstead (California State, Chico) and Michael Boley (University of Arizona)**

[115] *Archaeofaunal Associations at the Marana Platform Mound: Evidence of Feasting?*

Recent investigations of a burned room adjacent to the platform mound at the Marana Mound site produced a unique array of archaeological materials in association with a relatively high

concentration of faunal remains. Contextual analysis and economic utility and efficiency assessments are explored to evaluate whether or not the remnants are evidence of prehistoric feasting. The challenge of archaeologically distinguishing a feasting event from more generalized elite consumption is addressed.

**Bayman, James [115]** *see Fish, Suzanne*

**Bayman, James M. (University of Hawaii), Paul Fish (University of Arizona) and Suzanne Fish (University of Arizona)**

[115] *Crafting and Social Identity in a Hohokam Village*

Recently excavated floor assemblages at the Marana Mound site in southern Arizona provide new insights on crafting and social identity among the Hohokam after AD 1150. Evidence for intensified craft production at the mound village indicates that Hohokam society was approaching an organizational threshold where an economy of scale offered strong incentives for specialization. Although village residents occupied marginal agricultural land, their manufacture of the symbols of Hohokam identity and other crafts offered them an important avenue for political power. Competition among compound residents, conveyed through crafting and other activities, was mediated by platform mound ideologies that unified the village.

**Beach, Timothy (Georgetown University), Sheryl Luzzadder-Beach (George Mason University), Nicholas Dunning (University of Cincinnati) and Jon Lohse (Maya Research Program)**

[15] *Geoarchaeology of Wetland Agriculture in the Maya Lowlands*

We compare geoarchaeological evidence from wetlands with archaeological evidence for ancient Maya agriculture. First, the paper considers evidence for perennial and seasonal wetland formation in northwestern Belize. Second, we present the evidence for ancient intensive agriculture with multiple proxies: excavated field and canal features, pollen, stratigraphy, and water chemistry. Third, we consider the archaeological record. Evidence suggests that many regional depressions have Preclassic (1200 BC to AD 200) or earlier paleosols, buried from 1-2 m by eroded soils induced by Maya land use practices. Moreover, natural environmental change also made this a dynamic environment for Maya agricultural adaptation over time.

**Beach, Timothy [119]** *see O'Mansky, Matt*; [39] *see Dunning, Nicholas*

**Beardsley, Felicia (University of La Verne)**

[173] *Preliminary Investigation on the Structural Integrity of the Leluh Ruins, Kosrae, Micronesia*

In 1824, Leluh was at the pinnacle of its power paramountcy, home to the high chiefs, and administrative capital to a burgeoning State society. Within decades, it slipped into neglect, deterioration and abandonment as the West colonized Kosrae, transforming the traditional society into one beholden to the Christian mission. The Ruins today embody a distinctive monumental architecture in dire need of stabilization. As part of an international interdisciplinary team of conservation experts, we were assembled to document and develop a conservation plan for the site. Reported here are initial findings on Leluh's structural integrity.

**Beaubien, Harriet (Smithsonian Institution) [130]** *Discussant*

**Baudry, Nicolas (Université de Montréal/Université de Paris-1)**

[97] *Church topography and ecclesiastical geography in Byzantine North Syria*

While the Byzantine North Syrian archaeological corpus is overwhelmingly dominated by the 'Dead Cities' of the hinterland, archaeological evidence remains scarce along the coast. The ongoing excavation of a 6th-century church at Ras el Bassit offers the first opportunity to study an intra-muros basilica in the region. Its topography will be discussed, with a special emphasis on the rituals it was intended to stage, on how they compare to those of the hinterland and of other provinces, and on the fresh insights they provide on the historical and ecclesiastical geography of Byzantine North Syria.

**Beaulé, Christine (University of Pittsburgh)**

[110] *Jachakala-Tiwanaku Interaction, Ideological Transformations, and the Domestic Economy of an Andean Community*

Pottery styles and iconography from Tiwanaku material traditions provide a window on the long-term effects that interaction with this prehispanic Bolivian state had on a village in the central highlands. The community of Jachakala selectively adopted and incorporated some Tiwanaku-

derived elements into its own material culture. These stylistic shifts articulate with, but did not directly shape, local changes in the domestic economy of Jachakala household groups that resulted in early wealth differences. The implications of this work for models of interregional interaction, especially between states and peripheral sites, are also briefly explored.

**Becerra, Rosario M. [120]** see *Stackelbeck, Kary L.*; [120] see *Maggard, Greg J.*

**Beck, Charlotte [31]** see *Newlander, Khori S.*

**Beck, Charlotte (Hamilton College), George T. Jones (Hamilton College) and Amanda K. Taylor (University of Washington)**

[162] *Is There Clovis in the Great Basin?*

Fluted points in the Great Basin are considered by most archaeologists to represent Clovis, and thus by extension, the Clovis time period. These points, however, are poorly dated; further, no region-wide, systematic study of form, technology, or spatial distribution has ever been conducted. Therefore, not only is the temporal placement of Great Basin fluted points unknown, but also whether more than one technology is represented, as is the case on the Plains and in the East. This paper discusses the possibility of a series of fluted point forms using recently collected data from across the region.

**Beck, Charlotte [62]** see *Jones, George T.*

**Beck, Margaret (Statistical Research) and Christopher Roos (University of Arizona)**

[115] *Deposit Transformation and Sherd Size: Kalinga and Hohokam Middens*

This study investigates disturbance in extramural middens, using sherd size as a measure of deposit transformation. As part of the Kalinga Ethnoarchaeological Project, data on midden accumulation, midden disturbance, and sherd size were collected from a modern village in Kalinga Province, the Philippines, in 2001. Sherd size distributions from 19 active Kalinga middens are compared to distributions from 19 trash mounds at the Early Classic Marana Mound site in the northern Tucson Basin, Arizona. Given the similar sherd size distributions, some aspects of ceramic deposition and midden disturbance may be similar between the two sites.

**Beck, Margaret [140]** see *Hagopian, Janet*

**Beck, Jr., Robin A. (Northwestern University) [77]** *Discussant*

**Beck, Jr., Robin A. (Northwestern University), David G. Moore (Warren Wilson College) and Christopher B. Rodning (UNC-Chapel Hill)**

[110] *Joara and Fort San Juan: Culture Contact at the Edge of the World*

During the mid-sixteenth century, the native town of Joara, located at the Berry site in western North Carolina, stood at the edge of two worlds: Joara occupied both the northeastern frontier of Mississippian society and the northwestern frontier of Spanish colonial ambitions. These worlds came together from 1567-1568 when soldiers from the Juan Pardo expedition built and occupied a small colonial outpost at Joara. This paper considers the nature of Spanish and native interactions at Joara and Fort San Juan, and addresses the challenges of interpreting this complex community of Spanish soldiers on the Mississippian frontier.

**Becker, Mark S. (ASM Affiliates, Inc.)**

[83] *Do standard bifaces really make good cores?*

Standard bifaces are widely assumed to function as both tools and flake cores. A commonly held idea is that this dual function reduces the risk of uncertainty for mobile hunter-gatherers. However, this entire concept has several logical flaws. First, producing useable flakes and a useable biface requires different production trajectories. Second, producing useable flakes from bifaces requires excessively large tools. Third, most biface flakes have characteristics unsuitable for tool use or production. Additionally, an examination of data from twelve sites in the Great Basin do not support the idea that bifaces can simultaneously serve as both tools and cores.

**Beckett-Roth, Bridget (Colorado State University) and Jessica Fiske (Colorado State University)**

[75] *GIS Image Analysis of a Late Archaic Faunal Assemblage*

GIS related programs, such as Abe et al's (2002) ESRI ArcView Extension for faunal research, allow for the creation of visual analytical models of archaeological assemblages. Examining the femora collection from the Late Archaic Kaplan-Hoover bison bonebed in Windsor, Colorado,

intuitive visual models of cultural and carnivore modification on specific portions of each individual element have been created using field data, lab measurements, and GIS imaging. This synthesis of element modification retains all element-specific data in a standardized, visually intuitive, electronic format that reduces analytical subjectivity and permits future comparative analysis of the dataset.

**Beebe, Erica (University of Michigan), Ana Miranda (Museo Contisuyo) and Kenny Sims (University of Michigan)**

[71] *Long term Changes in Upper Moquegua Valley Tiwanaku Ceramics*

Recently analyzed ceramic data from upper Moquegua Valley Wari and Tiwanaku contexts evince the diachronic contours of socio-economic relationships between these contemporaneous expansive states in pre-historic Middle Horizon Peru (AD 600-1000). Wari and Tiwanaku, the Middle Horizon powers, appear to have conducted limited interaction through elite channels. In contrast, inter-state contact was organized in commoner arenas. Beginning around AD 800-850, co-residential Wari and Tiwanaku inhabitants in the upper Moquegua valley deposited an archaeological record that reflects their changing relationships vis-à-vis technological, morphological and stylistic components of commoner ceramic traditions.

**Beekman, Christopher (University of Colorado at Denver)**

[181] *Scales of social action at the sites of Llano Grande and Navajas, Jalisco*

Archaeological research into agency has made scant reference to the numerous social theorists emphasizing specifically collective agency and its emergent properties. Research at the central Jalisco sites of Llano Grande and Navajas was originally designed to examine competition among political agents during the Late Formative and Early/Middle Classic. Excavations support the proposal that multiple social segments had considerable independence in the construction and maintenance of different elements of the public architecture. However, a greater understanding of group ritual and the symbolic significance of the public architecture itself suggests the social recognition of other scales of group action.

**Beers, James [138] see Shoberg, Marilyn**

**Behrensmeyer, Anna K. (Smithsonian Institution) and Briana Pobiner (Rutgers University)**

[42] *Differing Impact of Carnivores on Bone Assemblages in Two East African Ecosystems*

Naturally occurring surface bone assemblages reflect the impact of carnivores via initial effects of predation and subsequent modification by scavenging. Studies in the Amboseli and Laikipia ecosystems, Kenya, show how these impacts may differ depending on lion and spotted hyena abundances. Current spotted hyena abundance in Amboseli is recorded by intensive levels of bone destruction and modification, which contrast strongly with lower levels in prior decades. In Laikipia, bone damage levels are minimal, reflecting current lion dominance. This research offers comparative baseline data for assessing how variability in carnivore species dominance might have affected early hominin behavior and bone modification.

**Beisaw, April (Binghamton University)**

[170] *Below the Boards: The Taphonomy of Subfloor Assemblages*

Excavation within a building's foundation can provide important information on the life history of the structure. Construction, habitation, repair, renovation, abandonment, and demolition processes contribute to the creation of these assemblages, as do post-abandonment processes. What is often overlooked is the potential for building foundations to serve as habitats for a variety of non-human species. Below the floorboards animals find ample space to burrow and/or den and scavengers enjoy a reliable food source in the inhabitants' refuse. These commensal animals can heavily influence deposition and transformation of subfloor assemblages. Taphonomic analysis is therefore a vital tool for interpreting these assemblages.

**Belchas-Luín, Diana [93] see Paredes, Federico**

**Belfer-Cohen, Anna (Hebrew University) and Nigel Goring-Morris (Hebrew University)**

[152] *Why is the PPNA in the Near East so enigmatic?*

The early Holocene Levantine PPNA period represents a short but crucial interlude between the earliest sedentary hamlets of the Natufian complex and the large settled village communities of the PPNB koine. Regional PPNA populations were identified in the Levantine corridor, the Middle Euphrates, and the Upper Tigris. We endeavor to comprehend how the PPNA phenomenon came about by exploring various aspects of the available archaeological data. Without doubt, the

specific ways and means by which the various populations of the preceding prehistoric entities dealt with the hardships of the "Younger Dryas" had an impact on the following PPNA adaptations.

**Belfer-Cohen, Anna [152]** *see Kuhn, Steven*

**Belisle, Veronique (University of Michigan)**

[51] *The transition from the Early Intermediate Period Mochica to the Middle Horizon Tanguche in the Santa Valley, North Coast of Peru*

Evidence of the transition from the Early Intermediate Period (EIP) to the Middle Horizon (MH) is multiple in the lower Santa Valley: Mochica sites were abandoned, new sites were established and a new ceramic tradition - locally called Tanguche and related to the new Black-White-Red state - appeared. El Castillo is a multicomponent site illustrating this transition. Its study documents the evolution of occupation and ceramics from Gallinazo (EIP) to Mochica (EIP) to Tanguche (MH). It also illustrates and opens the debate on the nature of the cultural and political continuity and discontinuity between the two periods in this region.

**Belisle, Veronique [71]** *see Costion, Kirk*

**Bell, Alison (Washington & Lee University)**

[56] *Consumption in a Company Town: Conspicuous Display and Restraint in a Nineteenth-Century Virginia Iron-Mining Community*

Archaeologists have identified the conspicuous consumption of costly goods as a strategy informing the material remains of sites occupied in any number of places and periods. A contrary dynamic, restraint in consumption, has received less attention but appears to have been influential among residents of Longdale, a nineteenth-century iron-mining community in western Virginia. Six domestic sites excavated at Longdale produced artifact assemblages notable for their formal similarities and economic modesty. These patterns implicate a social context in which the utility of restraint in consumption for minimizing differences among residents and facilitating their social integration outweighed the advantages of conspicuous display.

**Bell, Trevor [46]** *see Renouf, M.A.P.*

**Bellantoni, Nicholas F. (University of Connecticut), Kristen N. Keegan (Keegans Associates, LLC) and William F. Keegan (Keegans Associates, LLC)**

[178] *Cultural Resource Assessment of the Appalachian Trail Corridor in Connecticut*

This presentation summarizes the field and documentary review of the cultural resources associated with the Appalachian Trail system in Connecticut. The A.T. consists of 52 miles of trails through five towns and within a 1000 ft corridor. The project consisted of field survey, documentary research and data management and reporting and identified 365 discrete historic and prehistoric archaeological sites. Project information will be used by the Appalachian Trail Conference and National Park Service for protection and management policies.

**Belly, Elizabeth (Arkansas State University) and Juliet Morrow (Arkansas Archaeological Survey)**

[56] *Social Dynamics within and beyond Northeast Arkansas, circa 1500-1600*

This paper examines potential relationships between polities and routes of transport used by Native Americans in Northeast Arkansas during the 16th century. Results of Neutron Activation Analysis (NAA) of artifacts from a late pre-contact period village in Northeast Arkansas will be compared with previously derived NAA datasets for other Late Mississippi-period village sites in the Central Mississippi Valley to address these issues. This comparative analysis is a first step toward the development of a more accurate interpretation of social relations within the greater Central Mississippi Valley Ecosystem during the late Mississippi period.

**Benavides, O. Hugo (Fordham University) and Marco Vargas (INPC - Instituto Nacional de Patrimonio Cultural)**

[109] *The Greening of the Past: Amazonian Rights and Andean Nation-States*

The following paper explores the socio-political implications of Amazonian archaeology. Since the 1960s contrasting forces have impacted the region's archaeology including US academics and oil extraction. The result of these influences have made Amazonian archaeology a contested domain of cultural production leading a resurgence of archaeological fieldwork and a struggle over ethnic identities.

**Benchley, Elizabeth (University of West Florida)**

[40] *Teaching Historic Preservation Law to undergraduate and graduate anthropology students*  
Teaching historic preservation law, practice, and ethics to undergraduate and graduate anthropology students involves introducing not only laws and regulations, but also the practice of cultural resource management in an environment of variable and fluid federal and state policies and bureaucracies. Effective teaching is best accomplished if the instructor is also a knowledgeable CRM practitioner. While the lack of an adequate textbook makes teaching a challenge, the Web can enhance faculty and student access to new information. Ethical foundations stress individual and institutional responsibility for the wise management of resources and records.

**Benco, Nancy (George Washington University), Said Ennahid (Al-Akawayn University), M. James Blackman (National Institute for Standards and Technology), Michael Glascock (Missouri University Research Reactor) and Hector Neff (California State University)**

[126] *Town and Hinterland: Pottery Production and Exchange*

While long-distance movements of high-status Islamic pottery, like lustrewares, are well-documented in the circum-Mediterranean and Near East, the scale of production and distribution of common everyday wares is less known. This paper presents the results of instrumental neutron activation analyses of over 300 ceramic and clay samples from the early Islamic pottery-producing center of al-Basra (AD 800-1200), 15 hinterland sites, and 4 contemporary pottery workshops in northern Morocco. Al-Basra's utilitarian pottery appears at sites up to 40 kilometers away, suggesting an extensive exchange network likely based on a periodic market system.

**Benfer, Robert (University of Missouri-Columbia) [25] see Duncan, Neil; [147] Discussant**

**Bentley, R Alexander (University College London)**

[13] *Determining the 'local' strontium isotope range for archaeological skeletons*

The interpretation of strontium isotopes measured in archaeological skeletons to characterize prehistoric mobility depends on how the 'local'  $87\text{Sr}/86\text{Sr}$  signature, is determined at an archaeological site. Due to isotopic contamination, archaeological bone and/or modern materials may contribute to an inaccurate, estimate of the local  $87\text{Sr}/86\text{Sr}$  range. Tooth enamel, on the other hand, is highly resistant to postmortem biochemical alteration, such that archaeological enamel samples from excavated animals provide a useful alternative estimate for the local  $87\text{Sr}/86\text{Sr}$  range.

**Benz, Bruce [136] see Pohl, Mary**

**Benz, Bruce F. (Texas Wesleyan University), Li Cheng (University of Arizona), Steven W. Levitt (University of Arizona) and Chris Eastoe (University of Arizona)**

[86] *Agricultural Maize Evolution in Mexico*

The archaeological maize assemblages from Coxcatlan, El Riego and San Marcos Caves in the Tehuacan Valley of Puebla, Mexico are the subject of study to test the hypotheses that climatic change or human selection influenced the rate and direction of morphological change during the last 5000 years. Evidence indicates that human selection appears to explain the rapid increase in grain size and number during the Late Archaic, while subsequent gradual changes in ear size, row number, and grain size do not appear to be influenced by climate as evidenced by inconsistent change in stable carbon, oxygen, and hydrogen isotopes of cellulose.

**Benz, Bruce F. [181] see Ojeda Gastelum, Samuel; [181] see Schoenwetter, James**

**Berg, Caryn M. (University of Denver)**

[66] *Flaked Stone Technology and the Pueblo III Period in the Northern Southwest*

Previous research focusing on flaked stone technology in the northern Southwest indicates that in terms of timing, the transition from biface production to core reduction in this region is associated primarily with the transition to sedentism during the Basketmaker period. This research further notes that while sedentary settlement strategies allowed for such a transition, subsistence strategies may provide an explanation for a decreased need for formal flaked stone tools. It has been suggested, however, that during the late Pueblo III period in this region, subsistence stress may have resulted in a decrease in the use of maize and an increased use of wild plants. While subsistence stress resulted in a subsistence shift, populations remained sedentary during the Pueblo III period. An evaluation of the flaked stone recovered from sedentary sites impacted by this subsistence change may help to address the role of subsistence in defining flaked stone technology.

**Bergeron, André (Centre de conservation du Quebec)**

[130] *Is the sky the limit? The relationship between archaeology and conservation.*

Archaeology and conservation are cognitive disciplines, using facts, hypotheses and scientific observation. Both disciplines can benefit greatly from their mutual association, in the field and the lab. Using the example of the Elizabeth and Mary, a ship from Dorchester, New-England, that sank in 1690 in the shallow waters of the St-Lawrence river, the author will present how conservation was planned as an integral part of the archaeological field work, some examples of the contribution of conservation work to the advancement of archaeological work, and why treatment of the objects remains an important part of the project, seven years after completion of the rescue operations.

**Bergeron, Susan** [170] *see Harris, Trevor*

**Berman, Mary Jane** [185] *see Bettison, Cynthia Ann*; [92] *see Whyte, Thomas R.*

**Bernard, Julienne (UCLA)**

[63] *Resistance, Persistence and Culture Change among Chumash Mission Deserters*

The Chumash Revolt of 1824 was the largest organized rebellion in the history of the Alta California mission system. Hundreds of neophytes left the missions permanently, evading mission soldiers and eventually settling some 200 miles inland from their original homeland along the Santa Barbara coast. This paper discusses recent archaeological efforts to identify these interior villages of mission deserters and to assess the extent to which the resistive attitudes that characterized their departure from mission life affected the decisions they made in establishing politically, economically, and culturally autonomous communities and adapting to profoundly different natural, social, and political environments.

**Bernbeck, Reinhard (Binghamton University)** [80] *Discussant*

**Bernbeck, Reinhard (Binghamton University)**

[82] *Nomads in prehistory? A Near Eastern Neolithic perspective*

Ideas about the development of nomadism in the Near East depend heavily on ethnographies and ethnoarchaeology because of the assumption that mobile groups do not leave enough traces for reliable reconstruction of their lifeways. I argue for a less presentist approach and focus on one aspect of nomadism, mobility. Mobility of archaeologically attested groups must be accounted for on several scales. In addition to seasonality, potentially identifiable through faunal and palaeobotanical remains, mid-term mobility must be taken into account. One way to do so is an analysis of small-scale stratigraphic events and their absolute chronological relationships. Such research may lead to revisions of 'analogical nomadism' in archaeology.

**Bernier, H el ene (Universit e de Montreal)**

[51] *Body Ornaments from Moche and Santa Valleys: Functions and Symbolism*

Body ornamentation was abundantly used in daily life by the Moche population, in order to follow esthetic canons, respond to beliefs, or display identities and social status. Recent excavations in the Moche and Santa valleys revealed a strong similarity between the beads and pendants used in the capitals and regional centers of both valleys concerning the geometric forms and figurative themes expressed. These ornaments illustrate symbols clearly inspired by the Moche religious universe depicted in iconographic scenes. Body ornamentation thus reflected a collective ideology shared in a vast territory. The body ornaments of Moche and Santa will be described and compared. Their functions and symbolism will be discussed.

**Berry, Kimberly A. (Boston University) and Patricia A. McAnany (Boston University)**

[22] *Reckoning with the Wetlands and their Role in Ancient Maya Society*

A large portion of the southern Maya lowlands is composed of seasonally wet or perennially wet terrain - a fact that has not escaped the notice of archaeologists who referred to the wetlands initially as a limitation to state development and later as the safety valve of an overtaxed, Late Classic Maya agricultural landscape. Queries regarding the anthropogenic nature of wetland fields have spurred more robust methods of field investigation and analysis. One such study - of a perennial wetland proximate to the Maya site of K'axob - has yielded evidence of repeated terrain modification over a period of 1000 years. When coupled with radiocarbon, phosphate, pollen, and artifactual data, evidence indicates long and sustained use of the wetlands through the Classic period.

**Berryman, Carrie Anne [119]** *see Barrientos, Tomás*

**Bettinger, Robert (University of California - Davis)**

[173] *Property and Money in California*

The ethnography of California is frequently used as a source of insights about the behavior and organization of prehistoric hunter-gatherers living in productive environments before the advent of agriculture. However, the combination of relatively high population densities and relatively simple social formations that seem to make California's hunter-gatherers fit so nicely in schemes of cultural development are the result of evolutionary trajectories quite unlike those envisioned in those schemes, where systems evolve only by growing larger and more complex. California systems were small and structurally simple yet highly evolved as illustrated by property rights and the use of true money.

**Bettison, Cynthia Ann (Western NM Univ) and Mary Jane Berman (Miami University)**

[185] *Rephrasing Chronology, Architecture, Settlement, and Ceremony: A View from the Mogollon*

In a recent presentation, the authors rejected the Apache Creek phase as a separate temporal or architectural designation unique to west-central New Mexico. Reexamination of published site reports, ceramic counts, tree-ring dates, and architectural plans indicate that the structures characteristic of the phase are not aberrant eleventh and twelfth century architectural forms, but are civic-ceremonial structures spanning the Three Circle to Tularosa phases. In this paper, we examine how and why these structures are part of a general upland Mogollon pattern and discuss the significance of their similarities to Mimbres and Cibola patterns.

**Betts, Eleanor (Wolfson College, University of Oxford)**

[158] *Sacred places of transition and deposition: a phenomenology of caves and underground (abnormal) water in Iron Age Central Adriatic Italy*

Landscape archaeology provides increasingly sophisticated understandings of prehistoric people's relationship to sacred space. Following Whitehouse's recent phenomenological and cross-cultural study, this paper demonstrates how her approaches can be applied to caves in Iron Age Central Adriatic Italy. How universal are the psychophysical experiences of the human body? Many of the caves of Central Adriatic Italy have yielded material evidence that people were making sophisticated use of 'natural' spaces, images and bodily practices to give meaning to their experiences of their environment. Questions of miniaturisation and anthropomorphic representation in relation to the caves' spatial structure are therefore also considered.

**Beyer, Lisa (University of South Florida), Robert H. Tykot (University of South Florida) and Teddi Setzer (University of South Florida)**

[12] *The role of agency in the Central Mediterranean obsidian trade during the Late Neolithic period.*

Understanding the role that obsidian trade played in the development of socio-economic complexity within the Late Neolithic Diana culture on Lipari is central to the reconstruction of its social dynamics within a broader regional network in the south central Mediterranean region, especially Sicily and southern Italy. We examine the social and economic functions that obsidian may have served, including body modification, animal butchery, and plant processing. We specifically focus on the internal development of social agency within the materially rich Diana culture to assess whether Lipari controlled not only its own obsidian resources but also its production and long-distance exchange.

**Beyries, Sylvie (CNRS)**

[16] *Ethno-archaeology, technique and culture*

There are always several suitable solutions to technical problems, with production processes existing in relation to the knowledge of individuals. Archaeologically, we can understand this knowledge through experimentation, with ethnographic research the most powerful approach. This approach highlights problems related to the environment and the status of the individual not raised by traditional experimentation. Such investigations allow us to eliminate hypotheses and thus restrict the range of possible solutions; they cannot give final answers to archaeological problems. Evaluation of cultural choices must take place through a global, integrated archaeological approach, conditioned by the nature of the material recovered.

**Beziur, Aniko (Buffalo State College) and Kimberly Machovec-Smith (Buffalo State College)**

[130] *Mask production, mask consumption*

This paper describes the collaboration of a conservator and a materials scientist on the conservation treatment and examination of a heavily damaged Middle Sican (900-1100 AD) metal mask from northern Peru. Observations made during the extensive treatment on previously inaccessible features and data from samples removed for materials analysis allowed us to infer the methods of manufacture. These findings are being interpreted in the context of other metal artifacts found in the elite burial from which the mask originated as well as other masks from the region to better understand production and consumption of masks during the Middle Sican period.

**Bicho, Nuno (Universidade do Algarve), Jonathan Haws (Universidade do Algarve) and Bryan Hockett (BLM-Nevada)**

[122] *Two sides of the same coin: rocks, bones and the function of Picareiro Cave (Central Portugal).*

The study of site function in the Portuguese Paleolithic has rarely been possible due to a lack of sites with adequate data. At Picareiro Cave (central Portugal), the use of fine-grained techniques such as piece plotting and wet-sieving has enabled the recovery of lithic and faunal assemblages that can be used to characterize site function. The latter provide evidence of site use through the study of skeletal element representation and butchery patterns. This paper incorporates lithic and faunal data for the first time. The results imply a highly specialized use of Picareiro during the Late Upper Paleolithic.

**Bietti, Amilcare (Università di Roma)**

[68] *Preliminary results of a new analysis of the Gravettian lithic industry of Riparo Mochi (Imperia, Italy)*

The Mochi shelter, one of the sites (discovered in 1938) of the well known Balzi Rossi caves, at the border of Mediterranean France, has received new interest in the last ten years. In particular, after the beginning of new excavations in 1995, the faunal remains and the lithic industries of the old excavations have been re-studied according to more modern perspectives. In this paper a preliminary analysis of the industries of the Gravettian layers with Noailles burins will be presented. Apart of the customary typological and technological studies, a particular attention has been devoted to problems of raw material procurement, and it will be shown that the network of the exotic materials present in the site may be extended up to almost 500 km of distance.

**Billeck, William (Smithsonian)**

[38] *William Duncan Strong and the Direct Historical Approach: The Leavenworth Village Excavations in South Dakota.*

William Duncan Strong's 1930s excavation program in the Northern Plains was aimed at tracing the historical connection between present-day tribes and prehistoric archaeological sites. Excavations at the earliest known historic-period Mandan (On-A-Slant, ca. 1575-1785), Cheyenne (Biesterfeldt, late 1700s), and Arikara (Leavenworth, ca. 1800-1832) villages were designed to detect differences in cultural inventories that then could be used to track the connections between these tribes and earlier archaeological sites. Strong's excavations at Leavenworth have not been reported upon and this paper describes Strong's excavation program and the results of his Leavenworth excavations.

**Billings, Mark [154] *Fields of Stone: The Archaeological Landscape of Khanuy Valley, Central Mongolia***

Recent fieldwork in the Khanuy Valley of Central Mongolia has identified a variety of stone built ritual and funerary sites ranging in date from the second millennium B.C. to more recent times, including large khirigsuurs that display clear functional and structural consistency, tombs of various types, and deer stones. The absence of visible surface remains of habitations for much of this period in Khanuy valley suggests the construction and use of monumental constructions by mobile herding populations. Using emerging chronological and spatial data, this presentation suggests how such monuments may be viewed as dynamic and malleable elements of the landscape.

**Bilou, Jennifer [4] see Henderson, Matthew**

**Binford, Lewis (Southern Methodist University)**

[28] *Discovering Indicators of Systems Change from Ethnographic Data*

Boas used different archaeological sequences varying in 'progressive indicators' e.g. the invention of bronze, the use of iron, to 'prove' the absence of 'unilineal' evolution. Since then the demonstration of differential sequencing of cultural indicators among archaeological records has been cited as proof that historical contingency is the explanation for variable sequencing. Processual approaches are used to counter this argument and uncover conditioning variables for such variability. A drawback has been the lack of correspondence between ethnographic and archaeological observations. This presentation will report progress in solving this problem.

**Binning, Jeanne Day (Caltrans)**

[74] *Diagnostic Attributes of Pressure Flakes*

Pressure flakes are often misidentified in debitage analysis. Diagnostic attributes of pressure flakes vary with pressure-flaking technique. Pressure flakes can be distinguished from other small, thin, and light flakes. This fact will be demonstrated.

**Binning, Jeanne Day [173] see Taylor, R. E.**

**Birch, Jennifer [95] see Griffith, Cameron**

**Bird, Douglas (University of Maine)**

[62] *The evolution of human juvenility: some archaeological implications of hypotheses for explaining childhood.*

A long childhood is the focus of many scenarios of human evolution because as apes go, human life histories are extreme. In humans the juvenile period is nearly twice as long as it is for other apes, and during that time children's consumption of resources greatly exceeds what they produce for themselves. What selection pressures might have lengthened juvenility among humans? This talk explores some of the archaeological implications of hypotheses from life history theory for understanding the design of human childhood.

**Biro, Katalin (Hungarian National Museum)**

[11] *Raw Materials for Chipped Stone Artefacts - State of Research in Central Europe*

Provenancing of chipped stone tool raw materials is a key problem for prehistoric research. Necessary steps include survey and characterization of geological outcrops, their fingerprinting and a parallel investigation of the archaeological evidence. The state of research, however, is varied according to countries and regions. Joint projects and international cooperation may advance the field. Promising examples from Central Europe will be mentioned, with special focus on problems to be solved. An Internet based network of information systems is suggested for dissemination of results.

**Bishop, Ronald (Smithsonian Center for Materials Research and Education), Robert Rands (Center for Archaeological Investigations, Southern Illinois University-Carbondale) and Erin Sears (Smithsonian Center for Materials Research and Education)**

[119] *Eddies in the River: Local Developmental Histories of Ceramic Development in Grandiose Model*

Data to support large scale archaeological model building often requires data below the sensitivity of methodological approaches, including the widely used Type-variety classification system. This paper compositional patterns of Fine Paste ceramics along the Rio Usumacinta and its tributaries, and the area around Palenque in the northwestern Maya Lowlands. Attention is given to their localized expressions, the variation-dampening nature of the typological endeavor, and the need to consider local developments of broadly shared typological units, especially when constructing models involving trading networks or interregional interactions immediately before the 'collapse' of Classic Maya society—at Palenque and beyond.

**Biskowski, Martin (CSU Sacramento)**

[142] *Specialization and Food Preparation at Teotihuacan*

Differences in maize grinding tools from Terminal Formative and Classic Period contexts at Teotihuacan highlight fundamental changes in the nature of maize-grinding and perhaps also one or more socioeconomic transformations in the organization of maize preparation. Both the growing costs of maize preparation and the demands of the elite urban economy are implicated in this reorganization. This paper examines the contexts of maize preparation at Teotihuacan and in particular focuses on the spatial distribution of manos, metates, and other food preparation implements as evidence of the emergence of specialized food preparation.

**Bisson, Michael** [59] *see* Nowell, April

**Bisson, Michael (McGill University)**

[105] *Wise Counsel: Bruce Trigger at McGill University*

Since joining the McGill community in 1964, Bruce Trigger has played a pivotal role in the development of the Department of Anthropology, and made many important administrative contributions to both the Department and the University. This paper discusses his career as an outstanding teacher in both the graduate and undergraduate programs, his role in forming the intellectual direction of the Department, his service to the University on the Board of Governors, and the moral leadership he has provided to committees dealing with highly sensitive topics.

**Black, David** [1] *see* Spiess, Arthur

**Black, David W. (University of New Brunswick - Fredericton), Susan E. Blair (University of New Brunswick - Fredericton), Brent Suttie (University of New Brunswick - Fredericton) and Lucy A. Wilson (University of New Brunswick - Saint John)**

[88] *Distinguishing Carboniferous from Mesozoic Age Variegated Chert Toolstones in the Maritimes Archaeological Record*

Two main types of variegated chert toolstones were available to prehistoric people living in the Canadian Maritimes: Minas Basin Multi-Coloured Chert, associated with Mesozoic-aged volcanics and sediments exposed on the Nova Scotia side of the Bay of Fundy, and Washademoak Multi-Coloured Chert associated with Carboniferous-aged volcanics and sediments exposed around the edges of the New Brunswick Lowlands. Both of these chert toolstones circulated in the exchange systems operating on the Maritime Peninsula during the Late Maritime Woodland period; frequently, both are found in the same archaeological deposits. This paper presents recent advances in characterizing and distinguishing these two chert types.

**Blackman, M. James** [126] *see* Benco, Nancy

**Blackmore, Chelsea** [143] *see* Robin, Cynthia

**Blackwell, Bonnie A.B. (Williams College), Andres Montoya (RFK Research Institute, Flushing, NY), Joel I.B. Blickstein (RFK Research Institute), Shanti Pappu Sharma (Centre for Heritage Education, Mylapore, Chennai India)**

[149] *ESR Dating at the Acheulian Site at Attirampakkam, India*

In the Tiruvallur district, South India, Attirampakkam is a stratified open-air Paleolithic site, where Acheulian artefacts were found in deeply buried laminated clays on a palaeofloodplain, and in near-shore coastal sandy clays. The archaeological deposits at Attirampakkam have yielded six Pleistocene vertebrate fossils, including the Equid tooth dated here. Despite the tooth having been badly weathered and broken prior to being covered with sediment during deposition, the enamel has yielded eight independent accumulated dose growth curves with uncertainties ranging from 1.8% to 4.6%. Assuming linear U uptake, preliminary ESR ages indicate that this tooth dates at  $100 \pm 6$  ka.

**Blades, Brooke (A.D. Marble & Company)**

[11] *Early Upper Paleolithic Core Reduction at la Ferrassie, France*

Cores recovered from seven levels (K6-I1) within Aurignacian archaeological deposits at la Ferrassie reflect the changing nature of early modern human lithic technology in the Perigord of southwestern France. The almost total dominance of locally available raw materials and extent of reduction intensity suggest secondary reduction of materials obtained near, but not immediately adjacent to, the rock shelter locus. Site-specific and regional data on large mammal exploitation suggest procurement and selective transport of faunal elements from areas once again near the shelter. However, the "locally available" materials may in fact encompass a broad range of sources and consequently reflect a landscape pattern of considerable complexity.

**Blair, Susan (University of Toronto)**

[26] *Envisaging Hunter-gatherer Space*

Archaeologists working in northeastern North America have privileged rivers and coastlines as spatial units. These physiographic features have served as bounding mechanisms in the visualization of past populations, adaptations and settlement systems. Regional systems and inter-site relationships are often depicted through models that emphasize dendritic or linear arrangements. Given our understanding of the configuration of rivers and portages in the

Northeast, and their use by past Aboriginal groups, these depictions may be oversimplistic. I will explore the implications of our visualization of space for our understanding of human mobility and social and material in these settings.

**Blair, Susan [1]** *see Robinson, Brian*

**Blair, Susan E. [88]** *see Black, David W.*

**Blake, Karry L. [140]** *see Wegener, Robert M.*

**Blake, Michael (University of British Columbia) and John Smalley (University of British Columbia)**

[86] *The Social Implications of Teosinte's Early Spread*

New studies of Zea's genetics suggest that all modern maize evolved from teosinte (*Zea mays* ssp. *parviglumis*) originating in the Rio Balsas drainage of West Mexico. The processes whereby early occupants of the region interacted with teosinte, harvesting its seeds, leaves, and stalks, and eventually transported or traded the plant and its descendants far beyond its natural range, are not yet clearly understood. We map (spatially and chronologically) all the current archaeological and paleoethnobotanical evidence of early Zea from Mesoamerica, Central America, and South America to demonstrate that social uses of the plant's many products could have been as important in its early spread as were its nutritional uses.

**Blake, Michael [86]** *see Chisholm, Brian*

**Blakey, Michael (College of William & Mary)**

[131] *Ethics and Objectivity*

The accumulation of evidence for intrinsic cultural bias in science has challenged scholars to find new forms of scientific practice that do not rely upon a belief in the objectivity or neutrality of facts. The objectification of human phenomena dehumanizes those who are interpreted without actually creating culturally-neutral knowledge. Relieved of an emphasis on objectification one may deliberately humanize human subjects, without underutilizing material evidence. Furthermore, as scientific practice becomes recognized as social and political activity, the democratization of research (the involvement of affected communities in research design) becomes both ethically and epistemologically justified.

**Blakney-Bailey, Jane Anne (University of Florida)**

[127] *Aboriginal Cuisine and Pot Sherds: Linking Ethnohistorical Accounts of Seminole Foodways and the Archaeological Record*

Over the centuries, various scholars and observers have offered details about Seminole foodways and cuisines. This information shows a remarkable continuity in many of the components of this group's diet and preparation of foods. This paper explores the relationship between ethnohistorical accounts of Seminole foodways and pottery recovered from the archaeological record. Continuities and disjunctures between these two sources of information are explored.

**Blatt, Samantha (Rutgers University)**

[123] *An Early Copper Age Enclosure at Vészto-Bikeri, Hungary*

A curvilinear enclosure consisting of an outer ditch, inner trench and palisade system was excavated at the Early Copper Age site of Vészto-Bikeri, Hungary. This paper evaluates differing hypotheses regarding the function of the enclosure based on the excavated features, reconstructed architecture and cultural material recovered. Ceremonial, water-management, kraal, and defensive functions are considered. The evidence suggests a defensive role, although the enclosure may also have fulfilled ritual functions and livestock containment.

**Bleakney, Gail (University of Colorado, Boulder)**

[72] *Migration and the Southwest: A Look at Pinnacle Ruin Ceramics*

Four years of excavations have led researchers to suggest that the Pinnacle Ruin, located in southwestern New Mexico, may represent a community of Mesa Verde migrants from the San Juan region. While archaeologists working in the Four Corners have suggested that Mesa Verde populations moved as small, family units, preliminary data from Pinnacle suggest that group size may have been larger. It is unclear whether Pinnacle Ruin represents the migration of one large population or, perhaps, multiple migrations of smaller groups. A functional analysis conducted on ceramics from a stratified midden at the site will be undertaken to address this question.

**Bleed, Peter (University of Nebraska-Lincoln)**[24] *Do Microblades Matter?*

Archaeologists from Central Asia to northern America are intrigued by microblades made in highly regularized production sequences although in terms of shape, production, use, and cultural context, they are extremely diverse. In an attempt to look beyond superficial technical similarities and assertions of cultural linkage, this paper reconsiders the technological contexts of microblade technologies. Risk management, scheduling, mobility, raw material characteristics, projectile technology, game availability and other variables certainly contributed to the appearance and persistence of artifacts archaeologists read as microblades.

**Bleed, Peter** [58] *Discussant***Blickstein, Joel I.B.** [149] *see Blackwell, Bonnie A.B.***Blitz, John H.** [56] *see Lorenz, Karl G.***Blodgett, Dustin** [156] *see Winkler, Daniel***Bloemker, James D.** [139] *see Rinker, Jennifer R.***Blom, Deborah (University of Vermont), Ryan Williams (The Field Museum) and Donna Nash (The Field Museum)**[71] *Mortuary Remains on the Mountain*

While Wari mortuary contexts at the Middle Horizon site of Cerro Baul have been scarce, excavations in 2001-2002 recovered two intact child burials and the remains of two adults outside their original burial context. We assess the health and status of these individuals, the context of their interment, and the information they lend to understanding life on the mountain summit of Cerro Baul during Wari times.

**Blom, Deborah E.** [147] *see Knudson, Kelly***Blumenschine, Robert (Rutgers University)** [42] *Discussant*; [42] *see Njau, Jackson***Boada, Ana Maria (University of Pittsburgh)**[81] *Settlement Pattern and Agriculture Intensification in the Sabana de Bogota, Colombia*

This paper will evaluate the role of intensive agriculture of raised fields in the development of social hierarchy and whether it was developed to solve problems of population pressure, a technology available that provided surplus appropriated by emergent elites, or a technology that was used by wealthy families to create more wealth to attract followers. Recent regional survey in the Sabana de Bogota, Colombia, suggests that agriculture intensification of raised fields emerged 1000 BC. The regional survey produced no evidence of population pressure nor evidence of social hierarchy by the time technologies of agricultural intensification were in use.

**Bodmer, Clarence (University of Kentucky)**[120] *Prehispanic Settlement Patterns in the Jequetepeque Valley, North Coast, Peru*

This paper presents the results of a settlement pattern analysis of the Lambayeque society in the Jequetepeque Valley along the North Coast region of Peru. Findings reflect the sociopolitical nature of small and intermediate sized Prehispanic sites during the first half of the Late Intermediate Period (A.D. 950-1200). The focus of this paper centers around the social and spatial functional interpretation of these sites, concerning social organization, ideology, political and economic organization in a multi-valley state level society. These findings are compared with those from other valleys to reflect on the state-of-affairs of settlement patterns in Peru.

**Bohn, Allison (Colorado State University), Paul Burnett (Colorado State University), Oskar Burger (University of New Mexico) and Lawrence Todd (Colorado State University)**[75] *Building and Bridging Landscape Datasets: a synthesis of research on the Oglala National Grasslands, 1999-2002*

Four years of intensive research on the Oglala National Grasslands were designed to understand the dynamic processes affecting artifact movement and visibility, artifact distribution on site-specific and landscape scales, and scaling up from discrete archaeological observations to landscape scale processes. Methodological approaches included innovative and traditional excavation and survey techniques. The data indicate high intensity local lithic-raw material

procurement, regional lithic raw material use, multi-scalar archaeological distribution patterns, and substantial impacts on surface assemblages from a range of ecosystem processes.

**Boisvert, Richard (NH Division of Historical Resources) and D. Clark Wernecke (Texas Archeological Research Laboratory)**

[138] *Excavations at the Gault Site, Central Texas: 1929 - 2002*

The Gault site, a multi-component stratified site in Central Texas was first scientifically explored in 1929 and has since proven to contain one of the most extensive Clovis deposits in the Americas. From 1998 to 2002 researchers from the Texas Archeological Research Laboratory and a diverse group of professional, academic and avocational partners excavated portions of the site. This paper will provide a site history that will give some context to the symposium papers that follow.

**Boisvert, Richard** [1] *see Burke, Adrian*

**Bolender, Douglas (Northwestern University)**

[52] *Household and Farm: The Role of Settlement and Tenancy in Agricultural Investment in Medieval Iceland*

Farmstead agricultural investments in Iceland are compared from the settlement period post c. 870 AD, regional consolidation between 1100-1262 AD, and after the incorporation into the Norwegian state in 1262 AD. Soil deposition in lowland areas and datable tephra layers allow for the diachronic reconstruction of relict agricultural landscapes. Extensive soil sampling and phosphorus analysis were used to examine soil enrichment at neighboring farmsteads in the Langholt region of northern Iceland. Resources and agricultural strategies vary between early settlement farmsteads and later farm divisions.

**Boley, Michael (University of Arizona)**

[115] *Technological Characteristics of the Marana Mound Site Obsidian Assemblage*

Obsidian is ubiquitous on Classic period Hohokam village sites and clearly was valued by the sites' inhabitants. Archaeologists have recognized this and devoted much effort to analysis of obsidian. Given the ease with which the material can be sourced to geographic location, most studies have focused on issues of procurement and distribution, often emphasizing projectile points. Analyses based on technological aspects of debitage are virtually nonexistent, yet stand to contribute to a fuller understanding of the importance of obsidian to the Hohokam. Extensive sourcing information is combined with such analyses of the obsidian assemblage from the Marana Mound site.

**Boley, Michael** [115] *see Bayham, Frank*

**Bollwerk, Elizabeth (University of Notre Dame)**

[30] *Historical Archaeology: A Midwestern Case Study*

The field of historical archaeology uses historical records and archaeological techniques to study cultures and societies. It has been argued that the combination of information gathered from historical records and material culture presents a clearer picture of past cultures than focusing on each area separately. In order to explore this idea, three historic sites from Michigan/Indiana area were studied. These sites range from Potawatomi Native American villages to a EuroAmerican trader's cabin. Information gathered from artifacts is compared to written records to ascertain whether these sources agree and if they provide a clearer picture of the people who lived there.

**Bonavia, Duccio (Universidad Cayetano del Peru)**

[120] *Plant Domestication of the Peruvian Coast: A Perspective from Zana, Jequetepeque, Huearmey, and other Valleys*

Plant domestication is one of the major problem areas of archaeological research, particularly in the Andes. Two problems dominate this region: (1) the lack of a long-term research commitment to this topic and (2) the difficulties inherent in collecting paleobotanical remains from archaeological sites. It is evident that the beginnings of domestication are related to hunter-gatherer societies and that it occurred early in three areas of the Americas: Mesoamerica, Central America, and the Andes. Two unknown factors are whether these were independent centers of domestication and, if the latter, the nature of relations between them. Also important to study is the transition from horticulture to agriculture. Research in the Zana and Jequetepeque Valleys has yielded plant remains dated to the early and middle Pre-ceramic periods (8000-4500 b.p.). This presentation analyzes these remains in terms of the issues raised above, and considers

them in regard to other Peruvian coastal findings, including those from the Huarmey Valley.

**Bong, Sovath (University of Hawaii) and Miriam Stark (University of Hawaii)**

[167] *Ceramics and Early State Formation in the Mekong Delta*

First millennium A.D. Chinese emissaries described the organization of a complex polity in the Mekong Delta that they called the Kingdom of Funan. Research since 1996 at the ancient political and ritual center of Angkor Borei in southern Cambodia (a reputed early capital) has identified major disjunctures in the site's ceramic technological traditions that span a 1000-year period of early state formation. This paper examines continuity and discontinuity in ceramic traditions recovered from Angkor Borei. It also explores relationships between these technological shifts and macrolevel organizational changes that characterized the Mekong Delta and its broader South China Sea interactional network.

**Bon-Harper, Nick [7]** see *Bon-Harper, Sara*

**Bon-Harper, Sara (Monticello), Jennifer Aultman (Monticello), Nick Bon-Harper (Monticello) and Derek Wheeler (Monticello)**

[7] *Methods in the Analysis of Slave-Occupied Plowzone Sites at Monticello*

The understanding of slave-occupied domestic sites is often hampered by a combination of low artifact density and taphonomic processes, in particular post-occupation plowing. These plowed, or plowzone, sites are known for their small artifact size and absence of occupation levels. This poster uses data from seven seasons of archaeological excavation at a pair of contiguous sites on the Monticello Plantation in Albemarle County, Virginia to both understand this particular late-eighteenth century occupation and to offer methods of analysis for plowzone sites of this kind.

**Bonzani, Renee M. [136]** see *Oyuela-Caycedo, Augusto*

**Boone, James [52]** see *Worman, F. Scott*

**Boric, Dusan (Columbia University) and T. Douglas Price (University of Wisconsin-Madison)**

[61] *Foragers and Farmers in the Danube Gorges: Mobility, Contact, and Exchange*

Mesolithic and early Neolithic sites from the Danube Gorges (Iron Gates) contain the most important sample of human skeletal remains spanning the transition to agriculture in Europe. Our research on questions of migration employs strontium and lead isotopes in tooth enamel. Both derive directly from diet and indirectly from the geology of the place of birth, and do not change after tooth formation. Thus, individuals born locally will be isotopically distinct from immigrants. Preliminary results reveal a number of distinct individuals in the burial assemblages of the Danube Gorges, the implications of which will be discussed.

**Borowicz, James (Mercyhurst College)**

[27] *A Consideration of the Early Classic Period in the Maya Lowlands-Twenty Years Later*

Nearly twenty years ago, in *Maya Early Classic Monuments and Inscriptions*, David Mathews proposed a model for political organization of the Maya lowlands, published in *A Consideration of the Maya Lowlands in the Early Classic*. This work made use of information gleaned from the texts and images of carved monuments erected throughout the lowlands. In the intervening years a number of new stelae have been found in the region. This paper will revisit Mathews' 1985 work and focus on how newly discovered stelae have added to our knowledge of political organization of the Early Classic Maya ... twenty years later.

**Borrero, Luis Alberto [168]** see *Martin, Fabiana Maria*

**Boshoff, Willem (University of South Africa)**

[14] *Gerlachshoop (1860-1864) and the BaKopa of Boleu. The brief existence of the first mission station of the Berlin Missionary Society in the Zuid-Afrikaansche Republiek (South African Republic / Transvaal)*

The existence of Gerlachshoop, the Berlin Missionary Society's first mission station north of the Vaal River, was short lived. Founded during 1860, the reason for its existence, to work under the BaKopa of Boleu, died with the majority of the BaKopa people in a Swazi attack on 10 May 1864. The village was routed during a period of turmoil and warfare. Traditional social and political structures were under severe stress. Archaeological study of the burnt BaKopa village and the ruins of the mission station is augmented with archival material such as drawings, mission

reports, diaries and publications, and official documents.

**Boucher, Sylviane [50]** see *Kepecs, Susan*

**Bourgeois, Vincent [114]** see *McEachen, Paul*

**Bourget, Steve (University of Texas)**

[51] *A Case of Mistaken Identity? The Moche Presence in the Viru Valley*

It has long been assumed that the Moche took complete control of the Viru Valley during their journey south of their Chicama-Moche stronghold. The archaeological research recently carried out at Huancaco, a site with monumental architecture situated in the lower section of the Viru Valley, indicate a much more complex picture.

**Bouroncle, Jimmy [117]** see *Toohy, Jason*

**Bovy, Kristine (University of Washington)**

[94] *Prehistoric Human Impacts on Waterbirds at Watmough Bay, Washington*

Birds, although relatively small-bodied, were important resources for Pacific Northwest Coast peoples, providing meat when stored foods were depleted, bones for tool manufacture, and feathers and down for weaving. A large sample of birds from the late Holocene Watmough Bay site in the Gulf of Georgia reveals significant changes in birding practices through time. Early site occupants hunted cormorants on nearby nesting colonies, perhaps leading to over-harvesting of these local populations. Subsequently, diving ducks were hunted more intensively. Human impacts on one small-bodied vertebrate thus may have led to increased predation on a second such vertebrate at this locality.

**Bowen, Jonathan (Ohio Historical Society)**

[30] *Ohio Miami River Hopewell Settlement Patterns (A.D. 1-400)*

At least three closely related Hopewellian groups occupied a 10,000 square kilometer area in the lower Miami River drainage of southwestern Ohio and adjacent portions of Indiana. Cores of Flint Ridge flint, obtained 160 km to the northeast, were brought to local civic-ceremonial centers for the manufacture of prismatic bladelets, the most abundant diagnostic artifact. The distributions of these bladelets over the landscape, in addition to those of other artifact types, have been used for the construction of a settlement pattern/land-use model.

**Bowser, Brenda (Washington State University)**

[16] *An Ethnoarchaeological Comparison of Pottery Style and Social Boundaries: Exploring Concepts of Culture and Analogy in Two Communities in the Ecuadorian Amazon*

Moretecocha and Conambo are horticultural-foraging communities of Achuar and Quichua people on the Conambo River in the Ecuadorian Amazon. This paper examines concepts of cultural boundary formation and the appropriateness of analogy by comparing results of previous ethnoarchaeological research in Conambo with analysis of new data from Moretecocha. Conambo is divided ethnically and politically into two opposing factions, and women's domestic pottery signifies the main social boundary. This paper presents analysis of 150 polychrome pottery bowls representing 36 potters from Moretecocha to address whether and why the stylistic patterns represent regional cultural differences, social-structural processes of factionalism, or both.

**Boyd, Brian (University of Wales Lampeter)**

[134] *Animal technologies: perceiving the landscape in the Epipalaeolithic (Natufian) Levant*

The Later Epipalaeolithic Levant appears to have witnessed fundamental changes in the ways in which gatherer-hunters perceived their world and their place within it. At the heart of these changes lay new forms of human-animal relations. Animals were no longer seen as simply a food resource, and became drawn into complex networks of social technologies (bone artefact production and use, mortuary practices, body decoration, artistic representation, and so on). This paper considers the consequences of these new forms of relations for Natufian understandings of place and landscape.

**Boyd, Douglas K. (Prewitt & Associates)**

[183] *Late Archaic and Late Prehistoric Exchange Networks in Central Texas*

Fort Hood lies on the western edge of the greater Edwards Plateau very near the prominent topographic feature called the Balcones Escarpment that separates the plateau from the Blackland Prairies to the east. This transitional ecological zone also was a transitional cultural

zone. Many years of research show that Late Archaic and Late Prehistoric inhabitants were involved in complex exchange networks with coastal groups to the south or southeast and Caddoan peoples to the east or northeast. High-quality cherts, ceramics, and coastal shell ornaments, are discussed as the primary physical evidence for prehistoric interregional exchange.

**Boyd, Jennifer (University of New Mexico)**

[90] *Early Contact Period Interaction in the Western Spanish Borderlands: A Ceramic Technological Study*

This paper will examine disruption and cultural change in Pueblo-Indian groups in the western Spanish borderlands at contact as reflected in ceramics, particularly colonowares. Colonowares, found throughout the Spanish Empire, are indigenous ceramics that incorporate European vessel forms, and physically reflect Native American-Spanish interaction. This study will focus on technological changes that may have accompanied the appearance of colonowares in New Mexico. Changes in highly conservative attributes related to motor skills of potters or the successful production sequence will indicate disruption due to high mortality rates. Alternatively, changes in attributes related to functional/social needs will indicate change in Pueblo-Indian lifeways.

**Boyle, James W. (New York University)**

[148] *Pins, combs and metapodials: The organization of bone and antler working in Ireland and Britain*

The archaeological records of Ireland and Britain during the 3rd through 8th centuries are commonly viewed in isolation, despite clear cultural connections between the islands. Irish bone dress pins and antler combs are closely related in form to both Romano-British and contemporary Scottish bone and antler pins and combs, yet the production of these artifacts seem to have differed greatly between regions. While in Britain bone and antler working has been considered a non-specialized craft practiced by most of the population, recent research in Ireland suggests that the production of bone and antler dress pins and combs was centralized at high status sites and controlled by local or regional kings. This paper will examine how contact between the different cultures of Britain and Ireland facilitated the spread of these artifact forms and affected the economies in which they were produced.

**Bradbury, Andrew [42] see Carr, Philip**

**Bradford, Ileana (CSULB) and Carl Lipo (CSULB)**

[35] *An application of high-resolution satellite imagery for the mapping of habitation and subsistence features on Easter Island*

In spite of a long history of research, little is known about Rapa Nui's non-ceremonial structures such as habitation and agricultural features. While studies have traditionally focused on culturally elaborate portions of the island's archaeological record, habitation and agricultural structures dominate the island's archaeology. Obtaining systematic island-wide information on non-ceremonial structures is expensive and inefficient. High-resolution satellite imagery, however, can be used to gather distributional data at significantly lower costs and with specifiable precisions. This paper focuses on identification and distribution of one type of non-ceremonial feature, manavais, across the entire island using panchromatic and multispectral satellite imagery.

**Bradley, Bruce A. [140] see Wegener, Robert M.**

**Bradley, Bruce B. [138] see Collins, Michael B.**

**Brady, James [145] see Garza, Sergio; [145] see Ramirez, Luis; [145] see Davila, Mario; [145] see Espinosa, Cesar**

**Brady, James [158] see Moyes, Holley; [158] see Nicolay, Scott**

**Brady, James E. (Cal State, Los Angeles) and Pierre R. Colas (Rheinische Friedrich-Wilhelms Universität)**

[49] *Nikte Mo' Scattered Fire in the Cave of K'ab Chante: Epigraphic and Archaeological Evidence for Cave Desecration in Ancient Maya Warfare*

Settlements in pre-industrial societies have semi-sacred qualities that are enshrined in the inhabitants' ideology. Conquerors have always shown great awareness of this fact so that a

central element of any victory is the destruction of those symbolic devices held most dear by the vanquished or perhaps the appropriation of those elements by the victor. Archaeological and epigraphic evidence of violent desecration of a key symbol, the cave, will be presented to show that these features may have been regularly targeted in ancient Maya warfare. This evidence underscores the importance of caves to polities.

**Brandt, Steven (University of Florida) and Juris Zarins (Western University Missouri)**

[82] *A pastoral nomadic model for the origin and spread of Semitic speaking peoples in northeastern Africa and Arabia*

Traditional models argue that the origin of Semitic-speaking peoples that are tied closely to Mesopotamian cultures that arose following the original settlements of the lower Mesopotamian alluvium, ca. 5500 B.C. Drawing upon recent archaeological, linguistic and genetic data, this paper suggests an alternative model in which early Neolithic Afro-Asiatic speaking nomadic pastoralists from Northeastern Africa were the first to introduce pre-Semitic languages and an African form of nomadic pastoralism to Arabia and the Near East. Implications of this model for the importance of pastoral nomadism in clarifying issues related to the socio-economic prehistory and history of these regions are discussed

**Brantingham, Jeffrey (UCLA)**

[82] *The quantitative analysis of movement: forager mobility from first principles*

While the field of ecology has witnessed significant advances in both the analysis of animal movement and in building models to predict the effects of movement on population and community dynamics, Paleolithic archaeologists, with a few notable exceptions, have contented themselves with classifying human movement into residential (forager) or logistical (collector) modes. Can this be all there is to know about the organization of human movement in the distant past? Drawing on null models in ecology, a neutral model of forager movement is developed. The model is used to evaluate whether the residential-logistical mobility continuum provides an effective standard for archaeological inquiry.

**Brantingham, P. Jeffrey [24]** see *Elston, Robert G.*

**Braun, David (Rutgers University), John W. K. Harris (Rutgers University) and David Maina (Inst. of Nuclear Science, University of Nairobi)**

[11] *Oldowan Raw Material Procurement and Use: Evidence from the Turkana Basin*  
Koobi Fora preserves a rich archaeological record from 1.9-1.4 Ma. This provides a rare opportunity to investigate the economics of stone resources in the Oldowan. We employ ED-XRF techniques to characterize raw material sources at East Turkana, Kenya. Non-destructive analyses of Oldowan artifacts from several sites suggest a complex system of raw material procurement. Artifacts can be related to igneous formations across the eastern margin of the Turkana basin. Technological and geochemical analyses link technological strategies to raw material procurement patterns. We suggest Oldowan hominids modified artifact transport and discard strategies based on the geographic configuration of stone sources.

**Braun, David [42]** see *Pobiner, Briana*

**Bray, Tamara (Wayne State University)**

[160] *The Symbolic Dimensions of Power within the Inca State*

The notion of state encompasses a field of meanings that include the idea of status and stateliness, as well as the dominant one of statecraft. Emphasis on this latter component has arguably obscured our understanding of the multiplex nature of authority and how it is achieved. This paper explores the symbolic dimensions of power within Tawantinsuyu by focusing on the material correlates of rank in Inca society. The association of different forms, styles, or substances with different status groups offers the possibility of identifying alternative or additional pathways to power archaeologically.

**Bray, Tamara [184]** see *Duda, Melanie*

**Breetzke, David (Environment & Archaeology, LLC) [114]** *Discussant*

**Brennan, Wayne [176]** see *Tacon, Paul S.C.*

**Brewer, Margaret (University of Kentucky)**

[106] *The District Concept and Prehistoric Quarries in Eastern Appalachians*

Prehistoric chert quarries are tightly clustered within the arm-bends of large-scale regional folds and thrust fault-bounded stratigraphic sections in the NY, NJ, PA tri-state area. Two large scale transcurrent faults circumscribe the northern and southern parameters of an immense metallogenic province bearing the quarries. The quarries are aligned in districts and trends of similar geological age and close spatial proximity. The district concept sets the stage for a fine scale research involving the utilization of geological criteria that is otherwise ignored in traditional provenance studies. Petrofabric, micropaleontological, stratigraphic, chemical and diagenetic information served to source chert artifacts with greater reliability.

**Brewster, Jon [54]** see Reynolds, Robert

**Bright, Jason (Mountain State Archaeology)**

[62] *Fremont Politics: An Example of Big-Game hunting as Male Political Strategy in Simple Prehistoric Societies*

Many anthropologists have studied big-game hunting and sharing as political strategy, which includes status-seeking, mating effort, alliance-building and influence upon local group composition as but a few interests of hunters who hunt and share large game. Archaeological data from Fremont period sites across Utah indicate that larger, more socially complex settings are associated with greater hunting success, and that processing or consuming of large game is a public event, performed in clear view of other group members. When coupled with modern evolutionary theory, these observations lead to a number of questions regarding hunting and social organization.

**Britt, Tad (ERDC-CERL) and Thomas G. Lilly, Jr. (Coonewah Consulting, Inc.)**

[9] *Seeing the Big Picture: A Demonstration of Innovative Handheld Technologies in Managing Project Issues on the Fly*

Current methods used to collect field data can be costly, especially on large-scale surveys. Adverse conditions and human error can impede accuracy of manually recorded data, resulting in expensive errors. A study's success may be measured by its accessibility of scope in the field and effective implementation of appropriate tools. Presented here is an innovative, programmatic, business process. This approach integrates a carefully planned research design with digital tools to collect, process and present field data in a logical, accurate, and geo-referenced format. The effectiveness of this approach is demonstrated through data collected during recent survey at Ft Irwin, CA.

**Brooks, Alison S. (George Washington U./Smithsonian) and John E. Yellen (National Science Foundation)**

[129] *Bones of Contention: Bone Tools and the Emergence of Modern Human Behavior*

For almost 100 years worked bone tools have been cited as a marker of Upper Palaeolithic technologies. Yet bone was used in food-collecting and manufacturing and its properties known much earlier. Bone points in Middle Stone Age contexts can support the position that modern humans and their behavior emerged initially in Africa. But are MSA bone tools a valid criterion of modernity given their limited distribution? We argue that bone points are conceptually and technologically very different from other early instance of worked bone, and that MSA use of bone's properties is linked to other technological developments, as well as to new economic strategies, mediated by symbolic communication.

**Brooks, Alison S. (George Washington University/Smithsonian) and Rick Potts (NMNH/Smithsonian Institution)**

[10] *We Have Met our Ancestor and He is Us: R.L. Humphrey's Visions of Human Origins*

Due to original interest in Paleoindians, the eastern Eurasian paleolithic, and the settlement of the New World, Bob Humphrey's cartoons relating to human origins predate his association with AnthroNotes and represent a large part of his cartoon collection. Many of the cartoons reflect a profoundly reflexive view of human origins in which the role of the anthropologist in creating a story from the data is made explicit. This presentation will survey and discuss Bob's views on human origins, as expressed in his cartoons.

**Brooks, James (School of American Research) [90]** *Discussant*

**Brooks, Randall (Canada Science and Technology Museum)**

[104] *Cultural Heritage in Space*

The artifact is as direct an expression, as true to the mind, as dear to the soul, as language, and, what is more, it bodes forth feelings, thoughts, and experience exclusive to language (Glassie, 1991). This will be more than obvious to anyone privileged enough to visit space and experience technologically obsolete objects in situ which we, as a civilization, see fit to preserve. What space junk should be preserved? The criteria are similar to those used to develop scientific and technological collections—technical innovation, significant associations, etc. I will investigate criteria and special conditions applicable to orbiting space hardware.

**Broughton, Jack (University of Utah)**

[94] *Small Prey and Archaeological Applications of Foraging Models: Examples from California and the Great Basin*

The relative frequencies of small-sized prey provide fundamental tools in archaeological applications of foraging models. As small-sized prey typically yield lower return rates and are less prized as social capital, their abundance can serve as an index to the availability of large-sized taxa. In addition, certain small-sized prey may only be found in habitat types distant from particular sites: their increasing use can thus reflect local patch depression and the increasing use of more distant ones. These uses of small prey are illustrated with archaeological tests of foraging models from California and the Great Basin.

**Broughton, Jack [31]** see Byers, David

**Browder, Jennifer (Univ. of Calif., Riverside)**

[169] *The Art and Archaeology of Teotihuacan Costume*

Costume is often an indicator of sociopolitical status and social role within a society. Costumes from ancient Mesoamerica and Teotihuacan, in particular, are no exception. Depictions of Teotihuacan costumes appear in murals, painted and incised ceramic vessels, clay figurines, and incensarios. Some examples of clothing are elaborately decorated, while others are quite plain and unadorned. This study discusses the range of evidence for costumes from Teotihuacan and how they relate to the sociopolitical roles of this highly stratified society.

**Browman, David (University of Washington, St. Louis)**

[82] *Pastoral nomadism in the Andes*

The vertical ecology, coupled with variations in precipitation, and camelids with seasonal migration behavioral patterns, made the prehistoric Central Andes an ideal locale for pastoral nomadism. Evidence from Central Peru to Northwest Argentina is reviewed, summarizing the evidence from as early as seven millennia ago, as well as relict nomadic groups that persisted into the 20th century.

**Brown, Clifford T. (Florida Atlantic University)**

[49] *More on Chen Mul and Other Caves at Mayapán, Yucatán*

Chen Mul is the cenote at the heart of Mayapán's ceremonial center. I present new information on the form and extent of the caves that emanate from the central sinkhole. It appears that the largest of the caves may end below a recently restored temple that exhibits unusual iconography. Evidently, Chen Mul played an even more important role in the architectural layout of the ceremonial center than previously suspected.

**Brown, Ian (University of Alabama)**

[56] *Sun Plates Human Effigy Pots and Mississippian Relationships*

Plates bearing sun designs are often found in Mississippian contexts. Such vessels are found along a large crescent from the American Bottoms of Illinois down the Lower Mississippi Valley, and across to south Alabama in the 13th and 14th centuries. At the same time that the sun design appeared along a southerly arc, human effigies made a transition from stone to pottery in a northern crescent that stretched from southeast Missouri to central Tennessee. A study of the form and function of these particular objects and their distribution over time and space sheds light on Mississippian development and relationships.

**Brown, James (Northwestern University) and David Dye (University of Memphis)**

[137] *Agnathic Decapitation: Middle Mississippian Ritual Regalia and Trophy Taking Practices*

Severed trophy heads play a prominent role in Mississippian art. Perhaps the most distinctive iconographic trophy motif is the severed agnathous human-like head of the Braden style. Agnathous heads occur during the Middle Mississippian period as elements of regalia for highly specific Mississippian headdresses as depicted in copper repousse plates and engraved marine shell cups. We suggest that ritual regalia utilizing trophy motifs served not only as a symbol of

success at war but as a metaphor for specific mythic narratives that identifies prowess in mortal combat with high stakes gaming with the ultimate triumph of life over death.

**Brown, Keri [2]** *see Isaac, Andrew*

**Brown, LaDonna F. (University of Mississippi)**

[64] *A Reconstruction of Moreau Chamber 1937 Excavations of a Chickasaw Village in Northeastern Mississippi*

Moreau Chambers and his assistant Slater Gordon conducted one season of field work at MLe14, the supposed site of the Chickasaw village of Ackia. These excavations were conducted in the late 1930s and have never been written up. Archival photographs, notes and maps will be combined with data derived from the artifact collections and an interview with Gordon in order to reconstruct the project and make better sense of the Chickasaw occupation at this location.

**Brown, Leslie [104]** *see O'Leary, Beth*

**Brown, Linda A. (George Washington University)**

[143] *Outdoor Shrine Sites of the Modern Maya: An Archaeological Perspective*

Material and spatial models for identifying activity areas at sacred sites was developed on the basis of an ethnoarchaeological study of 70 contemporary Maya shrines in the Guatemalan highlands. Activity areas identified included: 1) ritual offering areas, 2) feasting areas, 3) cleared all-purpose use areas, 4) discard areas, 5) site access routes, 6) places used for marking the site, and 7) vendor areas. Associated with each were distinctive features and/or artifacts that could survive after site abandonment. Their spatial relationships, including proximity to sacralized topographic features, and material contents provide archaeologists with important clues to the function of activity areas.

**Brown, Terry (UMIST)**

[86] *DNA from primitive maize landraces and archaeological remains: implications for the expansion of maize into South America*

To study the origins of South American maize, without the complications introduced by the movement of genotypes during the post-Columbian period, we made a genetic analysis of primitive landraces and preserved maize remains. We identified three allele groups at the *adh2* (alcohol dehydrogenase 2) locus, the phylogeography of these suggesting that there were at least two ancient expansions of maize cultivation into South America and that there was cultural contact across the Andes from Chile to Paraguay. From the diversity of the allele sequences, we deduced that maize has undergone rapid evolution since domestication.

**Brown, Terry [2]** *see Isaac, Andrew; [161] Discussant*

**Brown III, Boyd [73]** *see Sciulli, Paul*

**Bruce, Pat [83]** *see Goebel, Ted*

**Brugal, Jean-Philip [122]** *see Delagnes, Anne*

**Brumbach, Hetty Jo (University at Albany) and Christian Gates St-Pierre (University of Illinois at Chicago)**

[1] *Five Things to Keep in Mind When Studying Ceramics Across the United States/Canada Border*

Ceramics comprise an important data set for the study of the Precontact Northeastern United States and adjacent parts of Canada. This paper examines five crucial topics that should be considered when undertaking inter-regional or large scale investigations of ceramics: 1) objectively defined and recorded attributes; 2) the usefulness of both types and attributes; 3) the avoidance of ethnonyms as descriptors, and the re-evaluation of poorly defined concepts such as 'Owasco', 'Hunter's Home', or 'Point Peninsula'; 4) style, frontiers and boundaries in the past; and 5) the interaction between social organization and settlement pattern with style and technology in pottery production.

**Brumbach, Hetty Jo [36]** *see Jarvenpa, Robert*

**Brumfiel, Elizabeth (Northwestern University) [76]** *Discussant*

**Brumfiel, Elizabeth (Northwestern University)**

[157] *Unearthing Power: Why Gender Studies Need Feminist Archaeology*

Feminist archaeology offers useful assistance to gender studies by persistently raising issues of gender relations, gender ideology, and social power. Through the study of skeletal material, studies by persistently raising issues of gender relations, gender ideology, and social power. Through the study of skeletal material, feminist archaeology can provide cross-culturally valid measures of gender equality or inequality: access to nutrition, probability of experiencing violence, and degree of social recognition. Feminist archaeology also provides a diachronic perspective on gender relations, demonstrating that a single set of gender principles can generate both equal and unequal forms of gender relations. Thus, feminist archaeology encourages the investigation of who used gender how to establish a given form of social relations. Examples from prehistoric Mesoamerica are presented.

**Bruning, Susan (Southern Methodist University)**

[40] *Law, Ethics and Cultural Property: Exploring Diverse Perspectives within a Law School Curriculum*

This presentation highlights curricular aspects of a law school course on cultural property, by examining laws and court decisions invoking ethical questions about ownership, control and disposition of human remains and objects of antiquity. How should laws manage resources of our past and determine the most appropriate stewards of those resources for the future? Shifting public perspectives in recent years have altered the international and domestic legal landscapes, requiring enhanced consideration of ethical impacts of such issues as the antiquities trade, scholarly research needs and the rights of source nations and other indigenous groups to assert control over cultural items.

**Brunson-Hadley, Judy [140]** see *Phillips, David*

**Brunton, Thomas F. (State University of New York - Buffalo) and Tina L. Thurston (State University of New York - Buffalo)**

[148] *Viking settlements: Scandinavians at home and in Britain*

The Viking Age was a period of Scandinavian expansion, trade and conquest, but also of political reorganization at home, as state societies formed. In Denmark, the state restructured and created settlements, eliciting cooperation and conflict in various sub-regions of the coalescing nation. Using historical documents, place-name studies and archaeological research, we compare this to formation processes, settlement hierarchies, and land use patterns of new Viking settlements in Britain. These 'Vikings' came from many places with varying motivations -- some fled political oppression while some sought better economic situations -- yet all were influenced by their host populations. Settlement landscape organization provides clues to both cultural impacts and political structures.

**Bryant, Paula [156]** see *Amick, Daniel*

**Bryson, Reid [2]** see *Ruter, Anthony*

**Buchanan, Briggs [162]** see *Hamilton, Marcus*; [162] see *Kilby, David*

**Buchner, C. Andrew (Panamerican Consultants)**

[127] *A Dated Poverty Point Object Assemblage from Southeast Missouri*

The results of analysis of an assemblage of Poverty Point Objects, or baked clay objects, from Site 23NM561 are presented in this paper. All of the whole specimens are sand-tempered, and most are biconical shaped. Dated contexts suggest use of these artifacts spans a range of approximately 2500 years, from the Late Archaic to the initial Middle Woodland period. These results may be used to support a view that the regions poorly understood Early Woodland sand-tempered ceramic complex may have developed from an older Late Archaic Poverty Point Object sand-tempered tradition.

**Buck, David G. [146]** see *Bullard, Thomas F.*

**Buckler, Ed [86]** see *Després, Viviane*

**Budd, Paul (University of Durham), Andrew Millard (University of Durham) and Carolyn Chenery (NERC Isotope Geosciences Laboratory, British Geological Survey)**

[13] *Where did all the Saxons go? Out and about in Early Medieval England.*

The paper examines the use of combined oxygen, strontium and lead isotope analysis to study human and animal mobility in Anglo-Saxon and Anglo-Scandinavian England. Isotopic analysis can be used to comment on local and long-distance mobility, short term movement, and long-term changes in residency and immigration. But how can these varied events be distinguished? Here, I propose a multiple isotope analysis to define the isotopic catchment of settlements associated with particular burial populations and use this information to study both local land-use and immigration.

**Budinski, Amy** [4] *see* *Owczarek, Jolanta*

**Buikstra, Jane (University of New Mexico)** [147] *Discussant*; [147] *see* *Knudson, Kelly*; [147] *see* *Lozada, Maria*; [13] *see* *Burton, James H.*

**Bullard, Thomas F. (Desert Research Institute), Pat Farrell (University of Minnesota, Duluth), David G. Buck (University of Florida) and John G. Jones (Texas A&M University)** [146] *Landscape Dynamics and Fluvial Geomorphology in the Sibun River Valley, Belize: Influence on Maya Settlements*

Maya settlement patterns and land use strategies along the Sibun River were closely tied to fluvial processes and regional climate. Fluvial behavior during documented Holocene climate transitions was examined through surficial geologic mapping, stratigraphy, soil geomorphology, and terrace profiling. Boulders deposited as mid-channel bars during extreme discharge events created local base level controls that promoted frequent flooding in low sinuosity upper reaches. Timing of meander cutoffs—recorded in oxbows in mid-and lower drainage regions—roughly coincides with aggradation observed upstream. These linked processes most likely altered regional land use strategies and contributed to the decline or relocation of Maya communities.

**Bullard, Thomas F.** [146] *see* *Farrell, Pat*

**Burger, Oskar (Archaeology Program, University of New Mexico), Lawrence Todd (Greybull River Sustainable Landscape Ecology) and Paul Burnett (Center for Human Paleocology, Colorado State University)**

[170] *A Compliment to Discovery: Evaluating the Properties of Surface Samples with Multi-Scale Methods.*

Research on the Oglala National Grassland of northwest Nebraska has demonstrated that pedestrian archaeological surveys overlook a greater magnitude of artifacts than is generally realized and that the use of high-resolution samples can be useful for evaluating and quantifying the properties of survey data. These realizations and the use of a multi-scale plant species sampling plot have recently been applied and further assessed in an interdisciplinary human impact survey in the Washakie Wilderness of northern Wyoming. We demonstrate how this approach can be integrated into a research and management framework while providing new potential avenues for analyzing surface artifact populations.

**Burger, Oskar** [75] *see* *Bohn, Allison*

**Burgess, Laurie (Smithsonian Institution)**

[57] *An Archaeological Object from James Cook's Third Voyage: the Banks Patu at the Smithsonian*

The brass patu, a replica of a New Zealand stone club, was made in London for Sir Joseph Banks in 1772 and sailed with Captain James Cook on his third voyage. The patu entered North America when Cook landed at Nootka Sound in 1778. Inscribed with Banks' name and coat of arms, the patu was collected from a Columbia River site in Washington state and was purchased by the Smithsonian in 1897. One of six Banks patus known today, and the only one from North America, the patu represents the histories of England, North America and early contact and trade.

**Burgett, Ruth** [83] *see* *Jolie, Edward*

**Burke, Adrian (Université de Montréal) and Richard Boisvert (NH Division of Historical Resources)**

[1] *Understanding the Movement of Archaeological Materials at a Truly Regional Scale*

The movement of archaeological materials over a large geographic area throughout the prehistory of northeastern North America continues to be a topic of major interest. Archaeologists' interpretations of these materials distributions vary greatly depending on the time period in question. We discuss these common interpretations and show how the steady increase in empirical data on lithic materials sources and distributions, but also on ceramics and metals, are

contributing to a more solid basis on which to make our interpretations. This kind of data has been made possible only because of regional scale collaborations that transcend modern borders.

**Burke, Ariane (Université de Montréal) and Alexander Yevtushenko (Institute of Archaeology, Kiev, Ukraine)**

[122] *Karabi Tamchin: life on the edge.*

The site of Karabi Tamchin (Ukraine) is located at mid-altitude, on the south-western edge of a high plateau bordering the Crimean mountains. Faunal data indicate that animals were hunted in the vicinity of the site and intensively processed for meat and marrow, and that the site was likely occupied for seasonally restricted periods of time. Tools and cores were predominantly transported to the site from a relatively distant lithic source, though locally available flint cobbles were also used. Together, the faunal and lithic data allow us to suggest that Karabi Tamchin functioned on the periphery of a regional settlement system.

**Burke, Heather [151]** see *Smith, Claire*

**Burkholder, JoEllen (NKU)**

[127] *Some Say He Isn't Buried There: Recording Historic Cemeteries*

This paper presents the findings of a multi-county survey of historic African American cemeteries in northern Kentucky while examining some of the difficulties of collaborating with community volunteers. Among the conclusions are the overall poor conditions of the cemeteries that arise from a number of economic and demographic trends. These trends in turn make the assessment of the importance of these cemeteries and prioritizing them for care difficult. Work with community members, though difficult at times, may hold an important key to preserving these resources.

**Burks, Jarrod D. [180]** see *Sieg, Lauren*

**Burnett, Paul (Colorado State University), Lawrence Todd (Colorado State University) and Kelly Derr (Colorado State University)**

[75] *Cluster analysis of in situ dated surface assemblages: Linking raw material use patterns to a chronology of watershed use in the central Absaroka Range, Wyoming*

Sixty days of field research in three montane watersheds of the central Absaroka Range were spent recording extensive surface deposits of mostly lithic material in a high-visibility archaeological landscape. Data were collected from numerous clusters of debitage, tools, and diagnostic artifacts using an intensive in-field artifact-based documentation protocol that included no collection. These clusters can often be dated using the diagnostic artifacts contained within them. Here we present an analysis of clusters from the Paleoindian to Late Prehistoric. Patterned differences in these clusters per time period are discussed in the context of broad-scale montane foraging patterns.

**Burnett, Paul [75]** see *Derr, Kelly*; [75] see *Bohn, Allison*; [170] see *Burger, Oskar*; [187] see *Reitze, William*

**Burns, Conor (University of Toronto)**

[37] *Unconventional through and through? Correspondents in Ohio mound archaeology during the 1880s*

This paper will assess the intrinsic role played by correspondents in Ohio mound archaeology of the 1880s, when both the Smithsonian Bureau of Ethnology and the Peabody Museum of American Archaeology and Ethnology undertook major projects on the Ohio mounds. For these institutions, the execution of fieldwork and the generation of archaeological data wholly relied upon the activities and motivations of informally-employed field correspondents. These individuals were valued for their abilities to get the job done, often at great personal expense and with little reward. Relationships between institutional authorities and correspondents, however, were dynamic if not often unstable.

**Burns, Jason [41]** see *Crass, David*

**Burton, James H. (University of Wisconsin), T. Douglas Price (University of Wisconsin), Paul D. Fullagar (University of North Carolina), Lori E. Wright (Texas A&M University) and Jane E. Buikstra (University of New Mexico)**

[13] *The use of Sr 87/86 ratios to study human mobility in ancient Mesoamerica.*

More than 300 analyses of human dental enamel from dozens of archaeological contexts throughout Mesoamerica reveal a close correspondence of Sr 87/86 ratios to those expected

from the regional geology. Because isotopic variation in samples from the same geologic region tends to be demonstrably lower than the isotopic contrast among different geologic terrains, the measurement of Sr 87/86 is a powerful tool for monitoring prehistoric human mobility throughout Mesoamerica.

**Bush, Leslie L. [101]** *see* Munson, Cheryl Ann

**Buzon, Michele R. (University of California, Santa Barbara)**

[5] *Patterns of porotic hyperostosis in Ancient Nubia and Egypt*

Porotic hyperostosis (including cribra orbitalia), commonly associated with iron-deficiency anemia, is often found in archaeological populations from the Nile Valley. The focus of this study is the population buried at the site of Tombos, a New Kingdom cemetery located at the Third Cataract of the Nile. The frequency of porotic hyperostosis in the Tombos population is low (4.4%) when compared to both contemporaneous and nearby populations, especially when examining the occurrence in adults. This study explores explanations for the differing age-related patterns of the disease as well as the etiology of porotic hyperostosis in this region.

**Byerly, Ryan (Southern Methodist University) and David Meltzer (Southern Methodist University)**

[75] *Mustang Springs (41MT2) and the 19th century bottleneck of the Southern Plains bison herd*  
A previously undescribed component excavated at Mustang Springs (TX), yielded bison remains below sediment dated to 1,745 ± 30 B.P. Recent analysis has revealed the presence of domestic cattle and horse from this component. Direct dating of bone collagen from this assemblage produced an average age of 100 ± 20 B.P. Mustang Springs was then a rare source of freshwater on an otherwise dry landscape, and where the last of the southern bison herd were killed by hide hunters. This assemblage thus offers a glimpse into human/bison interaction and bison ecology during the final bottleneck of the southern plains herd.

**Byerly, Ryan [42]** *see* Egeland, Charles

**Byers, A. Martin (McGill University)**

[180] *The Ohio Hopewell Settlement Bifurcation: The Practice of Survival in Alternative Sacred Worlds*

Adaptationist and symbolist approaches in archaeology constitute two solitudes that work against our adequately reconstructing prehistoric social systems using settlement, subsistence, and ceremonial data. Following a brief discussion of the symbolic pragmatics of subsistence practices, and a critique of the inadequacies of a referential symbolism in interpreting earthworks, I present alternative models of the Ohio Hopewell habitation earthwork dichotomy and the contrasting cosmology ethos ideological structures that each entails, in order to demonstrate that a symbolic pragmatic view can make a significant and empirically grounded difference in our reconstructing prehistoric settlement systems.

**Byers, David (University of Utah) and Jack Broughton (University of Utah)**

[31] *Holocene Environmental Change, Artiodactyl Abundances and Human Hunting Strategies in the Great Basin*

In this poster, we draw upon paleoenvironmental evidence from the Bonneville Basin to document a dramatic climatically-based late Holocene artiodactyl population increase. The prey model is then used to predict late Holocene increases in artiodactyl hunting. That prediction is tested against two fine-grained archaeological records in the Bonneville Basin, Hogup Cave and Camels Back Cave, and a variety of other coarser-grained records throughout the Great Basin. The data show significant increases in artiodactyl hunting as climate ameliorated during the late Holocene. These conclusions have far-reaching implications for our understanding of Holocene human adaptations in the Great Basin.

**Byock, Jesse (UC Los Angeles)**

[112] *The Mosfell Archaeology Project: Overview of the Project and Introduction to Recent Findings and Research*

Investigations by members of the Mosfell Archaeological Project at Hrísbú have revealed evidence for the use of the site as a cultic center in both pre-Christian and Christian times. The cultural deposits at Kirkjuhóll (Church Knoll) and Hulduhóll (Elfin Hill) are complex, but 14C dates, stratigraphic relationships, tephrochronology, and burial associations all support a general sequence spanning the pagan and early conversion eras of the Viking Age, and indicate that the

remains of an early turf building, graveyard, and stone foundation first unearthed at Kirkjuhóll in 2001 date from the 10th and 11th centuries.

**Byock, Jesse [112]** see *Erlandson, Jon M.*

**Byrnes, Allison (University of Wyoming) and Mary Lou Larson (University of Wyoming)**

[187] *Finding Frederick: Late Paleoindians and the Archaeology of Archaeology*

Since its discovery in 1959, the Hell Gap site, Locality I in southeastern Wyoming has been a primary contributor to archaeological understanding of Paleoindian populations on the Plains. First encountered during Harvard's 1960s investigations of the site, the substantial but poorly-documented Frederick component is currently being revisited by the University of Wyoming. In this paper, we will discuss how efforts to reconstruct the 1960s excavation methodology, coupled with stratigraphic evaluation, refitting, and Minimum Analytical Nodule Analysis (MANA) of lithic materials, are being used to elucidate the extent and nature of the Frederick occupation and its implications for Late Paleoindian behavior.

**Cabrera, C. Ruben (INAH Zona Arqueologica Teotihuacan)**

[142] *Talleres Artesanales Controlados por el Estado Teotihuacano para la Produccion de Bienes de Caracter Ideologico.*

Conocemos la importancia de la actividad artesanal en Teotihuacan, pero poco se sabe de como se llevaba a cabo, que clases de talleres artesanales existian y como estaban organizados dentro de la sociedad teotihuacana. Algunos de estos talleres estaban controlados por el estado, ejemplo de estos es un taller de ceramica suntuaria localizado en el Cuadrangulo Norte de La Ciudadela en el que se producian a gran escala objetos destinados para el culto. En esta ponencia se analizara la funcion de esta produccion artesanal organizada en el contexto del sistema ideologico del estado teotihuacano en la centralizacion de su poder.

**Cabrera C., Oralia (Arizona State University)**

[142] *Crafting at the Margins: Craft Production in 'Semi-Rural' Teotihuacan.*

The successful growth and persistence of urban systems rests not only on economic activities carried out within cities, but also on the interaction of cities with outlying and often much smaller settlements. Best known for its large numbers of internal workshops, Teotihuacan also relied on production systems based outside the city's boundaries. Various sites located on the ancient city's margins provide evidence of ceramic production, some with evidence for multicrafting. In this paper, I present preliminary data from one such sites and discuss ways in which it may have been integrated into the broader urban economy.

**Cach, Eric (Universidad de Guadalajara)**

[181] *Las costumbres funerarias de la tradicion Teuchitlan: la exploracion del altar 6 de Los Guachimontones*

Esta ponencia describe el hallazgo de un altar funerario de la tradicion arqueologica de Los Guachimontones en Jalisco, Mexico. Este es uno de los raros casos en que se descubre dentro de un edificio de arquitectura circular un conjunto de entierros y ofrendas que datan del 300 a.c. al 900 d.c. La ubicacion de este altar circular dentro del recinto de los Guachimontones indica su importancia dentro de los rituales politicos de los gobernantes del sitio. En la ponencia se abordara la importancia que este deposito cultural tuvo dentro del contexto ritual y politico de los Guachimontones.

**Cai, Fengshu [6]** see *Cunnar, Geoffrey*

**Cameron, Catherine (University of Colorado), Winston Hurst (Independent Scholar) and Christine Ward (University of Colorado)**

[66] *Exploring the Post-Chaco Era in Southeastern Utah: Excavations at the Bluff Great House and Comb Wash Community*

Recent excavations at the Bluff Great House and Comb Wash community in southeastern Utah focus on understanding the collapse of the Chacoan regional system and the transition to the post-Chaco era in the northern San Juan region. Some scholars believe that after the Chaco collapse in A.D. 1150, Chacoan great houses were no longer community foci. Others argue that significant elements of Chacoan symbolism (including the use of great houses), as well as a diminished regional system, continue to function in the northern San Juan. Excavations at Bluff and Comb explore these contrasting ideas.

**Campbell, John (James Cook University)**

[104] *Exo-archaeology: what is it and what could it do?*

Exo-archaeology refers to cultural heritage studies on sites and artifacts which are not on Earth. It includes studies of Space Heritage, but the latter can include space exploration related sites on Earth. People have been and are continuing to create sites on the Moon, Mars and beyond, as well as place objects in various orbits. Exo-archaeology could also include searches for signs of technology around other stars (cf. SETI research). The successful detection of extrasolar planets and the further development of highly sensitive astronomical equipment mean that evidence for the behaviors of other intelligent species could be found.

**Campbell, Joshua (University of Kansas) and William Johnson (University of Kansas)**

[183] *3 D Archaeological Probability Model for the Cowhouse Creek Watershed, Ft. Hood, Texas*

A 3-dimensional landscape model describing the potential distribution of surficial and buried cultural materials was created for Fort Hood, Texas using Geographic Information Systems (GIS) and statistical software. Prehistoric archaeological sites locations were used to statistically relate the presence or absence of surficial cultural materials with environmental and geographical variables. The statistically-derived correlation model provides the surface component of the model, which was combined with geomorphic and geologic landscape data generated through stratigraphic analysis and radiocarbon dating to provide the subsurface component. The resulting model represents an attempt to predict landscape locations with a high probability of containing cultural material.

**Camps, Marta (University of Oxford)**

[68] *Shells are Forever*

In 2001, abundant malacological remains unearthed in the early 1900s were discovered in a museum collection in Barcelona. There are several species of shells, most are perforated and some ochre-colored, never fully studied before. This paper's aim is to present the results of these materials' multidisciplinary analysis, which allow the old remains to be put into context. These forgotten shells play a crucial role in the development of the research of the Mid-Upper Paleolithic Transition in Iberia, especially in the northern area, where the current debate centers around sites the transitional sequences of which were excavated over a century ago.

**Canaday, Tim (Bureau of Land Management), Todd Swain (National Park Service) and Ed Dominguez (U.S. Fish and Wildlife Service)**

[31] *Operation Indian Rocks: Anatomy of an ARPA Case*

On December 15, 2001, two individuals drove into Death Valley National Park. There, they found and collected prehistoric artifacts. Unbeknownst to them, their activities had been observed by a Park Ranger. When questioned, one said 'we were picking up Indian rocks.' The other said 'we do this all the time, what are you going to do about it?' Thus began Operation Indian Rocks, a 2-year investigation by archaeologists and criminal investigators from the NPS, BLM, USFWS, USAF and the Department of Justice. Five individuals are now in jail on felony ARPA charges involving 13 sites and over \$500,000 in damages.

**Cannon, Aubrey (McMaster University)**

[134] *Perceptions of Living Standards in Northwest Coast Production and Reproduction*

An outline of long-term developments on the central coast of British Columbia highlights the inadequacy of treating settlement, subsistence, demography, technology, and environment as a closed set of mutually explanatory variables. Cultural perceptions of acceptable living standards and beliefs concerning the human place within the natural/supernatural world may have played an equally important role in shaping the settlement and demographic history of the region. Trends over time suggest links among diminishing living standards, demographic expansion, and shifting emphasis from ritual to practical control over resource production and reproduction.

**Cannon, Mike (California State University, Long Beach)**

[94] *Landscape Modification, Leporid Relative Abundance, and Stable Carbon Isotopes*

Changes in the abundances of jackrabbits relative to cottontails in archaeofaunal assemblages from the southwestern U.S. have been interpreted as reflecting human modification of local vegetation communities. However, at sites in the Mimbres Valley, New Mexico, during a period when independent indicators suggest an increase in the degree to which people modified the landscape, jackrabbit relative abundance changes in a manner that contradicts traditional assumptions about the effects of such modification on leporid genera. Analyses of stable isotopes in the bones of leporids and other taxa provide a more powerful tool for understanding alterations

to the environment associated with agriculture.

**Cantin, Mark [101]** see *Stafford, C. Russell*

**Caran, Christopher (Quaternary Analysis Laboratories)**

[15] *Water management in Prehispanic Mexico: Hallmark of a complex society*

Water-management systems in Prehispanic Mexico (1200 BC-1500 AD) exhibit a remarkable level of engineering sophistication in their design and construction. These systems include dams, canals and aqueducts, and, possibly, chain wells (qanats). Some systems provide evidence of continual maintenance and other forms of long-term management. Whether operation of a given system was governed by a central authority or local consortia (or even individual users) remains unclear. What is certain is that considerable advance planning was required to ensure proper function and future expansion. Complex societies provide both the means of supporting development of water infrastructures and the need for them.

**Carballo, David (UCLA)**

[118] *State Militarism and Obsidian Craft Specialization at Teotihuacan.*

Teotihuacan's political hegemony relied on a sizable military and a militaristic state ideology. Keeping soldiers armed and maintaining an active program of martially-themed ceremonies and offerings were compelling state interests that encouraged a specialized sector of the obsidian industry for the manufacture of items such as dart points, eccentrics, and large knives. Recent excavations have uncovered obsidian workshop dumps related to the production of these items near the Moon Pyramid. This paper discusses the social and political implications of the production of weapons and ideologically-charged items at Teotihuacan and draws comparisons with other early states.

**Carlson, Catherine C. (University College of the Cariboo Kamloops, British Columbia)**

[63] *The Early Contact Secwepemc Village at Kamloops, British Columbia, Canada*

The earliest aboriginal contact with Europeans in the northwest's Interior Plateau of British Columbia occurred relatively late in the history of contact in North America. The first Europeans arrived in Kamloops in 1811; they were fur traders seeking economic relations with the local people. A permanent trading post was built in 1821 and a new Secwepemc village was established adjacent to it. The excavation of the village, with traditional circular semi-subterranean pithouses, has provided artifactual, faunal, and architectural evidence of the changing, yet unchanging, nature of indigenous households at the point of early Plateau contact. Detailed 19th century ethnographies of the villages in the region add insight into changing domestic economies that enhances interpretation of the archaeological record.

**Carlson, Lisabeth (Southeastern Archaeological Research, Inc.)**

[91] *Changing Patterns of Distribution and Human Exploitation of the West Indian Hutia: An example from Recent Excavations in St. Marys Parrish, Jamaica*

The most common faunal remain in many Jamaican prehistoric archaeological sites is the Jamaican hutia (*Geocapromys brownii*). As humans are usually this animal's only predator, the life history of this species is intimately tied with the actions of human beings. By looking at a cross-section of Jamaican sites, this paper will examine factors that affect the zooarchaeological signature of the hutia including site locations and topography, the time period of prehistory, specific capturing and preparation techniques, and whether or not the hutia populations were tended or managed.

**Carmack, Robert (University at Albany) and Silvia Salgado Gonzalez (University of Costa Rica)**

[165] *Ethnohistory of the Chorotega in Nicaragua*

Recent ethnographic and archaeological research in the provinces of Masaya and Granada supports the ethnohistorical accounts of the migration of the Chorotega to Nicaragua around A.D. 800, probably from the Soconusco. The settlement of the Chorotega in Granada and Masaya, beginning around 900 A.D., caused major changes in settlement patterns, lithic and ceramic technology, iconography, as well as in the economic system. Some of those changes, like the emergence of a local core blade obsidian industry, can be clearly linked to Mesoamerican practices. The Chorotega sociocultural system was part of the southern periphery of the Mesoamerican World during the Postclassic.

**Carmina, Erin [100]** *see* *Schulenberg, Janet*

**Carpenter, John (Universidad de las Américas-Puebla), Ethne Barnes, Arthur Rohn, Coral Montero (Universidad de las Américas) and James Watson (University of Nevada-Las Vegas)**

[48] *Early Agricultural Period Burials at La Playa, Sonora, Mexico*

Since 1996, investigations at the La Playa site, in Sonora, Mexico, have revealed 190 inhumations and 44 cremations of human remains. Radiocarbon dates place these remains between approximately 2500 BC and AD 1500. Preliminary analyses suggest that most burials fit into the San Pedro (ca. 1500/1200 to 800 BC) and Cienega (800 BC to AD 100/200) Phases, and represent the single largest burial population for the Early Agriculture period in the Southwest and northwestern Mexico. Mortuary behavior suggests at least two basic styles of inhumation plus the practice of cremation, while genetic indicators show at least two biologically distinct populations used the site. Sparse burial accompaniments include shell jewelry, projectile points, red ocher, and traces of perishable items.

**Carpenter, John [72]** *see* *Morales Monroy, Juan Jorge*; [72] *see* *Martínez Tagüña, Natalia*

**Carr, Philip (University of South Alabama), Andrew Bradbury (Cultural Resource Analysts, Inc.) and Amy Young (University of Southern Mississippi)**

[42] *Simulating Oldowan Tool Use*

Simulations, also known as 'thought experiments,' have a relatively long history in archaeology. Their usefulness derives not only from the results, but also from construction of the model through which assumptions concerning the behavior of variables and connections between them are made explicit. Recently, archaeologists have shown a renewed interest in simulation. Here, a simple simulation model of Oldowan tool use by early hominids is constructed. The costs and benefits are considered as are the conditions under which such tool use would be successful. The results have implications for answering questions concerning early hominid technological organization, use of home bases, and culture.

**Carr, Sorayya [169]** *see* *Robinson, Eugenia*

**Carr, Thomas (Colorado Historical Society)**

[113] *Photography and Artistic Representation in Archaeology: historical and applied perspectives*

Most people realize that archaeology and photography have a great deal in common. Archaeologists use photography to document their sites, and photographic artists use archaeological sites and artifacts as subjects. Both fields are highly investigative - dealing with the extraction of fragments from the whole of their environments. What many people don't realize is that archaeology and photography also share an interwoven history. This presentation is a review of those histories, as well as a discussion of how contemporary archaeological researchers may more effectively synthesize artistic and scientific representation into their visual images of the sites they study.

**Carroll, Jon [156]** *see* *Gaff, Donald*

**Carroll, Lynda (Binghamton University)**

[59] *Settlement Patterns in Jordan during the Ottoman Period: Preliminary Report on the 2003 Malka-Hibras Survey Project*

Settlement patterns are essential to understanding the political economy of Transjordan during the Ottoman Period. Late Islamic settlement patterns in Transjordan are often characterized by cycles of mobility and sedentarism, as people evaluated the benefits of sedentism and agricultural production under Ottoman rule, versus transhumant settlement and subsistence strategies. Using the preliminary results of the 2003 Malka-Hibras Survey Project, this paper will address the changes in land tenure systems and settlement patterns in northern Jordan, and demonstrate how settlement and subsistence was used to negotiate political and economic relationships to the Ottoman state during the 16th-20th centuries.

**Carroll, Monica [101]** *see* *Andrus, Fred*

**Carson, Mike T. (International Archaeological Research Institute, Inc.)**

[35] *Function and Evolution of Cultural Systems: Dynamic Archaeological Landscapes and Chronologies of Human Land Use Patterns*

A programmatic framework is presented to foster scholarly research and discussion of the functioning of cultural systems and how they evolve, with attention to the possibilities of archaeological research of the function and evolution of human societies. To operationalize this perspective, regional land use patterns are described in terms of systemic functional categories, and they are analyzed in a chronological dimension with consideration of changes in the natural environment and cultural system, using data from archaeological research in New Caledonia.

**Carter, Tara [71]** see Goldstein, Paul

**Casella, Eleanor Conlin (Manchester University)**

[12] *Broads, Studs and Broken Down Daddies: The materiality of "Playing" in the modern penitentiary*

Within all penal institutions, networks of black market exchange circulate both limited resources and illicit luxuries throughout the inmate population. Material objects, kinship relations and sexual encounters fuel these systems of illicit (or semi-sanctioned) barter. This paper presents some archaeological implications of such exchange. The sociology, architecture and artifactual assemblages of modern British and American prisons will be comparatively examined to illuminate the socio-sexual dynamics of the convict black market. What are the heterosexual and homosexual aspects of "trade"? How are fictive kin created through material encounters? How do patterns of resistance, coercion and collusion become materially communicated through the presence (or absence) of trade relations? Can the social world of the prison be understood as a basic exercise of exchange?

**Casson, Aksel [74]** see Frey, Carol

**Castanzo, Ronald A. (Smithsonian Center for Materials Research and Education)**

[169] *Prehispanic lime production in the area of Tepeaca, Mexico.*

The processing of lime for use in architectural construction and in the preparation of maize for household consumption was a salient feature of Mexican highlands society at the time of European Contact. In the mid-1990's, the remains of hundreds of prehispanic kilns were found in the Tepeaca area of the Puebla-Tlaxcala Basin. In the summer of 2003, through controlled surface collections and excavation, the Tepeaca Kiln Project investigated more than 80 of these kilns dating from the Formative Period through the Postclassic Period. The data have provided useful insight into pre-Columbian kiln technology and economic organization.

**Castillo, Luis Jaime (PUCP)**

[96] *Modular Museums and Community Development at San Jose de Moro, Peru*

Archaeology can contribute to the development of touristic resources and, thus to sustainable development in the local communities with archaeological potential. At San Jose de Moro, in the Jequetepeque Valley of Northern Peru, a modular museum, composed of small and low maintenance units is being developed. Because the modules are distributed throughout town, creating an internal circuit, they foster much contact areas between the tourists and the community. In addition to the museums, an "identity building program" is implemented with local elementary and middle schools. Finally, work with the community is aimed at developing products and services that generate income.

**Castillo, Luis Jaime (Pontificia Universidad Catolica Del Peru) [51]** *Discussant*

**Castro Gessner, Gabriela (SUNY Binghamton)**

[85] *Exterior Use of Space: A new perspective on household activities during the Halaf period of Northern Mesopotamia*

Considerable variation in subsistence patterns, communal layout and site size has been determined for small scale societies during the post neolithic Near East. Preliminary research from the site of Kazane in Turkey during the Halaf period (6th millennium BC) suggests that this diversity is also evident at the intra site level. In this study I review socio-economic practices for the Halaf period from the perspective of household and activity areas. I propose that households have been understudied for this time period and approach their identification and possible organization from the distribution of activities on exterior pebble surfaces.

**Catts, Wade P. (John Milner Associates, Inc.) and Barbara Chi Hsiao Silber (McCormick, Taylor and Associates, Inc.)**

[114] *Blacksmith, Mason, and Shoemaker: An Archaeological Perspective of the Enslaved Laborers at Beverwyck Plantation, Morris County, New Jersey*

Archaeological investigations at the Beverwyck Plantation have recovered material culture remains of mid- to late eighteenth century enslaved laborers. During this time, the plantation was considered to be one of the region's finest, but it only reached that high state of cultivation through the forced labor of enslaved workers, some of whom were originally from the island St. Croix in the Caribbean. Research reveals that socio-cultural links to the islands were apparently maintained. This paper examines historical and archaeological evidence of the enslaved workers at the site, focusing on the remains of one structure strongly suggestive of a quarter.

**Cecil, Leslie (Baylor University) and Timothy Pugh (Queens College/CUNY)**

[50] *Kowoj Symbolism and Technology at Late Postclassic Tipuj*

The Late Postclassic Kowoj of central Peten, Guatemala communicated their identity through a variety of architectural and ceramic traits. Kowoj-specific architecture includes a specific type of ceremonial assemblage and their ceramics include distinct styles (motifs and colors) and technologies (clay paste recipes). These characteristics contrasted the Kowoj from the Itza and Mopan who produced very different ceramics and public architecture. Tipuj, in western Belize, has ceramics and architectural traits that match those of Kowoj sites; hence, the Kowoj may have also controlled this site. The pottery also implies trading patterns between Tipuj and other archaeological sites in the Kowoj territory.

**Ceri, Howard [75]** see *Pelly, Lorine*

**Chabai, Victor [122]** see *Patou-Mathis, Marylene*

**Chacon, Richard (Winthrop University)**

[137] *Seeking The Headhunter's Power: The Quest for Arutam Among The Achuar Indians of Ecuador*

The supernatural force of arutam is believed by the Achuar Jivaro (Shiwiari) people to confer many forms of power to those individuals who possess it (especially the power to headhunt). This chapter will describe the various benefits that individuals with arutam receive and it will document the ritual that initiates undergo in an effort to obtain this supernatural force. Additionally, the effects which arutam has on individuals as well as its functions and effects on society will also be analyzed. Finally, the relationship between arutam, military leadership and the development of ranked societies will be addressed.

**Chacon, Richard [137]** *Discussant*

**Chadwick, Oliver (U. C. Santa Barbara), Tony Hartshorn and Peter Vitousek**

[54] *The Biogeochemical Context of Hawaiian Field Systems*

Geographic and biogeochemical analysis of dry-land agricultural fields attributed to pre-European contact Hawaiians provide a means of assessing the edaphic constraints that led to their siting. The field systems seldom lie in areas where present rainfall is less than 700 mm annually (lack of reliable moisture) or in areas where rainfall exceeds about 1200 mm (lack of soil nutrients). In addition all major concentrations of agricultural fields occur on older lava flows where fine-grained surface soils have formed in surface coverings of volcanic tephra. Thus, Hawaiian agriculture was strongly constrained within an age, climate and nutrient status matrix.

**Chai, Fei [163]** see *Sandweiss, Daniel*

**Chalard, Pierre [98]** see *Allard, Michel*

**Chamberlin, Matthew (Arizona State University)**

[20] *Identity and Inequality in Salinas, New Mexico during the Coalition Period*

A survey project in the Salinas region of New Mexico is aimed at evaluating the development of social differentiation prior to the formation of large, nucleated pueblos. Bounded, multiscale social identities and political hierarchies differentiate nucleated populations in Salinas in the Classic period (A.D. 1325-1600). However, the antecedents of identity and hierarchy in Coalition period (A.D. 1100-1325) populations before nucleation are not known. This paper considers evidence of ritual, exchange, and production behavior to discuss whether social differentiation existed among dispersed jacal settlements and early aggregated pueblos or was limited to the nucleated pueblos of the Classic period.

**Chamblee, John F. (University of Arizona)**

[101] *Late Prehistoric Intra-site and Regional Settlement Patterns among Interior Coastal Plain Wetlands: New Data from the Lower Chickasawhatchee Swamp, Georgia*

In the southeastern United States, late prehistoric settlements are often located within large contiguous ecosystem patches, in which wetlands are a limited and discrete resource. The Chickasawhatchee Archaeological Survey seeks to understand how the distribution of landscape patches affects settlement by conducting survey and excavations in the Chickasawhatchee Swamp, an area that contrasts with the typical situation in that landscape patches that are small and discontinuous. This poster presents new excavation and regional survey data from the lower Chickasawhatchee Swamp. Preliminary data analysis suggests that discontinuous landscape patches encourage settlement dispersal.

**Chandler, Susan M. (Alpine Archaeological Consultants, Inc.)**

[139] *Limitations of "Strip" Excavations on Linear Projects*

Archaeological data recovery on many linear projects is restricted to "strip" excavations, wherein only those portions of sites within the area of potential direct impacts are subjected to investigation. Because the areas of potential effect are usually narrow, archaeologists using such methods may be limited to portions of sites that may or may not be of scientific research value. The method greatly restricts holistic interpretation of site activities and components and may lead to misleading conclusions about site significance that reflect field methods more so than factors of erosion or deposition. Problems inherent in strip excavations are examined.

**Chang, Claudia (Sweet Briar College)**

[36] *The Archaeology of Bronze and Iron Age Pastoralism in Southeastern Kazakhstan*

The ethnoarchaeology of Eurasian nomadism suggests the presence of two mobility strategies: (1) vertical transhumance; and (2) long-distance transhumance. The archaeological data from the Bronze Age (ca. 1700 to 900 B.C.) and Iron Age (ca 800 B.C. to 100 A.D.) settlements along the alluvial fans and upland plateaus of the Zailiisky Alatau Range indicate the presence of seasonal mobility based upon the herding of cattle, sheep, goats, and horses. In the Iron Age, there is evidence for the development of a mixed farming and herding economy that resulted in demographic expansion into lowland regions.

**Chang, Claudia** [47] *see Tourtellotte, Perry*

**Chang, Lauren (National Museum of the American Indian) and Esther Chao (Peabody Museum of Archaeology and Ethnography)**

[130] *Examining Both Sides of the Manta: A case study in communication, patience, and professional biases*

This paper explores the relationship between archaeologists and conservators during the conservation in Lima, Peru of textiles from a mummy bundle excavated from Ica Valley. Initial planning transpired through remote correspondence with the assumption that all salient information was disclosed. Upon arrival in Lima, it became clear that the original investigators had advised on treatments without examining both sides of the feather manta. A new protocol and relationship formed in a more constrained environment. This paper examines how difficult situations stemming from biases, assumptions, and differences in vocabulary can be diffused with patience, understanding and respect for each other's profession.

**Chao, Esther** [130] *see Chang, Lauren*

**Chapa, Reymundo (University of Texas, Austin) and Jennifer Dornan (University of California, Los Angeles)**

[63] *Archaeology and Indigenous Resistance: The Politics of Analysis*

As archaeologists increasingly study colonial and post-colonial indigenous communities, our focus on indigenous communities and households often puts us in the position of informing the identity and history of people who at present are struggling with the affects of colonialism. These struggles often translate into modern-day indigenous movements and tend to be tied more strongly to historical period resistance movements. Thus, these movements involve clearer political agendas that stem in some part from data collected by archaeologists. Comparing a number of historical and modern indigenous movements in Central America, this paper will critically evaluate the general concepts of continuity versus change in colonial and post-colonial Mesoamerica while also exploring the potential scientific, political, and social ramifications of our work. We will conclude by exploring some of the basic theoretical and methodological questions raised by these issues.

**Chapdelaine, Claude (Université de Montréal)**

[51] *The Moche Occupation of the Lower Santa Valley and the nature of the Southern Moche State*

More than two hundred sites support the Moche presence in the Lower Santa Valley. Excavations at three sites, Guadalupito, El Castillo and Hacienda San Jose, combined with several radiocarbon dates allow us to discuss the arrival of the Moche and their relations with the local population. Two models of population movements are proposed to explain the gradual control of the Santa Valley by the Moche. The conquest may have been achieved through distinct phases, and it may not have relied only on warfare. Alternatives to explain the Moche domination of the Santa Valley are examined in the light of new data.

**Chapdelaine, Claude** [51] *see Kennedy, Greg*

**Chapman, Bob (University of Reading)**

[131] *Alternative States*

Since the early 1970s the study of state societies in Anglo-American archaeology has focused on decision-making hierarchies and information processing. The number of size levels in a settlement hierarchy principally defines early states. An alternative view of the early state, based on historical materialism, stresses exchanges of matter and energy over information, and the development of state institutions to protect class society, using concepts such as exploitation, property and coercion. This paper explores the tensions between, and implications of, these different approaches, using a case study taken from the Bronze Age in Spain.

**Charles, Douglas K. (Wesleyan University)**

[180] *Riverworld: Life and Meaning in the Illinois Valley*

The lower Illinois valley was created in the Pleistocene, and is highly structured - river, floodplain, bluffs, uplands. Plant and animal communities, products of the Holocene, are predictably distributed across this landscape. The cultural landscape of Hopewell (domestic and ceremonial) - to the extent these can be separated) is a response to the physical environment, but it is also one means through which the Hopewellians invested their world with meaning. This paper will explore the complex fabric of the Hopewellian landscape of this region. This landscape will be illuminated through a comparison with those of southern Indiana and southern Ohio.

**Charlton, Thomas H. (University of Iowa) and Cynthia L. Otis Charlton (Independent Researcher)**

[142] *Consumers, Producers, and Suppliers: A View from the Teotihuacan Hinterlands*

During the last 40 years archaeological investigations at numerous "rural" Teotihuacan period sites east and north of the great metropolis have described site functions as well as ceramic, artifactual, and architectural characteristics, using degree of similarity to Teotihuacan as a measure. Such craft production as was present in these sites was limited and probably only for local consumption, with most craft products being from Teotihuacan. The participation of such sites in the greater Teotihuacan economy went beyond consumption to coordinating the movement of raw materials and imported finished products to Teotihuacan.

**Chartrand, Joelle M. (Trent University)**

[95] *From Here or There?: A Petrographic Examination of the Volcanic Ash Ware Assemblage from Minanha*

Petrographic analysis was conducted to examine the volcanic ash ware assemblage from Minanha, Belize. Volcanic material is not known to the geology of the region, and scholars have long debated over the reasons for the widespread occurrence of ash-tempered ceramics in the ancient Maya lowlands. Research was conducted on a sample of sherds to explore 1) the geological composition of Minanha's ash wares, 2) the utilization of this material in the practice of specialized craft production, and 3) how formal, decorative and geological variation and/or homogeneity may relate to ceramic spheres of trade and influence.

**Chase, Arlen F. (Univ. of Central Florida)** [95] *Discussant*; [50] *see Chase, Diane Z.*

**Chase, Diane Z. (University of Central Florida) and Arlen F. Chase (University of Central Florida)**

[50] *The Ever-Changing Maya: Postclassic Adaptations in the Archaeological Record*

Ancient Maya religion and worldview were flexible and adaptive. The incorporation of Spanish religious practices into Maya society represented only one of a long litany of transformations. Postclassic Period Maya archaeological data provide much religious symbolism that can be used

to reconstruct a Maya worldview and cosmology. Archaeological data from Santa Rita Corozal, Belize demonstrate that Postclassic lowland religion had already undergone conversion, hybridization, and revitalization from preceding Classic Period practices. Archaeology and iconography not only permit insights into the transformations of Postclassic Maya society and religion, but also are suggestive of the trajectory taken after the Spanish Conquest.

**Chavez, Sergio (Central Michigan University)**

[136] *The Archaeology and Ethnography of Maize Cultivation in the Titicaca Basin*

My paper deals with the archaeological background for maize cultivation in the Lake Titicaca Basin during the Yaya-Mama Religious Tradition (ca. 800 BC-AD 400). Likely as a result of lack of preservation, flotation samples failed to detect maize during this period. Hence, phytolith analysis derived from food residues in cooking vessels proved to be an important alternative by providing positive identification of maize use and cultivation in the region. Additional ethnographic data will be provided to document for the first time an extensive maize cultivation in the region at altitudes ranging from lake-level to 4200 m.

**Chazan, Michael (University of Toronto) and Liora Horwitz (The Hebrew University)**

[122] *Assessing the Lower Paleolithic/Early Stone Age Butchery Toolkit*

Several Lower Paleolithic/Early Stone Age sites in Europe and Africa consist of a clear association of stone tools with a single animal carcass. These sites are used to assess the range of toolkits used in butchery during this time period. Results are extended to palimpsests where lithics are associated with several carcasses, allowing for the development of a model of the range of toolkits used in the processing of single carcasses. This model will allow us to assess the degree to which we can approximate the number of carcass processing events that took place on sites where fauna is not preserved.

**Cheetham, David (Arizona State University/New World Archeological Foundation, Brigham Young University) and Thomas A. Lee, Jr. (Centro de Estudios de Mexico y Centroamerica, Universidad de Chiapas Y Artes de Chiapas)**

[169] *Early Zoque Pottery at Chiapa de Corzo: Sequence, Tradition, and External Ties*

Chiapa de Corzo is widely recognized as one of the most important Precolumbian communities in Southern Mesoamerica, yet its ceramic sequence remains largely unpublished. Here, we introduce the first five ceramic complexes of Chiapa de Corzo, a revised sequence spanning the community's humble village beginnings (c. 1200 bc) through its role as the region's most prominent city (c. 700-500 bc). The co-occurrence of a planned civic-ceremonial building program with a blending of Middle Formative indigenous Zoque and Gulf Coast Olmec pottery traditions is accorded particular attention. The distribution of imported pottery and a possible locus of resident foreigners are presented and discussed.

**Chen, Xingcan [15] see Rosen, Arlene**

**Chenery, Carolyn [13] see Budd, Paul; [13] see Hughes, Susan S.**

**Cheng, Li [86] see Benz, Bruce F.**

**Cherry, John F. (University of Michigan)**

[172] *The Case for High-intensity Survey in the Mediterranean*

Recent survey methodologies in the Mediterranean have generally trended towards ever-increasing intensity, emphasizing the careful measurement of 'walker effects,' variation in the obtrusiveness of artifacts of different dates, ground visibility, and, especially, of 'off-site' distributions. The inevitable penalty for increased labor costs is much-reduced geographical coverage, leading to charges that Mediterranean survey has become myopic and incapable of addressing worthwhile regional research goals. Data from the Nemea Valley Archaeological Project (Greece) are used to exemplify benefits and drawbacks of high-intensity survey, along with defects in the widely-accepted notion of 'full-coverage survey' and of the site as a self-evident analytical entity.

**Chhem, Rethy (London Health Sciences Centre)**

[167] *Multidetector CT Examination of Thalassemia in 500 year-old skeletons from the Cardamons,*

Four 500 year-old skulls, with possible signs of Thalassemia, were selected from a burial jars site, located in the Cardamon mountains in southeast Cambodia, for multidisciplinary investigation. This study includes physical and radiological examinations. A DNA study is under-way. The

prevalence of Thalassemia is high in mainland Southeast Asia's extant population. We report the radiological findings that include both plain films and Multidetector CT (Computed Tomography) and discuss the role of radiology in the diagnosis of Thalassemia in ancient bones.

**Chiarulli, Beverly (Indiana U of PA), Michael Glascock (U. Missouri), Paul Raber (Heberling Associates) and Chris Stevenson (Virginia Historic Preservation Office)**

[29] *The Use of Neutron Activation Analysis to Source Cherts in Western Pennsylvania*

One approach to chert sourcing has been to develop chemical characterizations of chert types through Neutron Activation Analysis. In this project, we used NAA to characterize chert samples from quarries in Pennsylvania and surrounding states. The second consisted of an analysis of samples from late Prehistoric sites. The objective of the project was to determine if the samples from prehistoric sites could be as successfully identified as those from quarries. The initial results have identified several problems with the use of NAA in this region, but suggest that this method has potential to increase our ability to source cherts.

**Chicoine, David (Sainsbury Research Unit, University of East Anglia, UK)**

[51] *The Moche in the Nepeña Valley: A View from Huambacho*

The Moche occupation of the Nepeña Valley has not yet been systematically investigated, and although often referred to as the "southern limit" of the Moche geopolitical expansion, few data are currently available to gauge the presence of the Moche in this particular valley. In the summer of 2003, excavations conducted at Huambacho, a large architectural complex located in the lower Nepeña Valley, have revealed Moche material remains. In this paper, ceramic and architectural evidences from Huambacho will be examined in order to define the nature of the Moche presence on the site. On a broader level, the Huambacho data will be discussed in an attempt to shed light on what occurred in the Nepeña Valley in relation with Panamarca during the latest stages of Moche cultural developments.

**Chilton, Elizabeth (U Mass - Amherst)**

[111] *Understanding the Timing and Effects of the Adoption of Maize Horticulture in Pre-Contact New England*

It is generally accepted by New England archaeologists that maize horticulture was introduced into the region by approximately A.D. 1000. This interpretation is supported primarily by radiocarbon dates from wood charcoal associated with cultigens and by analogy to other subregions of eastern North America, where there is an increase in the archaeological visibility of maize beginning around A.D. 800. New AMS dates directly on maize suggest that it may not have become prevalent in New England until about A. D. 1300. These findings have important implications for understanding the relationship between subsistence change and cultural complexity in the region.

**Chilton, Elizabeth [65] Discussant**

**Chippindale, Christopher [40] see Soderland, Hilary**

**Chisholm, Brian (University of British Columbia) and Michael Blake (University of British Columbia)**

[86] *Diet in prehistoric Soconusco -Was there sushi in Mexico?*

Stable isotopic evidence has been used in reconstructing prehistoric diet in Mexico's Soconusco region. Previous work yielded problematic results so further sampling and analysis were carried out. Values for Chantuto Phase people fall into the range of maize eaters however, values for people from the more recent Barra through Cuadros phases indicate a diet with little or no maize. People from subsequent phases appear as maize eaters. Brackish water shrimp yielded values similar to maize. Possibly Chantuto people did not eat maize in any quantity, but ate shrimp instead.

**Chomko, Stephen A. (Valles Caldera Trust)**

[9] *Historic Preservation at the Valles Caldera National Preserve*

The Valles Caldera National Preserve, in the Jemez Mountains of central New Mexico, was purchased in 2000 by the Federal government to protect natural, cultural and recreational values and to provide for multiple use and sustained yield of renewable resources within the Preserve. A multidisciplinary approach to resource management, guided by consultation with Native American tribes and pueblos, State Historic Preservation Officer, and the public identifies the theoretical background and methodologies required for recreational development, continued ranching, and

long term protection of cultural resources.

**Chowaniec, Roksana (Institute of Archaeology, University of Warsaw)**

[109] *The Wielbark Cemetery: Continuities and Discontinuities in Polish History*

The Wielbark-culture's cemetery in Krosno was discovered in 1896. The first excavation, in 1897 was by German archaeologists from Königsberg. More recently the site was excavated from 1980 to 1988 by a team from Warsaw University. This project was continued in 2002 and in 2003 with archaeologists from Hunter College, CUNY. Among the skeletons and ash graves, are approximately 200 hearths with Wielbark pottery but no grave goods and bones in only one. An attempt to determine their purpose among the graves, has raised questions of cultural continuity and discontinuity which parallel the history of Poland itself.

**Choyke, Alice (Aquincum Museum) and Jorg Schibler (University of Basel)**

[79] *The Study of Bone Tools and the Archaeozoological Perspective: Central European Research.*

In the 1970s, a group of archaeozoologists in Central Europe began to regularly study ancient worked bone. Over the years the corpus of bone tool reports has grown and along with it an understanding of how choice of raw material reflects availability, tool manufacture traditions, the relative importance of the task tools were used in, and group identities. Manufacture sequences, evident use wear, and the taphonomic situation of individual artifacts have also become part of the regular analyses. Examples will be drawn from prehistoric assemblages in the Carpathian Basin and Switzerland.

**Chrisomalis, Stephen (University of Toronto)**

[105] *Diachronic Comparison: An Archaeological Method for Cross-Cultural Research*

While most anthropological cross-cultural research is conducted within a neo-evolutionist theoretical framework, archaeologists have rarely contributed to comparative anthropology. Because of the nature of their database, socio-cultural anthropologists normally use synchronic ethnographic data to develop inferential evolutionary histories. Archaeological data, which are often diachronic, are well suited to the diachronic comparison of processes of change rather than the synchronic comparison of societies. While diachronic comparison is not new to archaeology, it remains unintegrated into the subfield of comparative anthropology. Diachronic cross-cultural methods allow archaeologists to test synchronically derived theories and to search for regularities in the processes of social change.

**Christiansen, John (Argonne National Laboratory) and Mark Altaweel (University of Chicago)**

[54] *Simulation of Natural and Social Process Interactions in Bronze Age Mesopotamian Settlement*

New multi-model simulations of Bronze Age Mesopotamian settlement system dynamics, using advanced object-based simulation frameworks, are addressing fine-scale interaction of natural processes (crop growth, hydrology, etc.) and social processes (kinship-driven behaviors, farming and herding practices, etc.) on a daily basis across multi-generational model runs. Key components of these simulations are representations of initial human populations that are demographically and socially plausible, and detailed models of social mechanisms that can produce and maintain realistic textures of social structure and dynamics over time. The paper describes the simulation framework and presents results of initial studies highlighting its social system representations.

**Christie, Jessica (East Carolina University)**

[117] *The Sculpted Outcrops of Copacabana, Bolivia*

Copacabana was the most important Inca pilgrimage center on the route from Cusco to the Island of the Sun in Lake Titicaca. Archaeological excavations have been limited because of the present town but many carved boulders are accessible. I will reconstruct some aspects of the Inca pilgrimage center by focusing on these sculpted outcrops. The methodology includes a formal and spatial analysis, ethnographic sources, and archaeological data where available. I argue that some carved rocks were not only shrines but also counting devices to keep records of the number of pilgrims and their offerings.

**Chuchiak IV, John F. (Southwest Missouri State University)**

[50] *De Descriptio Idolorum: An Ethnohistorical Examination of the Production, Imagery, and Functions of Colonial Yucatec Maya Idols and Effigy Censers, 1540-1700*

This paper attempts to analyze the ethnohistorical and colonial documents relating to the production, imagery, and uses of Yucatec Maya idols and effigy censers. By means of using previously unknown documentary sources, the paper will attempt to shed light on the nature of the fabrication, the religious and ritual imagery, and the ceremonial uses of terracotta or clay effigy censers from the Yucatan Peninsula. The paper hopes to offer archaeologists and historians alike with new insight into these little studied yet important artifacts of Post-Classic and colonial Maya culture.

**Ciaraldi, Marina (University of Coventry)**

[109] *The Role of Food in the Definition of Cultural Identity*

Food can be as important an element of cultural identity as other domains of material culture. The way in which foods are experienced by human populations is embedded in social convention. Food is often used as a symbol, acquiring special meanings for members of a group. It is in this way that food contributes to the definition of the identity of past and modern societies. Using archaeological and modern case studies from Italy and England, I will examine the role of food as an element of social unity for displaced populations and the changes of its symbolic representation over time.

**Cidalia, Duarte (Instituto Português de Arqueologia)**

[52] *Dealing with death (Neolithic mortuary practices in SW Europe)*

The importance of the 'megalithic phenomenon' in the Iberian Peninsula has long been recognized. Biological data, however, have been separated from most research approaches. Using information from actualistic studies in human taphonomy, two sites have been tested for body manipulation and dislocation in SW Iberian Neolithic/Chalcolithic. Both sites were used around 3,000 BC but they are morphologically distinct – one natural cave and one passage grave. In spite of these burial structural differences, data from human remains substantiate the hypothesis that bodies were manipulated and moved before they reached their final location.

**Cilingiroglu, Altan [8] see Speakman, Jeff**

**Ciolek-Torrello, Richard [15] see Onken, Jill**

**Cipolla, Lisa (University of California, Santa Barbara) [77] Discussant**

**Claesson, Stefan (Institute for Maritime History)**

[177] *Mapping Paleo-Coastlines and Cultural Resources in Boston Harbor, Massachusetts*

In 2001, the Institute of Maritime History in conjunction with the Center for Coastal and Ocean Mapping, through a combination of low-altitude aerial photography and high-resolution multibeam sonar, mapped the topography of Rainsford Island, one of 34 islands located in Boston Harbor, Massachusetts. This paper presents the array of archaeological, remote sensing, and Geographic Information System techniques that were used to 1) map Rainsford Island, 2) identify and assess its cultural resources, 3) build sensitivity models to examine the potential for submerged prehistoric sites, and 4) determine the impact of human and natural factors on the island's archaeological resources.

**Clark, Bonnie (University of Denver)**

[157] *Sidetrips on the Road to Gender*

For many archaeologists, feminist convictions led us to be interested in pursuing a gendered archaeology. Yet sometimes, in the pursuit of a gendered past, we find that other axes of difference, ones that those same feminist convictions made more visible, are more critical issues for the research at hand. This paper will use a recent historical archaeological project in the American Southwest to show how feminist-oriented research both can lead us to, but also beyond, an engendered past.

**Clark, Jeffrey (Center for Desert Archaeology)**

[135] *Migration and Shifting Identities in the Lower San Pedro Valley, Southeastern Arizona*

During the 13th and early 14th centuries A.D., two distinct groups migrated into the lower San Pedro Valley. The earlier migrants from east-central Arizona were rapidly integrated into local irrigation communities. The later migrants, from northeastern Arizona, remained segregated from local groups, at least initially. Relations between both groups included conflict and exchange. Despite this influx of people, the 14th century marked by a gradual decline in population. By the early 15th century, the few remaining settlements were inhabited by the descendants of both local

and migrant groups who after several generations of co-residence had formed a new identity.

**Clark, Jennifer [32]** *see Royer, Danielle*

**Clark, John [93]** *see Pye, Mary*

**Clark, John E. (BYU)**

[22] *Mesoamerica's First State: The Case for San Lorenzo*

The only known pristine state for Mesoamerica arose in the lowland tropics at San Lorenzo about 1200 BC. This early Olmec state was short-lived, but it established basic practices and props of social stratification and state governance, and the historic memory of such, which were critical centuries later in developments of secondary states among the Zapotecs, Maya, and Teotihuacanos. I consider the strongest arguments for and against an early state at San Lorenzo.

**Clark, John E. (Brigham Young University) [142]** *Discussant*

**Clark, Tiffany (Arizona State University) and Suzanne Eckert (Arizona State University)**

[72] *The Importance of Avifauna in Pueblo IV Ritual Systems: A Case Study from the Lower Rio Puerco, New Mexico*

This study examines the role avifauna played in the ritual systems that developed in the fourteenth century Rio Grande region. Faunal data from Pottery Mound and Hummingbird Pueblo document increased ceremonial use of wild birds in the lower Rio Puerco area during the early Pueblo IV period. Iconographic studies of glaze-decorated pottery and kiva murals also illustrate the importance of bird motifs in this newly adopted ritual system. Examination of avifauna from other Rio Grande sites suggests that ideological developments observed in the lower Rio Puerco at this time are similar to those witnessed in other parts of the Southwest.

**Clayton, Lucy (Binghamton University) and Marie Marley (Binghamton University)**

[59] *The Daily Grind: Classifying and Interpreting Groundstone in the Ancient Near East*

The examination and interpretation of groundstone tools in archaeological research in the ancient Near East is notably lacking. Often these tools are not even collected during excavation. While the need to collect and investigate these materials is key, a more important factor to be examined is the importance of these tools to the people that used them and how the tools relate to the daily activities that shaped their lives, such as the preparation of food, medicines and ritual materials. The Halafian site of Fstk Höyük, Turkey, is examined as a case study.

**Cleghorn, Naomi (State University of New York at Stony Brook) and Dr. Curtis Marean (Institute of Human Origins, Dept. of Anthropology, State University of Arizona)**

[55] *Identifying the skeletal elements useful for behavioral analysis*

The widely varying resistance of bones and bone portions to destructive processes leads to an equifinality in the interpretation of behavioral data from archaeological contexts. A synthesis of bone density, actualistic element destruction, and ethnoarchaeological data suggests that the skeleton can be divided into two sets of varying analytical utility. One set allows valid comparisons between archaeological skeletal element profiles and independently derived models of human transport and discard behavior. The other does not allow such comparisons, but is useful for gaining general taphonomic information. Element counts underlying these data must be sensitive to density and nutrient gradients within elements.

**Cleland, Charles E. (Michigan State University) [63]** *Discussant*

**Cleveland, Elaine [179]** *see Two Bears, Davina*

**Clifton, Julia (Museum of New Mexico), Tim Maxwell (Museum of New Mexico), John Torres (Museum of New Mexico), Chris Turnbow (Museum of New Mexico) and Laurel Wallace (New Mexico Department of Transportation)**

[102] *Roads to the Past: 50 Years of New Mexico Highway Archaeology*

The first highway archaeology project in the United States appeared in New Mexico in 1954. Many professional and legal precedents quickly arose and guided the development of similar programs and laws throughout the country. The poster highlights: (1) the major New Mexico projects of the past 50 years and their contribution to our understanding of Southwest prehistory; (2) the creative and collaborative activities of the Museum of New Mexico and the New Mexico Department of Transportation in archaeological site management; and (3) the impact of the program on archaeological site protection in the United States.

Clish, Andrew [130] *see* Maltby, Susan L.

**Close, Angela E (U of Washington)**

[57] *Chaîne-opératoire analysis of a Northwest Coast lithic assemblage*

The 'basalt' assemblage is from a late prehistoric (ca. AD 600) site (45-SJ-24) on San Juan Island, Washington. The chaîne-opératoire analysis follows the life-histories of artifacts from material procurement to final discard. Unworked pebbles were brought to the site. They had little or no preparation before serving as cores, flaked by hard-hammer direct percussion. Some preferred flakes with cortical backs were used in various ways, resulting in 'scaled pieces'; others were probably used for cutting. Other flakes were minimally retouched by direct percussion into triangles (points). Scaled pieces and triangles occur in different areas of the site.

**Cluney, Christine (McMaster University)**

[3] *Variability in the Use of Marine Fauna at an Early Ceramic site, Antigua, West Indies*

Excavations at Doig's, an early Saladoid (Ceramic Age) coastal site in Antigua, West Indies yielded a large number of marine faunal remains. Analysis of these remains show the extent of variability in the average size and abundance of fish, shellfish and crab over time and space. This information is used to assess the contribution of marine resources to the diet, the types of fishing technology involved in capture, and whether or not Saladoid populations had a deleterious effect on marine resources.

Coates, Jack [100] *see* Van Nest, Julieann

**Cobb, Charles (Binghamton University)**

[78] *Producing Mississippian Places: Landscape as Chaîne de Travail*

Variation between Mississippian centers in southeastern North America can be attributed to the interplay between broadly held views about the organization of space on the one hand, and local histories on the other. Here, I contrast several Mississippian sites by their so-called "life histories," focusing on how they manifested divergent arcs of establishment and afterlife. The production of plaza and earthwork arrangements unfolded as a Chaîne de travail, where social labor was integrated with forms of spatial discipline rooted in secular and ritual realms. Mississippian places can be viewed as the product of an uneven series of accommodations and conflicts between interest groups.

Coben, Lawrence (University of Pennsylvania) [96] *Discussant*

**Coben, Lawrence (University of Pennsylvania)**

[133] *Theater Nexuses: Performance and Power Strategies in the Inka Empire*

This paper studies the role and use of spectacle and public performance by the Inkas and other elites and non-elites in the Andes as a strategy to create, maintain and manipulate power relations. The maintenance, modification, combination and elimination of performance types and traditions will be analyzed utilizing ethnographic and archaeological data in order to demonstrate the importance of such performance as strategies of conquest, alliance building and identity maintenance. Peircean replication will not be mentioned (much).

**Cobos, Rafael (Tulane University)**

[21] *Rejolladas and Their Function as Ancient Gardens at Chichén Itzá*

Studies on ancient Prehispanic communities of Mesoamerica suggest that they were linked to the practice of agriculture. In the lowlands of Mesoamerica, the spatial component of Maya sites reveals that they integrated a zone of settlement agriculture along with monumental architecture with vaulted edifices, domestic units, residential structures, monumental art, and causeways. This paper analyzes such a zone of settlement agriculture at Chichén Itzá. Relying upon archaeological, historical, and ethnographic data, it is suggested that dry depressions within that zone were used as house-lot gardens when the city flourished at the end of the Classic period in central Yucatán.

Cochrane, Ethan (University of Hawaii) [128] *Discussant*

**Cochrane, Ethan (University of Hawaii)**

**[35] *Explaining the Evolution of Cultural Diversity : Analyses of Ancient Ceramics in Fiji***

To explain the evolution of culture diversity, archaeologists must identify descent relationships among populations. But what kind of archaeological data reflect descent. This poster presents multiple analytical methods-compositional, decorative, and technological analyses - applied to Fijian ceramics to generate data on descent relationships and explain the evolution of cultural diversity. S ... compositional groups across assemblages help define the spatio-temporal boundaries of human populations. Descent relationships populations are tracked through distribution of decorative and technological similarities across compositional groups. Some similarities indicate population relatedness, while others suggest processes of convergence or changes that may confound assessments of cultural relatedness.

**Cock, Guillermo [147]** see *Gaither, Catherine*

**Cohen, Amanda (UCLA) [77]** *Discussant*

**Colas, Pierre R. [49]** see *Brady, James E.*

**Cole, Stephen C. (Tennessee Valley Authority)**

**[11] *Blank Portability vs. Distance Attrition: Methodological Considerations***

The potential of lithic raw material composition to inform about raw material use and technological efficiency has not been fully exploited. I propose a new method for examining whether non-local raw materials were curated more intensely than local raw materials. The method focuses on the question of blank portability, and uses inter-raw material comparisons involving blank size, blank type, and the presence/absence of retouch. This method can be used to differentiate between the blank portability hypothesis and the distance attrition hypothesis. Results from a study of assemblages dating to mid- to late  $\delta 18O$  stage 3 are presented.

**Coleman, Dwight (Institute for Exploration)**

**[177] *Sinkhole Surveys in Northwestern Lake Huron for Prehistoric Underwater Archaeology***

The Great Lakes region has high potential for containing significant prehistoric underwater archaeological sites. A shipwreck mapping and exploration survey was conducted in Thunder Bay National Marine Sanctuary in northwestern Lake Huron, off Alpena, Michigan during the past several summers. In addition to the shipwrecks, a number of submerged sinkholes were imaged using side-scan sonar and further explored using remotely operated vehicle systems. These sinkholes, which are found in both shallow and relatively deep water, lie along a geologic formation that extends across a submerged Holocene paleoshoreline. One sinkhole contained interesting deposits of wood and stone ecofacts that are currently being analyzed for their archaeological significance.

**Coleman, Robin (Northwestern University)**

**[71] *Food and Society: using soil analysis to understand household activities and social relations***

Adapted from recent Mesoamerican studies, this project collected soil samples from 'traditional' modern house floors as a means of understanding household activity spaces of the past. Inductively Coupled Plasma-atomic Emission Spectroscopy (ICP/AES) analysis identifies chemical signatures of modern known activities, such as animal slaughter, maize and aji processing, and food consumption, which can then be linked to unknown activities and behaviors of the past. This paper discusses the results of this past-present comparison; it also provides a coarse analysis of differences between elite and commoner household food production and consumption activities during the Middle Horizon in the Upper Moquegua Valley.

**Coles, Alicia [156]** see *Drexler, Carl*

**Collard, Mark [2]** see *Glaude, Matt*; **[62]** see *Kemery, Michael*

**Collins, Michael B. (The University of Texas Austin) and Bruce B. Bradley (University of Exeter)**

**[138] *Clovis Lithic Artifacts from the Gault Site, Texas***

Clovis lithic artifacts recovered from the Gault Site, Texas, constitute a sample of tool forms and uses as well as technological details of their production. Abundant, high-quality Edwards chert occurs at the site. Clovis knappers produced bifaces and tools on bifaces, prismatic blades and tools on blades, flakes and tools on flakes. Debitage is abundant. Exotic stone is extremely infrequent. The array of tools, details of their manufacture, abundance of debitage, and attrition

and wear exhibited by the tools all suggest that Gault was used repeatedly and extensively by Clovis foragers engaged in a wide variety of activities.

**Collins, Michael B.** [138] see *Wernecke, D. Clark*; [138] see *Driver, Jeana L.*; [138] see *Lohse, Jon C.*

**Collins, Michael** [138] see *Forman, Steven*

**Colson, Alicia (McGill University)**

[18] *Pictographs - the perils of interpretation.*

Archaeologists of the Boreal Forest do not acknowledge the challenges inherent in interpreting the pictographs of the region. Standard techniques for recovering, cataloguing and analysing data cannot be fruitfully invoked. Scholars have sought refuge in other forms of evidence. A critical exegesis of the literature supported by extensive fieldwork in the Lake of the Woods indicates that the cultural context of the scholar has overly influenced interpretation. There has been no explicit distinction between description and low-level interpretation. The images on the Lake of the Woods are deceptive in value since they were probably manipulated to suit their varied audiences.

**Coltrain, Joan Brenner (University of Utah), M. Geoffrey Hayes (University of Chicago) and Dennis R. O'Rourke (University of Utah)**

[62] *Resource Choice in the Eastern Canadian Arctic: Whaling and its Role in Prehistoric Economies*

The role of bowhead whales (*Balaena mysticetus*) in eastern Arctic economies has been a topic of particular interest over the past two decades. Although bowheads are rarely included in faunal assemblage counts, their mandibular elements and ribs commonly form the superstructure of Classic Thule winter houses. Yet, the relative contribution of bowhead whale predation to Thule dietary intake is the subject of ongoing debate. Here we report a reconstruction of eastern Arctic diets from the bone collagen, stable isotope chemistry of AMS radiocarbon dated Dorset, Thule and proto-historic skeletal remains.

**Colwell-Chanthaphonh, Chip (Center for Desert Archaeology) and T. J. Ferguson (Anthropological Consulting, LLC)**

[102] *When Landscapes are History and Sites are Monuments: Archaeology and Native American Ethnohistory in the San Pedro Valley*

The San Pedro Valley of southeastern Arizona has been home to generations of Native Americans, the ancestors of the Tohono O'odham, Hopi, Zuni, and Western Apache. The material remains of these peoples endure into the present, allowing archaeologists to investigate past lives and cultures. Many contemporary Native Americans, in contrast, value ancient places as monuments to their forebearers that foster self-knowledge and honor ancient lifeways. Archaeological sites are integral to a complex landscape in which history is inscribed, revealing stories of the ancestors. This poster explores the findings of a three-year collaborative ethnohistory project with these modern tribes.

**Conard, Nicholas J. (Universitat Tubingen) and Andrew W. Kandel (Universitat Tubingen)**

[55] *Wetting and drying, heating and cooling, and other reasons why simplistic density based models of bone survivability do not always work.*

While in many settings high density bones and fragments of high density bones preserve better than softer, low density bones, this is by no means always the case. In arid settings with large daily and seasonal changes in temperature and moisture, dense bones and teeth often fragment and exfoliate more quickly than vertebrae, pelves and other lower density skeletal parts. This paper illustrates these processes using examples from the Geelbek Dunes of the Western Cape Province of South Africa.

**Condon, Peter C. (Eastern New Mexico University)**

[75] *Examining Spatial and Technological Variation at the Clovis Type Site: The 1963-1964 Spring Conduit Excavations*

This poster presentation summarizes the results of spatial and technological analyses of the lithic assemblages recovered during the 1963-1964 Spring Conduit excavations, Blackwater Locality No.1. Spatial analyses examined the artifact distribution within four stratigraphic deposits associated with three late Pleistocene/early Holocene spring conduits. Patterns in artifact distribution were correlated with hydrodynamic activity for each of the three springs.

Technological variation was measured through an attribute level analysis and focused on Clovis and Folsom aged deposits. Shifts in lithic technology, material selection, and interassemblage

composition between the Clovis and Folsom assemblages are discussed.

**Conkey, Margaret (University of California, Berkeley) [157] *Discussant***

**Conlee, Christina (UC Santa Barbara)**

[44] *The Emergence of Institutionalized Inequality in Late Prehispanic Nasca*

There was a long development of sociopolitical inequality in the Nasca region of Peru. By late prehispanic times the region had seen the emergence of a complex regional polity, conquest by an expansive state, the collapse of state control, and the redevelopment of a regional polity. With reorganization came an expansion in the positions of inequality, and elite authority appears to have become more institutionalized and legitimized than in previous periods of regional development. However, leadership was not truly institutionalized; instead the social and political hierarchy was in the process of transforming when the Inca conquered the region.

**Connell, Sam [184] *see Gifford, Chad***

**Connell, Samuel (CILHI), Chad Gifford (Columbia) and Ana Lucia Gonzalez (GANDA)**

[4] *Remote Sensing at the Pambamarca Fortress Complex in northern Andean Ecuador*

This poster will be the presentation of remote sensing data and geospatial analysis of settlement patterning at Pambamarca along the intense Inka-Cayambe frontier in the northern Ecuadorian Andes. Utilizing the triad of resistivity, magnetometry and ground penetrating radar proved very successful for identifying subsurface architecture and features at a series of fortresses at Pambamarca. Incorporation of the data onto a GIS base map enables the interpretation of long-term frontier dynamics during the incredible Cayambe resistance of the Inka invasion.

**Conyers, Lawrence (University of Denver)**

[15] *Ground-penetrating radar for understanding buried cultural and environmental remains at Ceren, El Salvador*

Ground-penetrating radar data were used to define the 7th century living surface buried by more than 5 m of volcanic tephra. House platforms from an agricultural village were defined as well as maize fields and a central plaza, surrounded by structures related to communal activities. The ancient landscape was found to be complex, with many small river channels, the banks of which were in the process of being excavated for building-clay when the volcano erupted, covering the site with ash. More than 30 structures were discovered by GPR mapping, most of which will never be excavated, but GPR allows their probable functions to be determined.

**Cook, Anita (The Catholic University of America) [71] *Discussant***

**Cook, John [8] *see Glascock, Michael***

**Cook, Robert (Michigan State University)**

[156] *Fort Ancient Village Formation and Structure: A Spatial Analysis of the SunWatch Site*

Fort Ancient studies have largely focused on macro-scale or regional changes in settlement patterning and interaction. The SunWatch site, located in southwestern Ohio, provides a unique opportunity to examine micro-scale dimensions associated with Fort Ancient household and village growth during the peak of Mississippian developments in the Midwest (1200-1400 A.D.). This paper presents a spatial perspective of the site, demonstrating the utility of a combined exploratory, geo-statistical, and rule-based approach. Resulting temporal and spatial divisions are summarized and statistically examined, with potential social models briefly outlined.

**Cooke, Richard (Smithsonian Tropical Research Institute (Panama))**

[81] *Discussant*; [136] *see Holst, Irene*

**Cooke, Richard G. [92] *see Pearson, Georges A.***

**Cooper, Judith (Southern Methodist University)**

[75] *Technological and Refitting Analyses at 5GN149, a Lithic Workshop with Possible Paleoindian*

5GN149, a quartzite workshop outside Gunnison, Colorado, has produced large bifaces, blades, and overshot flakes. Although the assemblage is reminiscent of Clovis, no diagnostics are present and it has not been possible to date the site. The material is primarily on the surface, the

majority of which occurs in several distinct chipping clusters. In 2003, Cluster 1 underwent 100% surface collection, yielding nearly 2000 mapped items. Refitting of Cluster 1 was undertaken as a means of reconstructing technological strategies in use at the site with the objective of resolving its age. A GIS-based model aided in this refitting exercise.

**Copeland, Cynthia R. [109]** *see diZerega Wall, Diana*

**Copeland, James [90]** *see Towner, Ronald*

**Cordell, Linda (University of Colorado) [20]** *Discussant*

**Cordero, Maria-Auxiliadora [35]** *see Scaglione, Richard*

**Cordova, Carlos [59]** *see Nowell, April*

**Cordy, Ross [132]** *see Kolb, Michael*

**Cortez, Rosa [147]** *see Sutter, Richard*

**Costa, Fernando W. da Silva [168]** *see Arroyo-Kalin, Manuel A.*

**Costa, María Antonietta [147]** *see Torres-Rouff, Christina*

**Costamagno, Sandrine (CNRS), Lilianne Meignen (CNRS), Bernard Vandermeersch (Université de Bordeaux) and Bruno Maureille (CNRS)**

[122] *Les Pradelles (Marillac-le-Franc, Charente, France): a reindeer hunting camp?*

The site of les Pradelles comprises an important Mousterian stratigraphic sequence. In the lower levels, the very low density of artefacts and carnivore scavenging of carcasses abandoned by Neandertals indicate short-term human occupations; the introduction of finished tools (made on non local good quality flint), highly curated, together with an expedient strategy on local flint, suggest a task-specific location, in a low mobility pattern. The abundance of individual prey (mainly Reindeer) underlines the preponderance of hunting activities. Among the butchery activities highlighted at the site, the abundance of filleting marks may be an indication of the processing of meat for transport to another settlement.

**Costin, Cathy (California State University, Northridge) [142]** *Discussant*

**Costion, Kirk (University of Pittsburgh), Veronique Belisle (University of Michigan) and Ana Miranda (Museo Contisuyo)**

[71] *Wari Ceramics at Cerro Baul: A First Look at Function and Space*

In this paper the preliminary results from the first comprehensive analysis of ceramic artifacts excavated at Cerro Baúl will be presented. This analysis was conducted by analyzing diagnostic ceramic fragments from multiple contexts that included structures on both the summit and slopes of Cerro Baúl. These structures represented both elite and commoner contexts. The goal of this study was to understand room function as reflected by ceramic artifacts and this was achieved by concentrating on the morphological, technological, and stylistic aspects of the ceramics. Particular emphasis was placed on morphology because this aspect most clearly relates to functionality.

**Coupland, Gary (University of Toronto)**

[44] *Practising Leadership on the Northwest Coast*

Traditional approaches to the study of rank society on the Northwest Coast are inadequate because they fail to take account of the social practices that created and reproduced leadership and power. In this paper, I use household archaeology to examine strategies would-be Northwest Coast leaders used to consolidate their positions. Social rules associated with leadership were developed and reproduced in the context of daily practices and routines within the house. Some practices, such as feasting and long distance trading have a long history on the Northwest Coast, and may reflect attempts at different times and places to "make" leadership. But evidence of change in the habitus associated with permanent leadership probably only dates to within the last 2,000 years.

**Couture, Nicole (University of Chicago) [77]** *Discussant*

**Couture, Nicole (University of Chicago)**[160] *Politics and Politesse: Courty Society at Tiwanaku (Bolivia)*

This paper focuses on the production and representation of power and self-identity among elite status groups at different points within the long-term history of the Tiwanaku state (ca. A.D. 600-1150). Analyses of architectural patterns, as well as material remains recovered from both domestic and ritual contexts point to the emergence of an increasingly exclusive and inaccessible elite - if not the establishment of noble and royal dynasties. These elite groups cultivated a unique lifestyle and material culture in which cosmopolitan tastes and a courtly etiquette were inculcated in order to promote social differences and maintain social distance.

**Cowan, Frank L. (F. Cowan & Associates), Marge Schroeder (Illinois State Museum), Ted S. Sunderhaus (Cincinnati Museum Center) and Robert A. Genheimer (Cincinnati Museum Center)**[180] *How Reliant were Ohio Hopewellian Populations on Domesticated Plants?*

Ohio Hopewellian populations cultivated and consumed domesticated plants, but it remains unclear how central a role these plants actually played in the subsistence economy. Initial analyses suggested a strong dependence on domesticated plants and a subsistence settlement system based on sedentary farming. New data from Fort Ancient and Stubbs Earthworks suggest that the abundance and ubiquity of cultivated plant remains in many Hopewellian deposits may be much lower than previously predicted.

**Cowgill, George (Arizona State University) [118] Discussant****Cowie, Ellen (University of Maine at Farmington), Frances Stewart (University of New Brunswick) and Arthur Spiess (Maine Historic Preservation Commission)**[88] *Norridgewock Abenaki Subsistence during the Contact Period*

Norridgewock, a notable Native American settlement in northern New England, provides rich details about one Native American community located on the embattled frontier of English, French and indigenous colonial America. Located in the Kennebec River valley of western Maine, archaeological and ethnohistorical information documents two sequentially occupied villages of the Norridgewock Abenaki. Faunal and floral samples from both village sites indicate subsistence practices remained relatively constant during the Contact period and that the community sustained itself on hunting/fishing and gathering combined with maize horticulture. Thus, this Native community maintained traditional subsistence practices in the face of a dramatically changing world.

**Cozadd, Duane [136] see Horn, Sally****Crabtree, Pam J. (New York University) [148] Discussant****Craib, Donald (Law Office of D.F. Craib, P.C.)**[40] *Introduction to teaching cultural property law & ethnics in the curriculum***Craib, Donald Forsyth [40] see Forsyth, Marion****Craig, Nathan (University of California, Santa Barbara), Mark Aldenderfer (University of California, Santa Barbara) and Holley Moyes (University at Buffalo)**[103] *Rapid Piece Plotting of Small Artifact Distributions in Domestic and Ritual Activity Areas Using GIS*

Definition and analysis of activity areas requires the ability to record the spatial location of small artifacts over large excavated extents because activity areas are large and small artifacts are more likely to remain in their primary depositional context. This paper describes GIS-based techniques of high-resolution field data collection at two sites to show the utility of the approach: an Archaic period residential site (Jiskairumoko) in the Lake Titicaca basin of Peru, and a cave used for ritual by the ancient Maya in western Belize (Chechem Ha).

**Crass, Barbara (University of Wisconsin-Oshkosh) and Charles Holmes (Department of History & Archaeology, State of Alaska)**[141] *Swan Point: A Case for Land Bridge Migration in the Peopling of North America.*

A growing number of archaeologists have largely abandoned the Bering Land Bridge theory of early entry into America in favor of more sensational theories, e.g., coastal migration and trans-Atlantic crossing that imply use of watercraft and a coastal if not a maritime adaptation. Because

empirical data is required to validate any theory, cautious investigators apply the principle of parsimony (Occam's Razor) and first test hypotheses of less complex and more likely explanations. Swan Point, a multi-component site in central Alaska, provides empirical evidence for early, >14,000 cal BP, human presence in America derived from terrestrial hunting populations in Siberia.

**Crass, David (Georgia DNR), Jason Burns (Georgia DNR) and Jim Langford (The Coosawattie Foundation)**

[41] *Building An Underwater Archaeology Program From Scratch: The Georgia Experience*  
In a societal landscape where anti-government sentiment and a free-market economy are often combined in unanticipated ways, underwater archaeological sites and the artifacts that they yield rank as one of the most misunderstood resources agencies must manage. Five years of intensive planning in Georgia has led to the initiation of a small-scale underwater archaeology program, the goal of which is to test a range of pilot projects. Determining the relative roles of professional archaeologists and artifact collectors is critical to the development of this program.

**Craven, Sloan (Washington State University)**

[31] *Variability in Transmission at Hogup Cave, Utah*

This poster explores the variation of cultural transmission in archaeological contexts through the quantification of how cultural materials manifest themselves temporally. Using a center-of-gravity formula, different technologies from Hogup Cave in Utah are analyzed. This study specifically looks at the difference between hafted bifaces and ceramics from the site. The results of the center-of-gravity formula show that, in this data set, the hafted bifaces do indeed differ from the ceramics in how they manifest themselves through time. This indicates a difference in how these technologies are transmitted.

**Crawford, Gary W. (University of Toronto At Mississauga) [161] *Discussant*; [88] *Discussant***

**Creel, Darrell [101] *see Schultz, T. Clay***

**Cremeens, David [73] *see Fitzgibbons, Philip***

**Cressler, Alan [178] *see Simek, Jan***

**Crider, Destiny L. (Arizona State University), Cathryn M. Meegan (Arizona State University) and Steve Swanson (Arizona State University)**

[72] *The Hohokam Preclassic to Classic Transition Part II: Modeling Socioeconomic Changes*  
Panarchy is an analytical framework developed in ecology for investigating interrelationships of coupled social and ecological systems. This research examines the utility of Panarchy for understanding the drastic changes in Hohokam society from the Preclassic to Classic Period (AD 900-1200). Preclassic Hohokam socioeconomic interaction was expressed in a ballcourt network extending hundreds of kilometers across Arizona, functioning to redistribute variable natural resources. In the Classic Period, this network was abandoned, economic interaction and territorial extent contracted, and new, more hierarchically organized communities developed along major irrigation canals. Panarchy helps link these social changes to variable ecological and climatic conditions.

**Crider, Destiny [72] *see Swanson, Steve***

**Crinnion, Catherine (Toronto and Region Conservation Authority) and Bryan Cummins (McMaster University)**

[188] *The Dirt on the Dogs: Canis familiaris in Iroquoia*

Domesticated dogs were integral to Pre-contact Iroquoian society. Their role as hunting companions, eaters of food scraps and, on special occasions, the central players in myth and ceremonies enabled a symbiotic relationship to develop between dogs and their human counterparts. This paper provides a synthesis of an on-going investigation of that relationship. The bones of *Canis familiaris* have been studied from the Seed-Barker site, a proto-Huron (Wendat) village. Their provenience and signs of pre- and post-mortem modification will be discussed. Historic documents relating to Iroquoian society have been examined to assist in interpreting the results of the faunal analysis.

**Crock, John (University of Vermont - Consulting Archaeology Program)**

[177] *Random Bottom Surveys by Scallop Dragers and Evidence of Submerged Early Holocene Sites in the Coastal Waters of the Gulf of Maine*

Archaeological evidence for human occupation of the Maine coast before about 5,000 B.P. has been completely eroded and/or submerged as a result of sea-level rise during the Holocene epoch. Native American lithic artifacts recovered by fishermen from depths of up to 60 m indicate that evidence of these early sites exists. Provenience of the specimens and the prehistoric time periods they represent correlate well with the location and age of paleoshorelines as reconstructed from current sea-level curve data. The excellent condition of many of the recovered artifacts indicates the potential also exists for the preservation of some degree of context at these submerged sites.

**Coissier, Michelle (University of Illinois Urbana-Champaign)**

[169] *The Zapotec Presence at Teotihuacan: Evaluating New Excavation Data from Structure TL5*  
Teotihuacan's Oaxaca Barrio has been an enigma since first recognized in the 1960s, with models of the barrio's origins, duration, and significance limited by uncertainties over its chronology. Current questions include the barrio's historical relationship to Teotihuacan and Monte Alban, the nature of the Zapotec occupation, and how Zapotec ethnic identity was manifest in material culture relative to processes of acculturation, assimilation, and enculturation. Recent excavation of a public structure (TL5), ceramics, and radiocarbon dates clarify these questions. The results have implications for understanding pluralism in pre-industrial states and the maintenance of symbolic versus institutional separation in enclaved communities.

**Crothers, George M. (University of Kentucky)**

[158] *Ritual Use of Mammoth Cave during the Early Woodland Period*  
Mammoth Cave, Kentucky, was extensively mined for gypsum and mirabilite (a cathartic salt) ca. 3000 to 2200 years BP. The mining was systematic and sustained. This activity was ritualized and may have included sensory deprivation afforded by the cave environment and ritual purging by ingesting naturally occurring sodium sulfate. Further evidence suggests that it was an exclusive male activity, possibly a rite of passage for young males into adulthood. Ritual use of caves, contemporaneous with the earliest horticultural societies in the eastern U.S., suggests that new economic institutions and social relationships were emerging during the Early Woodland period.

**Crowther, John [15] see Macphail, Richard**

**Cruise, Jill [15] see Macphail, Richard**

**Cruz, Sandra [166] see Grove, David**

**Cuellar, Andrea (University of Lethbridge/ University of Pittsburgh)**

[81] *Regional settlement patterns and political development in the Eastern Piedmont of Ecuador*  
This paper explores chiefdom development from a regional perspective in the Valle de Quijos (Eastern Piedmont of Ecuador) using recently collected settlement pattern information. Settlement and demographic tendencies are compared between periods of occupation to provide an interpretation about the political processes that developed during approximately two millennia in the region. Special attention is paid to the transformation from the Early to the Late periods in light of old and recent theories regarding the political organization of chiefdoms, degree of political centralization, and the nature of chiefly authority.

**Culley, Elisabeth (NAU)**

[45] *Co-opting metaphor theory as an archaeology of belief*  
Research in cognitive linguistics defines metaphor as neurological phenomena that structure our understandings of and discourse about the world. Properties of metaphorical reasoning specify how distinct cultural cognitions are established and maintained and how these structured cognitions impact social practice and material culture. Significantly, studies of prehistoric rock art, architecture and textiles indicate how conceptual metaphors manifest and remain accessible in the archaeological record and ultimately co-opt metaphor as a viable research domain. Indeed, linguistics' understanding of metaphor as both epistemological and ontological offers a framework for reconstructing prehistoric religion, a foundation for an archaeology of belief.

**Cummings, Linda (Paleoresearch Institute) [70] Discussant**

Cummins, Bryan [188] see *Crinnion, Catherine*

**Cunnar, Geoffrey (Yale), Anne Underhill (Field Museum), Fengshi Luan (Shandong University), Haiguang Yu (Shandong University), Hui Fang (Shandong University) and Fengshu Cai (Shandong University)**

[6] *The Role of Micro "Grinding" Debitage in the Identification of Ground and Polished Stone Tool Production Areas at Liangchengzhen, China*

From 1998-2001 a Sino-American cooperative team excavated at the Late Neolithic site of Liangchengzhen in Shandong China. Hundreds of stone tools and fragments were recovered and subsequently analyzed. Numerous experiments to replicate adzes, axes, shovels, sickles, projectile points, and knives helped to identify potentially a new debitage class for this region of China. This debitage is produced during grinding of certain rocks. Such debitage was recovered during the analysis of some 500 soil samples. Diagnostic characteristics of this debitage and the use of such data for the identification and description of areas of production will be presented.

**Cunningham, Jeremy (McGill University)**

[16] *Culture, Pluralism & Radical Ethnoarchaeology*

The preconceptions archaeologists hold regarding culture are tied hermeneutically to the sorts of middle-range analysis that ethnoarchaeologists undertake. Cultural models in archaeology create the propositions that ultimately define middle-range research, and – ideally – the results of that research offer grounds for the reconfiguration of the original cultural model. Yet to date there has been a surprising reluctance to significantly redefine cultural models in light of middle-range findings. Using examples from West Africa, I examine the possibilities that an explicitly pluralistic approach to culture holds for the development of a Radical Ethnoarchaeology.

**Cunningham, Jeremy [105] see Williamson, Ronald F.**

**Cunningham, Richard (U.C. Hastings College of the Law, San Francisco)**

[40] *Cultural Property in the Law Schools*

Cultural resources law is being taught in a growing number of United States and Canadian law schools. This paper surveys the persons and institutions presently offering related courses, and the types of material they employ to examine the evolving ethics of cultural property law. A secondary question involves the available pedagogical techniques for identifying and treating the ethical components inherent in statutory and decisional law. Do the materials currently used by legal scholars adequately expose law students and related audiences to ethical concerns?

**Curtin, Edward (Curtin Archaeological Consulting)**

[65] *Revisiting An Archaic Framework For The Hudson Valley*

Robert E. Funk's 1966 dissertation on the Archaic period chronology of the Hudson Valley strongly influenced the problem orientation of his later field projects, analyses, and synthetic statements. Subsequent discoveries by Hudson valley archaeologists are reviewed in comparison to Funk's Hudson valley framework. Among the contemporary issues discussed are the Early to Middle Archaic sequence, the Archaic to Woodland transition, the interpretation of small sites and sparse lithic distributions, and the possibility of studying large, lacustrine, Archaic sites in the Hudson drainage similar to the central New York sites described in the classic Ritchie and Funk settlement pattern monograph.

**Cyphers, Ann (Instituto de Investigaciones Antropologicas Universidad Nacional Autonoma de Mexico)**

[96] *Community Museums in the San Lorenzo Tenochtitlan Region, Mexico*

This paper will discuss the history, problems and achievements of community museums in the Olmec region of San Lorenzo Tenochtitlan, Veracruz, Mexico, with emphasis on the role of the communities and national institutions in their creation as well as the types of social and political problems that affect them. Given the lack of federal protection for the site of San Lorenzo and the importance of looting in the local economy, the promotion of tourism is an insufficient strategy for improving the standard of living, detaining site destruction and hindering the traffic in archaeological pieces. I will examine the need for site protection accompanied by ecological restoration, educational programs and the creation of alternative economic activities for the local inhabitants.

**Daehnke, Jon (Univ. of California-Berkeley)**

[89] *Focusing on the 'Hows' of Archaeology: The Importance of Methodology in Public Outreach*  
 There is growing awareness of the importance of public outreach in archaeology. Current outreach activities, however, tend to focus on what archaeologists discover about the past. While this type of outreach is important, a more effective model would focus on the methods of archaeology, rather than the results. Archaeology, with its focus on multiple lines of evidence, intertwining of the sciences and humanities, and multi-cultural perspective provides a unique model for addressing and answering questions. Promoting the methods of archaeology, rather than the results, may be the most effective method for establishing the relevance of our discipline.

**Dalan, Rinita (Minnesota State University Moorhead)**

[74] *Down-hole Geophysics for Buried Site Location*

Down-hole magnetic susceptibility instruments offer a relatively non-destructive and inexpensive means of identifying buried archaeological sites. Development efforts have focused on advancing the use of new instruments for the identification of buried soils, including establishing field protocol. These instruments have been tested on buried sites of varying ages and sedimentary contexts in Minnesota and North Dakota. Soil magnetic, chemical, and physical contrasts between cultural and noncultural buried soils at these sites have also been explored to establish an effective combination of field and laboratory techniques for the discrimination of buried occupation layers from paleosols not associated with human habitation.

**Dalan, Rinita [30]** see *Hargrave, Michael*

**Dalton, Jodi L. (University of Nevada, Las Vegas) and Karen G. Harry (University of Nevada, Las Vegas)[66]** *Through the Looking Glass: An Experimental Approach to Examine the Cause(s) of Vitrified Ceramic Vessels Associated with Far Western Pueblo Sites*

This paper examines the high level of vitrification of sand tempered black-on-gray pottery, presumably produced in the Moapa Valley, located in southeastern Nevada. Vitrified sherds have been identified at lowland Virgin Anasazi sites, namely Main Ridge, Yamashita, Adam 2, and Steve Perkins. Here, through an exercise in experimental archaeology, I test the hypothesis that the high salt and or mineral content found in the local water sources (Muddy and Virgin Rivers) used in pottery production may have facilitated the vitrification process. The larger scope of this project will assist in determining local production of vitrified sand tempered black-on-gray vessels.

**D'Altroy, Terence (Columbia University) [184]** *Discussant*

**Damiata, Brian [93]** see *Love, Michael*

**Damp, Jonathan (ZCRE) and Jerome Zunie (ZCRE)**

[66] *Renovation, Research, and Reflexivity at Zuni Pueblo: Ant's Hill or Hornet's Nest*  
 Archaeologists, residents, and religious leaders from Zuni Pueblo are documenting the record of change that is being impacted by renovation to the historic Zuni Pueblo known as the Middle Village. This paper reviews and reflects upon some 10 years of efforts in historic preservation and archaeological research and focuses on the foibles inherent in blending research, federal legislation, and Native American perspectives.

**Dancey, William S. [180]** see *Pacheco, Paul J.*

**Darling, J. Andrew [39]** see *Ravesloot, John C.*

**Darwent, Christyann (University of California, Davis), John Darwent (University of California, Davis) and Laura Smith (University of California, Davis)**

[87] *Old Whaling: Not as Simple as Once Thought*

Unlike the simple scenario painted for the Old Whaling site at Cape Krusenstern, Alaska, (Giddings 1964) of a contemporaneous occupation of five summer and five winter dwellings, the 2003 field season revealed multiple occupations. A shallow (<10 cm) occupation was encountered at the "winter" area and a deep (>50 cm) occupation at the "summer" area. This deep occupation, composed of ringed-seal bone, chert flakes, charcoal and fire-cracked rock sandwiched between the remains of wood roofing and flooring, is stratigraphically beneath a previously excavated shallow "summer" house; these two occupations are separated by beach-storm depositional layers. Excavations also exposed previously unrecorded hearthstone and bone/debitage midden areas.

**Darwent, Christyann [17]** see *LeMoine, Genevieve*

Darwent, John [87] *see* Darwent, Christyann

**David, Eva (CNRS)**

[79] *Technology on Bone and Antler Industry: A Relevant Methodology for Characterizing Archaeological Cultures of Early Post-Glacial Period*

North European archaeological assemblages dated to Mesolithic time (X-VIII Millennium BC) have mainly been defined by typological approaches which brought several geographical distributions for a same culture, according to the types of tools which have been considered as relevant for representing a culture. The technological study of ca. 4000 worked pieces in bone and antler, coming from bog sites of the North European plains, has brought into light three exclusive technical traditions of manufacture of the bone and antler weapons, tools and pendants, which question the previous cultural definitions. This methodological approach will be described as well as the value of the results.

**Davila, Mario (Cal State, Los Angeles) and James Brady (Cal State, Los Angeles)**

[145] *Rubber Production and Tribute in the Aztec Empire*

The experimental construction of a rubber ball as part of the Cal State, L.A. Proyecto Ulama 2003 demonstrated the enormous inversion of time involved. This led to an analysis of the passage in the Codex Mendoza indicating that the province of Tochtepec paid an annual tribute of 16,000 rubber balls, or more than 50 tons of rubber. Using early 20th century production figures, the implications of the tribute in terms of land and labor requirements are calculated. The scale of production clearly indicated that a well-organized and managed system was in place.

**Davila Cabrera, Patricio (INAH)**

[19] *The Participation of Metallurgy in Ancient Traffic around the Gulf of Mexico*

The use of metals in old Mexico is extremely delayed in comparison with the South American traditions and even those of eastern North America. It is a generally accepted idea that metalwork was introduced from the south, but recent findings in the Huasteca region indicate that also an arrival took place from the cultural area of the Southeastern United States, probably by the navigation that connected the rivers Pánuco and Mississippi. I will present some hypotheses of when and how these relations happened and as they extended to other cultural scopes.

Davis, Bertell D. [167] *see* Vannary, Mam; [167] *see* Griffin, Percival Bion

Davis, Elaine (Crow Canyon Archaeological Center) [10] *Discussant*

Davis, Hester (Arkansas Archeological Survey) [171] *Discussant*

**Davis, Margaret "Peg" (The Louis Berger Group, Inc.) and John W. Hohmann (The Louis Berger Group, Inc.)**

[114] *Silent Images of the Past: An Osteological Assessment of the Institutionalized and Indigent individuals Interred at Potter's Field, Hudson County, Secaucus, New Jersey.*

The Hudson County Potter's Field in Secaucus, New Jersey spanned almost 100 years of interment activity dating from the late 19th century through 1962. This cemetery had long been forgotten as there were no visible markers or tombstones remaining. The individuals interred in the Potter's Field were derived from a range of health and social settings. Osteological analysis was undertaken to determine patterning, age, gender, pathologies, cause of death, and skeletal markers which may reflect differences in social contexts and related social institutions. Great effort has been made to elevate these forgotten souls to a restored identity.

**Davis, Richard (Bryn Mawr College) and Richard Knecht (Museum of the Aleutians)**

[99] *New Light on the Anangula Tradition: the Uknadok Site in Unalaska Bay*

For more than 40 years the Anangula site (>8000 B.P.) has been the sole evidence for the earliest occupation of the Aleutian Islands. Recent excavations (1997-2002) at the Uknadok site in Unalaska Bay have revealed an extensive locality similar in age and character to Anangula, but with remains of structures and an occupation surface sealed by a pyroclastic flow. The excellent integrity of Uknadok allows for an informative spatial analysis of in situ artifact distributions. Uknadok also allows for an enhanced understanding of Anangula Tradition origins and the initial postglacial settlement of the Aleutian chain.

**Davis, Terressa (Archaeological Institute of America)**

[149] *Heritage Management in Cambodia: The Double Edge of Archaeological Tourism*  
Decades of war and looting have threatened Cambodia's rich archaeological heritage. While Cambodia is now relatively politically stable, and more able to protect sites from looting, there is a new threat: the burgeoning tourism industry. Archaeological tourism, while being Cambodia's main hope for economic survival, may threaten the preservation of the very sites it promotes. This paper will investigate the management of Cambodia's archaeological heritage, paying careful attention to the significant role of the tourism industry, but also the equally important and diverse roles of the Cambodian government, the international community, and the art market.

**Davis-Salazar, Karla L. [143]** see Wells, E. Christian

**Dawson, Peter (University of Calgary) and Richard Levy (University of Calgary)**

[141] *Constructing a 3D Computer Model of a Thule Inuit Whalebone House Using Archeological Data: A New Way of Visualizing Arctic Prehistory.*

This paper examines our efforts to construct a 3D computer model of a semi-subterranean whale bone house, one of the most distinctive features of Thule Inuit culture in the North American Arctic and Greenland. The model was created by laser scanning an articulated North Atlantic Right Whale skeleton, separating out the resulting 3D images of individual skeletal elements, and placing these images on the detailed architectural plan of a Thule house ruin from the Canadian High Arctic. We explore how the construction of such models may shed new light on the design principles reflected in Thule Inuit architecture.

**Dawson, Peter [170]** see Levy, Richard

**Day, Peter [3]** see Howie, Linda

**De Blasis, Paulo (Museu de Arqueologia, Un. Of Sao Paulo) and Erika M. Robrahn-Gonzal (Documento Ltda.)**

[159] *The Ring Villages from the Central Brazilian Plateau*

The ring villages from central Brazilian plateau can be considered as a symbol of deep social and economic changes that have taken place in that region from 1,150 yBP on, regarding population growth, centralization on settlement patterns, and introduction of fully agricultural lifeways. Circular villages are still common among native Brazilian societies with complex clanic/dualistic socio-political organization. Household analysis on a typical ring village site has gathered evidences of these clanic patterns back to the IXth century, pointing to the long-term evolution of the socio-political and symbolic patterns that are still alive among the speaking groups from central Brazil.

**de Grummond, Elizabeth (University of Michigan/Kelsey Museum) [128]** *Discussant*

**de Jong, Celia (UCSD)**

[59] *Agency vs. Process: How Slaves Make States*

One of the central issues surrounding the advent of archaic states is the transition from societies whose economies are organized around kin-based institutions, to stratified ones where control over productive resources is relinquished by households to a centralized authority. While archaeologists have established a relative consensus of features attributable to archaic states, generally absent are any explicit mentions of slavery or indentured labor. Using a unique source of textual evidence from the Late Uruk period of Mesopotamia, this paper will examine the potential role of slavery and circumscribed labor in the formation of primary states.

**de Leeuw, Jan [93]** see Nance, C. Roger

**De Leon, Jason (Penn State University)**

[60] *The core-periphery fallacy in West Mexican prehistory*

West Mexico has often been characterized as a peripheral and underdeveloped region of Mesoamerica whose cultural florescence was late and related to influences from Central Mexico. This view of the region dramatically affects both the type of research questions that archaeologists ask as well as the contradictory explanatory frameworks within which they have worked. This paper will discuss the conflicts that have arisen between previously accepted theories of cultural development and recent findings, offering an alternative interaction model that

will improve our understanding of cultural development in this region and help contextualize this analysis into broader pan-Mesoamerican terms.

**De Leon, Jason [92]** see *Wake, Thomas*

**De Lucia, Kristin (Arizona State University)**

[127] *Christianity in Florida: Evaluating the Success of Missionization through Mortuary Analysis*

In early contact-period Florida, the Spanish established a widespread network of missions and claimed 26,000 indigenous converts in less than a century. A fundamental aspect of missionization was the banning of all native traditions and practices conflicting with Christianity. While it has been suggested that the negative consequences of contact made native peoples willing converts, the actual success of the Florida missions is still open to debate. This paper reevaluates the nature of religious conversion in Spanish Florida and the extent of resistance against colonial initiatives by examining change in indigenous mortuary customs upon contact.

**De Paepe, P. [108]** see *Vrydaghs, Luc*

**Deaver, William [140]** see *Huber, Edgar K.*

**Debert, Jolene (University of Manitoba), Larry Steinbrenner (University of Calgary) and Geoffrey McCafferty (University of Calgary)**

[165] *Small Packages: A Re-Evaluation of Nicaraguan Prehistory Based on New Lithic Use Wear Studies*

Recent excavations at the site of Santa Isabel, in the Rivas area of Nicaragua, yielded a large quantity of lithic tools and debitage. The predominant lithic tool type was a small 'perforator'. Unbroken examples of these show wear on both the worked tip and the end sections, leading to the inference that that these 'perforators' formed part of a composite tool. Use wear analysis challenges this preliminary interpretation, suggesting an alternative function in which the tip was inserted into wood leaving the broader end section as the functional part of the tool. Possible uses for these composite tools would be to grate manioc or remove fish scales. These findings relate to larger cultural practices, such as food preparation, and may also contribute to interpretations of ethnic identity.

**Debert, Jolene [165]** see *McCafferty, Geoffrey*

**DeBoer, Warren (Queens College)**

[180] *A Glimpse of the Scioto Ceremonial Circuit*

Hopewell earthworks in the Scioto drainage are often aligned with each other. This pattern of mutually referencing sites withstands statistical scrutiny and can be treated as a real and purposeful construction of social landscape. Implications that this construction poses for chronology, regional interaction, ceremonial schedules, and labor recruitment are outlined and evaluated.

**DeBoer, Warren [136]** see *Raymond, J. Scott*

**DeCaroli, Robert (George Mason University)**

[45] *Text and image: Physical evidence and the recovery of Buddhist history*

Buddhism is recognized as a religion of transcendence, directing adherents towards enlightenment. The Buddhist monastery is seen as a retreat from the world wherein the monastic community devotes itself to personal insight. These idealized conceptions of Buddhist practice, heavily promoted in 19th and early 20th century scholarship, confront problems when addressing artwork found on even the earliest extant Indian monasteries. These structural remains are invariably decorated with minor deities directly associated with worldly concerns like health, wealth and fertility. This seeming divide between text and image opens the door for a new understanding of early Buddhism.

**DeFrance, Susan (University of Florida)**

[71] *Wari Diet in Moquegua: the Ordinary and the Exotic*

Extensive excavations of the elite Wari ceremonial and administrative center located on the summit of Cerro Baul as well as the excavation of commoner domestic structures located on the slopes of the cerro and on adjacent Cerro Mejia have produced a variety of faunal remains. A zooarchaeological analysis of these remains indicates significant differences between elite Wari

inhabitants and commoner households in terms of the diversity of food animals and possibly the use of animals of ritual value. In addition to the local production of animal protein, fauna imported from other geographic habitats provide insights into Wari trade and exchange.

**Dega, Michael [167]** *see Vannary, Mam*

**del Castillo, Mirza (Universidad Nacional de San Agustín de Arequipa, Peru) and Tiffany A. Tung (Vanderbilt University)**

[147] *Community health during the Middle Horizon (AD 600-1000): A view from a Wari provincial village in the Majes valley*

During the Middle Horizon, the Majes valley, one of the largest Pacific drainages in southern Peru, fell within the sphere of political and economic influence of the Wari Empire. Recent excavations at a local Middle Horizon village, the site of Beringa, have recovered human skeletal remains from at least 177 individuals, as well as an artifact assemblage indicating a range of social classes from indigenous commoners to local elites with Wari connections. Bioarchaeological data on dental disease and nonspecific infection are analyzed to examine the relationship between social status and health during the Wari occupation.

**Delagnes, Anne (C.N.R.S.), Jean-Philip Brugal (C.N.R.S.) and Sophia Harmand (Université de Paris X)**

[122] *The Middle Pleistocene site of Nadung'a 4 (East Africa).*

The Middle Pleistocene site of Nadung'a 4 is a recently excavated human occupation associated with an elephant carcass as well as a few other faunal remains. The petrographic and technological attributes of the lithic assemblage makes it very different from the classical butchery sites, well documented in East Africa during this period.

**Delagnes, Anne [122]** *see Armand, Dominique*

**Delgado, Florencio [163]** *see Acuna, Freddy; [4]* *see Owczarek, Jolanta*

**Delgado, Florencio (Universidad San Francisco de Quito)**

[81] *A regional perspective of social complexity in the Northern Tropical South America: The case of southwest Ecuador*

This presentation addresses important aspects of the methodology used for carrying out regional studies that focus on social complexity. It will present the results of regional analysis from two areas of Ecuador, the Lower Guayas Basin and the Julcuy valley in South Manabi.

**Demarest, Arthur (Vanderbilt University) [118]** *Discussant; [50]* *Discussant; [119]* *see Fahsen, Federico; [119]* *see O'Mansky, Matt; [119]* *see Barrientos, Tomás*

**DeMarrais, Elizabeth (Cambridge University)**

[78] *Agency and the Materiality of Institutions: An Example from the South Andes.*

If agency is to be understood in terms of social reproduction, and culture as shared understandings, then analysis of the materiality of social institutions is central to explaining culture change. Material culture and built environments encapsulate durable forms of knowledge and cultural practices, influencing their visibility, intelligibility, and permanence. This paper presents evidence from a preHispanic settlement in northwest Argentina to consider how the materiality of everyday life influenced potentials for social action in the short term, as well as encapsulating culture and institutions of collective identity over the longer term.

**Dematte, Paola (R.I.S.D.)**

[149] *Archaeology and Religion: The Case of Ancient China*

In archaeology, religion is often approached with intellectual naivete. In Chinese prehistory, archaeologists are quick to find evidence of fertility cults, shamanism, ancestor worship, or "rituals". While some such activities had a role in the belief systems of ancient China, archaeologists' identifications of them are often conventionalized interpretations that explain neither the peculiarities of the archaeological record nor the potential complexities of prehistoric religion. This paper proposes an alternative interpretative framework for exploring ancient religions, and illustrates it with case studies from Chinese Neolithic cultures, including Yangshao, Liangzhu and Hongshan.

**Dencker, Jorgen (Viking Ship Museum - Roskilde, DK)**

[177] *The Archaeology of Submerged Stone Age Settlement Sites in Denmark: Lessons Learned from Three Decades of Research*

Scientific underwater prehistoric archaeological research began in Denmark in the early 1980s with the excavation of a submerged coastal Stone Age settlement site dating from the Mesolithic Period (circa 6,300 years BP) at Tybrind Vig, Denmark. The uniquely preservative underwater environment and ten seasons of excavation at Tybrind Vig yielded an unprecedented assemblage of previously unknown organic material culture. This and other projects that have been carried out subsequently on submerged Stone Age settlement sites in Danish waters, illustrate the feasibility, methodologies, and potential research value of prehistoric underwater archaeological research in North America.

**Dent, Richard (American University)**

[7] *Winslow Village Site: Early Agriculture in the Potomac River Valley*

Recent excavations at the Winslow Village site have increased our knowledge of some of the first peoples to fully shift to an agricultural subsistence base in the Potomac Valley. This presentation examines the signature of that process on a late prehistoric village. Particular attention is given community landscape, the form of domestic structures, storage practice, public works projects, and burial protocol. Other similar sites in the nearby area are used to enrich our understanding of the changes taking place in the region.

**DeRoche, C. Diane (West Virginia Division of Culture and History)**

[155] *Approaching Accessibility for West Virginia's Archaeological Collections*

The care of archaeological collections in West Virginia is moving from a state of crisis towards managed care and accountability. A program aimed at counteracting the effects of decades of neglect began three years ago with the establishment of a staffed repository where recording and rehousing materials, environmental monitoring and policy development are underway. Integral to the process of rehabilitating the state's artifacts and supporting documentation is the goal of increasing accessibility by exploiting the possibilities of a collections management database system. Progress to date and plans for the future will be detailed.

**Derr, Kelly (Colorado State University), Todd, Lawrence (Colorado State University) and Paul Burnett (Colorado State University)**

[75] *Temperature and Trees: Utilizing thermal landscapes and fire ecology to interpret the archaeological record in the Upper Greybull watershed, NW Wyoming*

Archaeological fieldwork conducted within the greater Yellowstone ecosystem included the deployment of electronic temperature devices and measurement of fire ecology. Temperature gauges were placed according to elevation gradients to record the thermal landscape. Fire scarred trees were sampled and analyzed to understand the role of fire in the region and the movement of tree line. Both lines of data are compared with recorded artifact distribution patterns to aid in understanding site placement on the landscape.

**Derr, Kelly [75] see Burnett, Paul**

**d'Errico, Francesco (IPGQ) and Marie Soressi (IPGQ)**

[23] *The use of mineral pigments by MTA Neandertals. A symptom of behavioral modernity ?*

Although pigments, mostly manganese dioxides, are reported from at least 35 Mousterian sites in Europe, little is known about pigment use by Neandertals. The richest collection, comprising 451 colorant fragments, comes from the lower of the Mousterian of Acheulian tradition levels of Pech-de-l'Azé I in Dordogne. The majority of these pigments bears clear anthropic modification in form of scraping marks, single or multiple ground facets and, more rarely, engraved lines. Some pieces were transformed into and used as crayons. Interesting differences in quantity, raw material and type of modification appear when comparing utilised manganese from topographically and chronologically close Pech I and Pech IV sites.

**d'Errico, Francesco [79] see Vanhaeren, Marian**

**Des Lauriers, Matthew (University of California, Riverside)**

[69] *Three Years of Fieldwork and a Stack of Jesuit Manuscripts: Explaining Archaeological Variability on Isla Cedros, Baja California.*

With the aid of both first-hand primary documents and a comparative approach, we can begin to understand the variable and often enigmatic data that has been recovered as part of the Proyecto Arqueológico Isla de Cedros, which began its initial reconnaissance in December of 2000. The initial excavations focused on 5 sites of the 45 which have been documented, mapped, and surface collected. Three major points will be addressed.

**Descantes, Christophe (University of Missouri)****[14] *Failed Mission on Ulithi Atoll: the Hegemonic Struggle of Church and Island Polity***

An investigation of the 1731 murder of Father Juan Antonio Cantova with archaeological and ethnohistoric data contributes vital contextual information about Micronesian island networks and their ability to resist missionary rivals to their authoritative structure. Cantova, an Italian Jesuit who established a short-lived Catholic mission on Ulithi Atoll, undermined Yapese hegemony and Mogmog's political position in Ulithian society with his attempts at proselytization. Subsequently Cantova, his companions, and the mission were annihilated. In this paper, the missionary letters of Cantova are integrated with archaeological data for an enriched understanding of Ulithian agency, Yapese power, and missionary intentions.

**Descantes, Christopher H. [115] see Harry, Karen**

**Després, Viviane (MPI for Evolutionary Anthropology, Leipzig, Germany), Ed Buckler (Raleigh, North Carolina State University, USA), Bruce D. Smith (Washington, NMNH, Smithsonian Institution, USA), John Doebley (Madison, University of Wisconsin, USA) and Svante Paabo (MPI for Evolutionary Anthropology, Leipzig, Germany)****[86] *DNA analysis of archaeological maize: early selection for key genes***

Until now, consideration of early selection for specific characteristics in maize has been limited to phenotypic attributes of archaeological maize cobs. Based on genetic analysis of archaeological samples from Mexico and the southwestern US, this paper considers the timing and sequence of selection of genes involved in the control of plant architecture, storage-protein synthesis, and starch production. For these three genes, alleles typical of modern maize were already present in Mexican maize by 4,500 years ago. As recently as 2000 years ago, however, allelic selection at one of the genes was not complete.

**Desrosiers, Pierre [87] see Sorensen, Mikkel**

**Desrosiers, Pierre M. (Avataq Cultural Institute-Universite Sorbonne) and Daniel Gendron (Avataq Cultural Institute)****[87] *The Tayara Site and the Concept of "Early Dorset"***

Recently some archaeologists questioned the concept of "Early Dorset" and debated the possibility that the so-called "Middle Dorset" is in fact the beginning of the Dorset period. The preliminary results from new excavation at the Tayara site, one of the major sites defining the original "Early Dorset", sheds new light on this problem. The review of the Taylor's C 14 dates and the recent dates obtained indicate a clear association for the main archaeological layer of Tayara site with the "Middle Dorset" period instead of its original attribution to "Early Dorset". The discussion of this concept is accompanied by numerous unpublished data from this site.

**Detwiler-Hollenbach, Kandace (UNC - Chapel Hill)****[127] *Gathering Implications: Late Paleoindian and Early Archaic Plant Use in Northwest Alabama***

While plants were certainly a significant component of the foodways of Paleoindian and Early Archaic peoples living in the southeastern United States, the scarcity of plant remains from archaeological contexts dating to these periods complicates discussions about gathering activities. This paper presents the preliminary results of analysis of plant remains from Late Paleoindian and Early Archaic deposits at five rockshelter sites in northwest Alabama. The data indicate not only the plant foods people were targeting, but also hint at the decisions that people made about how best to procure plant foods among their various subsistence pursuits.

**Dibble, Harold (University of Pennsylvania)****[23] *The Industries of Pech IV***

The long stratigraphic sequence of Pech IV contains a number of rich and varied lithic assemblages. Beyond the traditional Bordian systematics, the industries appear to be linked to different kinds of behaviors and to different uses of the site through time. These range from general occupation at the base, exhibiting a full range of core and tool reduction in association with superposed hearth-like features, to an emphasis on the production of extremely small, unretouched flakes in the Asinipodian, to a series of more ephemeral occupations which may relate to primary processing of animals, and finally to a return to general occupation at the top of the sequence.

Dibble, Harold [23] *see* Maureille, Bruno; [5] *see* Olszewski, Deborah; [98] *see* Iovita, Radu P.

**Dickau, Ruth (Temple University)**

[92] *Resource Use and Crop Dispersals in Prehistoric Panama: Evidence from Starch Grain Analysis*

Differences in material culture between Western and Central Panama have long been recognized. Starch grain analyses were recently undertaken on pre-ceramic sites from these regions, to investigate whether differences also existed in subsistence patterns. Of particular interest was the first direct botanical evidence for the use of *Zamia* sp. in Central America, from Western Panama. Additionally, the cultivation of domesticates such as *Zea* mays, *Calathea* sp., and *Dioscorea* sp., occurred early (by 5000-6000 BP) not only in Central Panama, but in Western Panama as well. The implications for understanding resource use and agricultural origins in Central American are discussed.

Dickerson, Robert [31] *see* Varley, Kerry

Dickin, Alan [112] *see* Schwarcz, Henry

**Dickson, D. Bruce (Texas A&M University)**

[59] *States, Public Transcripts and the Royal Death Graves at Ur in Mesopotamia*

Woolley implies the people sacrificed in the Royal Graves at Ur went willingly to their deaths out of devotion to the dead monarchs. But the burials were political dramas portraying public transcripts of rulers claiming sacred status. State power united with supernatural authority creates powerful divine kingdoms that need continuous supernatural affirmation. They are obliged to practice public mystification, of which the Royal Graves appear to be examples. Ur's kings may indeed have been strong and their subjects loyal, but they as likely practiced sacrifice to terrorize a restive citizenry and convince themselves and others of their right to rule.

**Dietler, John (UCLA)**

[69] *The Power of the People: Craft Production and Status in Chumash Households*

It has been argued that a leader's power in an intermediate society derives from control of the productive labor of others. If so, a commoner's power must reside in the ability to resist that control by regulating his or her own production. This paper examines the relationship between the production strategies and statuses of Chumash craft specialists in a village on California's northern Channel Islands. My analysis of microblade production associated with three contemporary households reveals that while each held similar production goals, differences in implementation may have affected their standing in Chumash society.

**Dietler, Michael (University of Chicago)**

[133] *Colonialism, Consumption, and Strategies of Political Action: Lattara and the Transformation of Social Relations in Iron Age Mediterranean France*

Power is not simply a hierarchically organized force exercised by one group over another in a society: it is an unstable relational phenomenon that emerges in the course of the continual improvisation of competing strategies of political action in diverse arenas of practice by individuals and groups situated within a complex matrix of social fields. This paper uses the case of the Iron Age in Mediterranean France, and especially data from excavations of the ancient port town of Lattara, to illustrate the ways in which contacts with colonial outsiders and practices of consumption were deployed in struggles over power and implicated in the transformation of social relations, often in unanticipated directions.

[160] *Discussant*

**Dietz, Catherine (University of Montana)**

[57] *Structure Function, and Dating of Cooking Features At the Bridge River Site*

The Bridge River Site in British Columbia is a large housepit village with an unusually high number of cooking features or earth ovens scattered throughout the site. One of the purposes of the Bridge River project is to determine the structure, function, and date ranges of the cooking features. Modern era earth ovens used by the native people in the area are examined and compared to the prehistoric cooking features in order to better interpret the formation processes and unit lives of the prehistoric features.

**Dillehay, Tom (University of Kentucky) and Alan Kolata (University of Chicago)**[120] *Concepts, Constraints, and Visions in Central Andean Archaeology*

This is a position paper for the symposium entitled "From Choppers to Cities: Making Peruvian Archaeology More Relevant." Many different levels of societal complexity characterized the early and late indigenous societies of the Central Andes, ranging from egalitarianism and horizontal complexities to heterarchic and hierarchic arrangements. Variable social, spatial, ideological, and economic processes inferred from the interdisciplinary data of the Zana and Jequetepeque Valleys on the north coast of Peru are compared with other Andean areas to broadly consider the theoretical significance of Central Andean archaeology to the discipline in general. To date, most Andean archaeology has had little impact on general archaeological method and theory. Suggestions are made about remedying that situation.

**Dillian, Carolyn (Rutgers University/CRCG)**[8] *Trade and Tribulation: Obsidian Sourcing and Interpretations of Exchange*

Geochemical characterization and sourcing of archaeological obsidian samples underlies investigations of prehistoric exchange in many regions. However, misunderstanding of sourcing methodologies and/or archaeological or geologic contexts can result in the erroneous application of sourcing methods and results. Most sourcing practitioners are well aware of complicating factors such as secondary deposition and geochemical variation, which can affect our understanding of quarries or exchange networks. Yet the degree to which these factors affect our interpretations may still be open to question. A critical examination of geochemical sourcing as a tool for understanding prehistoric exchange remains valuable in ongoing archaeological dialogue.

**Dion, Sarah (Brown University)**[100] *Consumer Choice: Findings from the W.E.B. DuBois Homesite*

Recent archaeological excavations at the W.E.B. DuBois Homesite in Great Barrington, Massachusetts have uncovered thousands of artifacts reflecting everyday life spanning over one hundred years of occupation. The artifact assemblage reflects the economic and social standing of an African-American family that lived in a predominantly white community. In particular, domestic items excavated from the site aid in reconstructing consumer behavior. By examining trends among the bottle glass assemblage, this study aims to explore the affects of racism on domestic life as expressed through material consumption.

**Dionne, Genevieve (Université McGill)**[51] *Social Variation in Diet: Botanical Remains at Huancaco, Peru*

The presence of two well-preserved architectural contexts - monumental and domestic - at Huancaco, an archaeological site located on the North Coast of Peru and dating to the Early Intermediate Period (AD 200 to AD 800), provided the opportunity to recover, analyze and compare macro botanical remains from both contexts. Results confirmed the social differentiation visible in the architecture and indicated that food was organized and consumed according to social status at Huancaco. This paper presents an overview of the plant remains encountered and of their spatial distribution, and attempts to describe the prevailing social organization.

**Dittmann, Jack (Idaho State University), Drusilla Gould (Idaho State University) and Arnold Williams (Idaho State University)**[31] *The Shoshoni Language and Sogo bia' as They Relate to Cultural Change in Southeast Idaho*

Viewing cultural change over time is problematic at best, viewing cultural change in the archaeological record is even more challenging. Shoshoni oral tradition recounts newe (the people) occupation of the land since its creation. The archaeological record has yielded evidence of newe presence since approximately 10,000 years ago. By integrating indigenous interpretations of cultural change in the past with the changes present in artifact assemblages a more complete picture of prehistory may emerge. Geographic Information Systems (GIS) provides an interactive means of relating these connections between alternate cultural interpretations of the past.

**diZerega Wall, Diana (City College - CUNY), Nan A. Rothschild (Barnard College) and Cynthia R. Copeland (The New York Historical Society)**[109] *Seneca Village and the Construction of the Identity of Central Park, New York City*

Seneca Village was a nineteenth-century African-American and Irish immigrant community which was razed so that Central Park could be built in New York City. Recently, archaeologists and

educators have been studying the history of the village and the feasibility of conducting archaeological excavations there. As the project continues, its directors are beginning to realize that the City is ambivalent about acknowledging the existence of the Village and its role in the Park's history. This paper explores contested perceptions of the Park and its history, perceptions which are being highlighted in the ongoing sesquicentennial celebration of the Park.

**Dobres, Marcia-Anne (Archaeological Research Facility, UC-Berkeley)**

[78] *Agency in Archaeology II: Introductory Remarks*

This introduction to "Agency in Archaeology II" assesses the current state of research and model building. It also explains the reasoning behind this sequel to the 1997 (Nashville) session ("Agency in Archaeology"). The original session surveyed the theoretical spectrum of views on, and approaches to, agency. This introduction explains the narrower and more explicit focus of Agency II -- on articulating appropriate interpretive concepts and analytic methodologies for understanding the role of the material world in reproducing social relations as well as provoking wholesale culture change. These foci can move us beyond the current "add actors and stir" phase of research.

**Dodd, Lynn Swartz (University of Southern California)**

[80] *Representing and Resisting the Assyrian-Conquered Landscape*

The conquered Neo Assyrian landscape was represented as an instrument of resistance in the western part of the empire. The landscape was creatively conceptualized, transformed, and sacralized while it was undergoing Assyrian conquest. In this paper, landscape topoi are considered within the material frame of archaeologically- and textually-documented settlement and administration patterns in this portion of the Assyrian empire. The concepts mobilized in indigenous public display monuments served multiple strategies, ranging from overt advancement of local group identity needs (a subversive or, at best, ambivalent action from the Assyrian perspective) to collaboration with Assyrian goals for its conquered territory.

**Doebley, John [86]** see *Després, Viviane*

**Doelle, William (Center for Desert Archaeology) and Brett Hill (Center for Desert Archaeology)**

[66] *The Decline of the Hohokam: Demography in the Long Term*

The fate of the Hohokam remains one of the great mysteries of Southwestern archaeology. Efforts to identify causes for their disappearance or the locations of possible emigrants from southeastern Arizona have resulted in no widely accepted explanation to date. New approaches to demographic modeling of southwestern populations in general, accompanied by new information from the Lower San Pedro Valley, reveal a process of gradual internal population decline. This decline appears to have resulted from a combination of social and environmental processes and ultimately left a small remnant population that is difficult to identify in the archaeological record.

**Doering, Travis (University of South Florida)**

[164] *San Andres Obsidian Analysis*

This paper presents an interpretation of data produced through the analyses of obsidian artifacts from the Middle Formative period site of San Andres, La Venta, Tabasco, Mexico. Results indicate nine Mesoamerican obsidian sources contributed to the San Andres assemblage, but one quarry in central Mexico and one in Guatemala, consistently provided the majority of imported obsidian throughout the 1,000-year occupational period. The evidence suggests that obsidian and other artifactual materials were imported through two separate acquisition hubs: El Viejon, Veracruz and San Isidro, Chiapas. Specialized social activities and extended reuse and recycling are implied through use-wear and production analysis.

**Doherty, Heather [4]** see *Henderson, Matthew*

**Dominguez, Ed [31]** see *Canaday, Tim*

**Dominguez-Rodrigo, Manuel (Complutense University) and Rebeca Barba Egidio (Complutense University)**

[42] *A Study of Cut Marks on Small-Sized Carcasses and its Application to Archaeological Contexts*

Studies of cut marks have long been the subject of controversy regarding their application to

archaeological contexts to infer hominid behavior in carcass manipulation, and the interaction with carnivores. Previous studies have emphasized the usefulness of cut mark frequency and distribution to reconstruct human access to carcasses. Still, one pending issue is how cut mark patterns vary between different carcass sizes (small versus large). This work presents some new experimental results in which cut marks on small-sized carcasses are analyzed and compared both to experimental samples with larger-sized animals and with African Plio-Pleistocene archaeological contexts.

**Dominguez-Rodrigo, Manuel [55]** see *Marean, Curtis W.*

**Donahue, Douglas (University of Arizona), Timothy Jull (University of Arizona) and Greg Hodgins (University of Arizona)**

[173] *The Arizona AMS Laboratory: Its History and Archaeology*

The University of Arizona has been involved in radiocarbon dating since the 1950's. One of the first purpose-built accelerator mass spectrometry laboratories was established at the UA in 1981. Erv Taylor worked closely with our facility from the very beginning, developing new methods and archaeological applications that exploited the advantages of the AMS technique. This paper covers some of the milestones in archaeological dating at the University of Arizona, and discusses how AMS has influenced archaeological research. Current AMS sample preparation techniques are altering the nature of what is considered an artifact and permits a deeper understanding of the past.

**Donahue, Randolph E. (The University of Bradford) and William Lovis (Michigan State University)**

[61] *Enlarging the Scope of Regional Settlement Systems In Mesolithic Northern England*

Interpretations of the Mesolithic settlement and mobility systems of northern England generally present a highly constrained view of the spatial use of the landscape. North American hunter/gatherer ethnography shows that, in mid and high latitude forested environments, mobile hunter/gatherers use large areas on a seasonal basis and engage in long distance logistic mobility. Application of these observations to the Mesolithic of northern England results in reappraisal of the spatial scope of regional settlement systems. Consequently, the regional Mesolithic mobility systems become more dynamic than currently conceived, with important implications for understanding sites like Star Carr and Seamer Carr.

**Dooley, Mathew A. [172]** see *Wandsnider, LuAnn*

**Doolittle, William E. [111]** see *Mabry, Jonathan B.*

**Doran, Glen (Florida State University) and C. Andrew Hemmings (Florida Museum of Natural History)**

[138] *Launched Clovis Ossious Projectile Points of North America*

Launched bone and ivory projectile points in the size range 12-24.9cm have been found at Clovis sites across North America. Sites in AZ, NM, TX, FL, OH, MT, and possibly WA, have produced nearly two dozen organic tools with a point and a single beveled hafting end. The discovery of a 8cm bone point tip at Gault is significant for adding material to the morphological dataset, being the 5th site to produce them from in situ Clovis deposits, and filling a geographical void from Blackwater Draw to McFadden Beach. The launched projectiles are compared to the more familiar bone rods and Florida ivory spear tips within the context of the Clovis osseous toolkit.

**Dornan, Jennifer (University of California, Los Angeles)**

[80] *Maya Resistance?: Theorizing indigenous intentionality at San Pedro, Belize (1857-1930)*

In recent years, 'resistance' has become a central interpretive concept in the social sciences. Based on archival and archaeological data on the Caste War period Maya village of San Pedro, Belize (1857-1930), this paper will critically evaluate the notion of resistance as an effective framework for understanding indigenous intentions as we increasingly seek more psychologically complex understandings of the relationships between individuals, subjective experiences, and cultures. Turning to the interpretive lens of intentionality, this paper will briefly conclude with a discussion of the theoretical and methodological potential of a more embodied approach to the past.

**Dornan, Jennifer [63]** see *Chapa, Reymundo*

**Douglas, Stephen [188]** see *MacDonald, Robert*

**Douglass, John (Statistical Research, Inc and University of California, Riverside) and Cindi Alvitre (University of California, Los Angeles)**

[69] *The Politics of Archaeology: Diverse Concerns and Interests at the West Bluffs Project, Los Angeles, California*

Archaeology has been interlaced with diverse, and sometimes competing, interests for decades. A recent example of these competing concerns is the West Bluff Project, located on the west side of Los Angeles, overlooking the Ballona wetlands. Here, archaeologists, Native Americans, environmentalists and developers clashed over several Middle Period and Millingstone Horizon sites. This paper, written by an archaeologist and a Native American, considers this project, the diversity of concerns, and the outcome of the project.

**Doutriaux, Miriam (University of California, Berkeley)**

[117] *The Dynamics of Imperialism in a Multicultural Setting: the Inca Conquest of the Colca Valley, Peru*

The Inca state generally sought to balance its own economic and political ambitions with the sociocultural and environmental conditions of the regions it conquered. Findings from a recent archaeological survey in the Colca Valley show significant internal variation in the Inca occupation of one province. This may be reflective of the cultural and environmental diversity present in the valley since pre-Inca times. This paper traces continuity and change in local settlement patterns over time to illustrate the nature of local political and economic organization and to assess the strategy and impact of the Inca conquest in a multicultural area.

**Doyle, James [186]** see *Hewitson, Chris*

**Drake, Doug (SWCA, Inc.)**

[140] *Formative Period Flaked Stone Use along the Carrizo Wash Drainage in East-Central Arizona*

SWCA excavated 11 sites along Carrizo Wash, four of which date solidly in the Formative Period and have substantial assemblages. These four site assemblages were examined with several research questions in mind, including trends in lithic reduction, raw material procurement and use, and tool manufacture and use. The use of cores varied greatly among the Formative sites, and a specialized bipolar core technology was identified at one site. A wide variety of identifiable raw materials were used, but these artifacts constituted only a small minority of each assemblage. No specialized tool industry was identified, and informal tools dominated each assemblage.

**Drennan, Robert (University of Pittsburgh) [81]** *Discussant*; [172] see *Peterson, Christian E.*

**Drennan, Robert D. (University of Pittsburgh) and Mikael J. Haller (University of Pittsburgh)**

[22] *Early States and Also-Rans: Comparative Developmental Trajectories*

The emergence of early states in Mesoamerica accentuated disparities in political and economic development between regions as only a few underwent sometimes explosive political transformation. Exploration of this divergence in developmental trajectories has not often paid particular attention to the nature of change in the regions where political organization was not thus transformed. The Tehuacan Valley, as one such region, is here compared with other regions, especially the Basin of Mexico and the Valley of Oaxaca, with a focus on the ways in which slower political and economic change caused Tehuacan to be left behind the "classic" Mesoamerican trajectory.

**Drexler, Carl (University of Nebraska), Alicia Coles (University of Nebraska) and Joel Masters (University of Nebraska)**

[156] *Thunder in the Trans-Mississippi: Quantitative and Metallurgical Analyses of Civil War Ordnance from Wilson's Creek National Battlefield and Pea Ridge National Military Park.*

Civil War battlefield studies have typically focused on addressing ambiguities between the historical and archaeological records. This study uses quantitative and metallurgical methods to elucidate cultural influences and production practices between combatants reflected in the archaeological record. By combining scientific disciplines, it is possible to expand the amount and types of information that may be gleaned from archaeological sites and refine our understanding of how combatant states in recent history equipped their armed forces.

**Driver, Jeana L. (Scripps Institution of Oceanography, University of California San Diego), Sean M. Wiggins (Scripps Institution of Oceanography, University of California San Diego),**

**John A Hildebrand (Scripps Institution of Oceanography, University of California San Diego)**

[138] *Shallow Seismic Reflection for Paleotopography at the Clovis period Gault site in Central Texas*

Using a modified seismic reflection system with rapid translation of receivers, two profiles were collected at the Gault site in central Texas. The goal of this project was to image site stratigraphy to place excavations in a better geologic context. Spikeless geophone receivers were placed in sand-filled bags at 5cm spacing. Shots were produced by a hammer strike to a vertical pipe at 20cm intervals. Seismic images reveal coherent reflections at shallow depths (0 - 2.5m), and extensive scattering at deeper levels (2.5 - 8m) suggesting soil profiles overlaying alluvium. Seismic profiles are compared with electromagnetic induction data and trench observations.

**Drooker, Penelope B. (New York State Museum)**

[88] *Contact Period Inter-Regional Trade and Exchange Networks*

Residents of protohistoric Fort Ancient villages in the central Ohio Valley participated in heterarchical exchange networks that stretched from the St. Lawrence estuary in the Northeast, to southern Appalachian and central Mississippi Valley chiefdoms visited by de Soto, to bison-hunting upper Mississippi Valley groups. Investigation of the unexpected presence of 16th century European trade goods from Basque sources in eastern Canada and indigenous artifacts with ties to Ontario Iroquoian groups relied heavily on shared information from a wide network of Canadian and U.S. researchers.

**Dublin, Susan (Croton Point Nature Center)**

[109] *Where Identity and Geography Intersects*

North Americanist archaeological and ethnohistoric research demonstrates that affiliation with a specific landscape is crucial to the construction of ethnic identity. At the same time, association with particular places forms a key part of traditional historic narratives. I will use examples from Zuni Pueblo and the Munsee Delaware of the Lower Hudson Valley in discussing the intersection of cultural landscape studies, place-making, and traditional histories in maintaining ethnic identities within a colonial expansionist setting. I will also touch on the question of what constitutes 'archaeological knowledge' and the role of creative reconstruction in the process of building such knowledge.

**Duda, Melanie (Wayne State University) and Tamara Bray (Wayne State University)**

[184] *Pucarás, Personnel, and Imperial Practice: A Comparative Look at Inca Military Installations around the Empire*

Pucarás, or hilltop fortresses, are widely, if unevenly, distributed throughout the Andean realm. Inca pucarás are generally assumed to have been military outposts important to imperial strategies of territorial conquest and control. Spanish chroniclers report that pucarás were staffed by specific categories of imperial subjects. This paper offers an initial comparative look at differences in function and personnel at Inca pucarás based on the archaeological evidence. The distribution of these sites is also considered. Such a comparative approach offers insights into imperial policy in different sectors of the empire that correspond as well to different moments in the historical trajectory of Tawantinsuyu.

**Dudar, J. Christopher (Smithsonian Institution) and Heather McKillop (Louisiana State University)**

[113] *Skeletal Disarticulation in Primary Burial Contexts: Pre-interment Cultural Causes, or Post-interment Environmental Phenomena?*

Some scholars attribute poor articulation, or a 'tumbled' appearance of the skeleton, to delayed interment and jostling of coffins or bodybundles prior to primary burial. This has been interpreted as indirect evidence of status or other preinterment funerary rituals. Others have invoked rodent burrowing, the collapse of grave shaft overburden, maggot masses, and vampire folk belief, to explain disarticulated primary burials. However, other environmental factors have been largely ignored, such as soil type and ground water. This study strongly implicates these postinterment factors in the wide range of skeletal disarticulation observed in a sample of 19th century pioneer cemeteries.

**Duff, Andrew (Washington State University), Alissa Nauman (Washington State University), Jennifer Mueller (Washington State University), Stephanie VanBuskirk (Washington State University) and Gary Huckleberry (Washington State University)**

[72] *Recent Research in the Cox Ranch Community, a Chacoan Community on the System's*

*Southern Frontier*

This poster presents results of the Cox Ranch Community Research Project, a multiyear survey and excavation program designed to reconstruct the founding, growth, and eventual decline of a Chacoan-period community (ca. A.D. 1050-1130) in west-central New Mexico. Data from test excavations in middens, rooms, public architecture, and the great house at Cox Ranch Pueblo provide information about the nature of Chacoan influence and activities associated with the great house. Full-coverage survey, and geoarchaeological and dendrochronological studies are used to help place the community into a larger social and environmental context.

**Duff, Andrew [66]** *see Nauman, Alissa*

**Duffy, Paul (University of Michigan)**

[123] *Neolithic and Copper Age Settlement Enclosures on the Great Hungarian Plain*  
Circular, often non-contiguous, ditched and palisaded enclosures are increasingly recognized as common features of Neolithic and Copper Age settlements in southeastern Europe. This paper presents a comparative perspective on enclosure construction and variability for the eastern Carpathian Basin from c. 5500 – 3500 BC, focusing on Lengyel, Tisza, and Tiszapolgár settlements. A methodology is developed for distinguishing between alternative functions the enclosures may have served, such as ceremony, water control, defense, and livestock management.

**Dugas, Lisa [73]** *see Rollins, Harold*

**Dull, Robert (Texas A&M University)**

[136] *The Maize Revolution: A View from El Salvador*  
The earliest evidence for the arrival of Zea mays in El Salvador comes from the Sierra de Apaneca in western El Salvador, where pollen grains in the size range exclusive to maize/teosinte (65-90 microns) occur by ca. 2490 cal yr B.C. No coastal lowland or interior valley sites have yet been found that contain pollen or macrofossil evidence for maize older than ca. 1760 cal yr. B.C. Well-preserved fossil maize fields (milpas) from central El Salvador have also been investigated, with examples dating to ca. 830 cal yr B.C. (Cuzcatan) and ca. A.D. 660 (Ceren).

**Dumais, France-Eliane (Université de Montréal)**

[51] *Plain Moche Textiles from the Lower Santa Valley, North Coast of Peru*  
Recent investigations were carried out at two Moche regional centers in the Santa Valley, El Castillo (phase III) and Guadalupe (phase IV). Conservation of organic remains, including textiles, was excellent and permitted the constitution of an important Moche collection of textile fragments found within good archaeological contexts. Through analysis of the weaving technology of some 700 textile fragments which correspond to two phases spanning over 300 years, we will attempt to verify the Moche cultural continuity of textile production in the Santa Valley.

**Dumas, Ashley (University of Alabama), Jennifer Myer (University of Alabama) and Amanda Regnier (University of Alabama)**

[170] *Grounded in Culture: An Alternative to Agency Theory*  
In the past decade the notion of agency has become central to an increasingly popular theoretical orientation among Americanist archaeologists. Drawing on the sociological theories of Bourdieu and Giddens, the archaeological application of agency theory represents a turn away from the validity of culture as traditionally understood by anthropologists. Using literature pertaining to the Southeastern U.S. we deconstruct agency theory, particularly the historical-processualist approach, and examine its underlying theoretical implications. We propose an alternative viewpoint that draws from cognitive anthropology, thereby retaining the utility of culture in archaeological interpretation.

**Dumond, Don E. (University of Oregon)**

[17] *The "Arctic Maritime" Expansion: A View from the South*  
In AD 1050-1150 rapid changes in material culture occurred at the southern margin of the Bering Sea and swept to the coast of the North Pacific. These included appearances of artifact types centuries older around Bering Strait, changes in tool manufacture, and innovations in house construction. Not long afterward, similarly diagnostic items appeared on the Kodiak Archipelago. The most rapid cultural shift on the Alaska Peninsula other than those involving obvious

population replacement, this is taken to represent a southern reflection of the expansion of the Arctic Maritime tradition that included spread of the Thule culture in the north.

**Duncan, Neil (University of Missouri-Columbia) and Robert Benfer (University of Missouri-Columbia)**

[25] *Resolving Contemporaneity in the Peruvian Cotton Preceramic-Initial Period*

The Pozorskis note a conundrum: the Late Preceramic Period (LPC) of Perú substantially overlaps the Initial Period (IP) of ceramics. We report new dates from two seasons of excavations at Buena Vista, Chillón Valley, a site with monumental architecture from both LPC and IP components. This site may represent a farming ethnic group integrated into an economic system with coastal fishers. If radiocarbon dates confirm immediate reoccupation by a late IP component, this may explain the lack of ceramics at LPC-IP at El Paraiso. A gap between the two occupations may indicate reoccupation by a different ethnic group.

**Dunning, Nicholas (University of Cincinnati), Timothy Beach (Georgetown University) and Sheryl Luzzadder-Beach (George Mason University)**

[39] *Maya Marvels and Mishaps: Anthropogenic Environmental Change in Context*

Data from several parts of the Maya Lowlands indicate a complex relationship between population growth and environmental change. In some instances, relatively small populations generated considerable local environmental destruction whereas population increases often spurred conservation efforts. The extent and success of conservation was as much the result of variation in social factors as in environmental differences, relationships that are also apparent in contemporary agricultural colonization. The scale at which the data are examined also significantly affects whether anthropogenic environmental change is seen as degradation or enhancement.

**Dunning, Nicholas [119] see O'Mansky, Matt; [15] see Beach, Timothy**

**Duwe, Samuel (University of Arizona)**

[185] *Local Clays and Foreign Pots: Compositional Analyses of Valdez Phase Exchange in the Taos District, New Mexico*

Past research of the poorly understood Valdez Phase pithouse communities in the upper Rio Grande region have concluded that these populations were isolated and had few ties outside of the Taos District. To examine the validity of this claim, neutron activation analysis, petrography, and microscopic analysis were performed on ceramic assemblages from these sites and compared with local clay data to understand the provenance of the pottery. Three main compositional groups were identified, with only one appearing to consist of locally manufactured ceramics, indicating extensive trade outside of the District, implying involvement in a larger social network.

**Dye, David (University of Memphis)**

[132] *Duck River Sword-form Bifaces and Crown-form Macs: Mississippian Ritual Behavior*

During the thirteenth century Dover chert was knapped into sword-form bifaces and crown-form macs. They were then exchanged throughout much of the Southeast, where they occur in mortuary contexts with elites. Their portrayal as one component of human figural objects suggests a close association with trophy taking behavior. Mythic narratives which describe the exploits of supernaturals appear to have chartered warfare and the acquisition of trophies as part of the desire to earn war honors and to carry out prescribed rituals. In this paper I argue that ritual demands shape human action and perceptions of reality.

**Dye, David [137] see Brown, James**

**Dyke, Arthur (Geological Survey of Canada), Roger McNeely (Geological Survey of Canada), John Southon (Lawrence Livermore National Laboratory), John Andrews (University of Colorado) and Richard Peltier (University of Toronto)**

[74] *Preliminary Assessment of Canadian Marine Reservoir Ages*

Nearly 300 direct measurements of the marine reservoir correction for C-14 dates on marine molluscs are now available for Canadian and adjacent waters. Appropriate corrections (in years) for suspension-feeding molluscs are as follows: Pacific, 800; Arctic 740; Hudson Bay-Foxe Basin, 630; NW Atlantic, 540; Gulf of St Lawrence, North, 610; GSL SW, 450; W Greenland, 450. Deposit feeders require larger corrections. The poster presents maps of sample sites and results. We hope to extend this research to marine mammals by using specimens collected prior to bomb

testing.

**Dyke, Arthur [46]** see *Savelle, James*

**Early, Ann (Arkansas Archeological Survey)**

[41] *Arkansas's Historic Cemetery Project: Bringing Archeology Into Main Stream Public History*  
Endangered marked cemeteries are a concern transcending racial and economic boundaries in American society. Most cemetery threats are beyond 106 activities, but citizens are passionate about old cemeteries and expect us to help them. Archeologists can develop new constituencies and increase their credibility by becoming active in cemetery issues. Arkansas has 7500 cemeteries on USGS maps, 3000 more are known to local genealogists, but only 1000 are in the 38,000 site database. A project recording at-risk cemeteries has brought enthusiastic help from non-archeologists statewide but hasn't solved problems with enforcement of the state's crazy quilt of cemetery laws.

**Eastoe, Chris [86]** see *Benz, Bruce F.*

**Easton, Norman Alexander (Arts and Sciences, Yukon College) and Glen MacKay (University of Victoria)**

[18] *Is There An Athapaskan Archaeology?*

The question we pose arises from our collective twenty years of conducting archaeology within and with Athapaskan communities in the western subarctic. Our archaeological method has always included members of the local First Nation as participants in survey, excavation, and analysis, most intensively among the Upper Tanana of the Yukon - Alaska borderlands. In this paper we present our observations of their understanding of the nature of archaeology within the frame of Dineh discourse.

**Eberl, Markus (Department of Anthropology, Tulane University), Takeshi Inomata (University of Arizona) and Erick Ponciano (Universidad del Valle)**

[119] *Aguateca and the Decline of Royal Power in the Petexbatun Region*

The ongoing research at Aguateca sheds light on the decline of Classic Maya kingdoms in the Petexbatun region. Inscriptions detail the historical events from the collapse of the reign of Dos Pilas and Aguateca around A.D. 761 to the almost complete abandonment of the region after A.D. 800. The end of royal rule at Aguateca is presented here from three perspectives: (a) the royal palace with its possible termination rituals, (b) the rapidly abandoned elite residences in the epicenter, and (c) the unfinished construction of temple-pyramid L8-8.

**Ebert, David (University of Saskatchewan)**

[18] *Hunters and Optimal Foraging in the Boreal Forest: A Case Study from Manitoba (CANADA)*

Optimal Foraging Theory (OFT) has been applied to contemporary hunter-gatherers of the Canadian Boreal forest successfully. However, the use of OFT in an archaeological context is not as clear cut as it is in contemporary situations. This paper examines the potential of OFT as a heuristic tool in Subarctic archaeology, and presents the results of a GIS-based study of foraging locations in the boreal forest of Manitoba (CANADA). The paper will look at the efficacy of OFT when applied in Subarctic archaeology.

**Eckert, Suzanne (Arizona State University) and Deborah Huntley (Arizona State University)**

[72] *Community Reorganization in the Zuni Region, New Mexico during the 13th and 14th Centuries*

Previous research in the Zuni region of New Mexico has recognized distinct settlement trends during the Pueblo III (A.D. 1150-1275) and early Pueblo IV (A.D. 1275-1350) periods. During this time, settlement reorganization accompanied extraordinary changes in community structure, sociopolitical organization and ritual practice. Changes in interregional social networks, as reflected in pottery production and distribution, also played an important role in social reorganization. We compare architectural layouts, masonry styles and pottery assemblages from three Pueblo III/early Pueblo IV sites. These data are used to address the chronology of aggregation and issues of community organization, social interaction and ritual developments.

**Eckert, Suzanne [72]** see *Clark, Tiffany*

**Edging, Richard (US Army MANSEN & Fort Leonard Wood), Brian Adams (Public Service Archaeology Program), Paul Kreisa (Public Service Archaeology Program) and Gregory**

**Walz (Public Service Archaeology Program)**

[9] *Searching for the Past at Fort Leonard Wood: Archaeological Surveys*

Archaeological surveys have been conducted over 90% of Fort Leonard Wood. While different methodologies were employed, a consistent survey regime was developed in the last decade. Predictive modeling data obtained from geomorphology refined survey methods especially in alluvial areas. In this paper, we summarize the results of these investigations and identify implications that the results have had on the management and understanding of archaeological resources at Fort Leonard Wood. Through this exegesis we will explore our current understanding of site patterning and prehistory at Fort Leonard Wood.

**Edwards, Joshua S. (SWCA, Environmental Consultants) and David Maxwell (Statistical Research, Inc. Burnaby, British Columbia)**

[140] *Archaic, Basketmaker, Puebloan, and Historic Faunas from the Fence Lake Project*

Vertebrate faunal remains were recovered from several sites during the Fence Lake project, including those dating to the Archaic, Basketmaker and Pueblo periods, along with two late 19th to Early 20th Century homesteads. Data suggest a mixed subsistence economy throughout the entire occupational sequence, with an emphasis on lagomorph hunting during Archaic times, and increased sedentism occurring during later Puebloan times. The homesteads, one Anglo, and one Hispanic, show an emphasis on domestic faunas, with some surprising butchery patterns in relation to juvenile animals.

**Eeckhout, Peter (Université Libre de Bruxelles)**

[163] *New Data on Contacts and Relationships between Pachacamac and the North Coast Cultures During the Late Intermediate Period*

Recent research at Pachacamac suggests that some ritual practices and socio-political organization patterns similar to north coast ones have been deeply rooted in the central coast well before the Chimú began their expansion. It appears that we are dealing with a common pool of cultural features, that have evolved in different ways in each area. Most of this pool concerns the elites of both regions, very likely in contact through long distance maritime trade. Power, death, and ancestors, constitute the common axis around which the same ingredients are differently used and disposed by the ruling class.

**Eerkens, Jelmer (UC Davis)**

[44] *Privatized Goods and the Development of Incipient Leadership in the Owens Valley of Eastern California*

The development of notions about privately owned resources must have been a turning point in the development of prehistoric societies. This paper examines material evidence from pottery, domestic and cooking features, obsidian trade, and food resources from late prehistoric sites in Owens Valley, Eastern California to examine the development of privatization in this region. Implications for the development of incipient leadership strategies are then considered.

**Egeland, Charles (Indiana University) and Ryan Byerly (Southern Methodist University)**

[42] *Cutmark Frequencies, Skeletal Element Transport, and Plio-Pleistocene Hominin Foraging: Applying Experimental Data to Archaeological Questions*

Using a sample of experimentally butchered large mammal limbs we examine the assumed covariance of butcher intensity and cutmark frequency and explore issues of skeletal element transport by providing experimentally derived meat return rates. Our data suggest that cutmarks are accurate reflections of the frequency individual elements are butchered but that increased striation frequency does not necessarily reflect increased butcher intensity. Compared to published element transport data for Hadza hunter-gatherers, our data indicate that return rate has little impact on transport decisions. We discuss the implications of applying return rate data to contemporary hunter-gatherers and Plio-pleistocene foragers.

**Ehrhardt, Kathleen (Illinois State Museum)**

[188] *'Jesuit' Rings: An Archaeometallurgical Approach to Materials and Manufacture*

Jesuit rings are one of the most distinctive trade artifacts of Contact period northeastern North America. Renewed interest in these objects has prompted archaeologists to ask new questions about their production, distribution, and meanings. This paper presents the results of an archaeometallurgical investigation into a sample of twelve rings from late seventeenth-early eighteenth century western Great Lakes sites. Results of microscopic examination, x-ray analysis, and ICP-MS compositional analysis reveal the varied ways that seemingly identical rings were actually produced. Findings are discussed in terms of the ways archaeologists have

traditionally looked at materials, manufacturing technology, and style change over time.

**Eiselt, Sunday (University of Michigan)**

[90] *Historic Micaceous Pottery Production and Raw Material Procurement in a Southwestern Horse Nomad Society: The Jicarilla Apache of Northern New Mexico*

Long distance transport of raw clay for ceramic production is a characteristic of forager societies that manufacture pottery. This is particularly true in the northern Rio Grande where the Jicarilla Apache were important producers of micaceous culinary vessels during the historical period. This paper compares the geochemistry of Jicarilla and Puebloan ceramics to a regional database of micaceous clays. The study identifies sources used by both groups and outlines contrasting patterns of clay procurement, ceramic production, and distribution. Ceramic research illuminates Apache female labor practices and underlies the emergence of horse-nomad enclave economies in 19th century northern New Mexico.

**Elam, J. Michael [3]** see *Thieme, Mary S.*

**Eldridge, William [88]** see *Robinson, Brian*

**Elera, Carlos G. (The National Sican Museum, Peru) and Izumi Shimada (SIU)**

[96] *The National Sican Museum: Promoting Research and Preservation of the Sican Past and Empowerment of Muchic Identity*

The National Sican Museum is situated close to the Poma National Historical Sanctuary in the Leche Valley, north coastal Peru, where the capital and key Sican sites are found amidst extensive indigenous forest. The museum was established with three primary missions: (1) Realization and promotion of archaeological and related research on the Sican culture, (2) protection and preservation of its material remains and cultural (Muchik) legacies, and (3) public education and dissemination of relevant information. This is a "living" museum engaged actively in research-oriented fieldwork and education of local communities and empowerment of the Muchik cultural identity.

**Elia, Ricardo J. (Boston University) [76]** *Discussant*

**Ellis, Christopher (University of Western Ontario)**

[162] *Understanding "Clovis" Fluted Point Variability in the Northeast: A View from the Debert Site, Nova Scotia*

The relationship of Debert to other fluted point assemblages has been debated. Several investigators stress its Clovis or Clovis-related nature and, despite later radiocarbon dates, argue the site is of a similar age to western Clovis. This paper provides a detailed comparison of the Debert points to those from a number of "Clovis-like" sites across the Northeast. The results indicate the Debert points are relatively unique. Several differences seem to be due to the highly exhausted state of the assemblage but there are more fundamental differences which suggest the Debert points are different stylistically and/or functionally from the other assemblages.

**Ellwood, Brooks B. (Louisiana State University) and Kelli Willson (Louisiana State University)**

[53] *Integrating Geoarchaeological Research and High Resolution Archaeology: Magnetic Susceptibility and Electrical Resistivity Results from Vale de Obidos*

From initial surface mapping through high resolution excavation to laboratory artifact assemblage analysis, the research design at Vale de Obidos integrated archaeological, geophysical and geological lines of evidence. An electrical resistivity survey conducted prior to excavation was successful at locating stone-line hearths and concentrations of fire-cracked rock within various activity areas. Variation in the magnetic susceptibility (MS) of sand sediments correlates with the horizontal extent of some activity areas within the stratified sequence. MS samples surrounding three hearth features across the site display a marked upslope orientation of combustion, a pattern that may reflect wind direction and suggests possible contemporaneity of occupation.

**Elster, Ernestine S. (The Cotsen Institute of Archaeology at UCLA)**

[79] *Prehistoric Tools and Other Artifacts of Bone: Case Studies from Northeast Greece*

The Drama Plain of northeast Greece from the Middle Neolithic to the Early Bronze Age (5500-

2500 BC in calibrated dates) held a surprising number of temporally overlapping settlement sites. Tools and other bone artifacts recovered from excavations of several of these 'magoulas' have been carefully examined and published. Using these as case studies, analyses and comparisons are made of technological choices in manufacturing methods and behavioral preferences in selection of bone element and/or species then shaped into tools or transformed into items of adornment/symbolism. All of these artifacts, originally kitchen refuse, are recognized as among the earliest examples of re-cycling. Explanations are offered where possible.

**Elston, Robert G. (University of Nevada, Reno), James C. Woods (Herret Center for Arts and Science, Twin Falls, ID), Gene L. Titmus (Herret Center for Arts and Science, Twin Falls, ID) and P. Jeffrey Brantingham (University of California, Los Angeles)**

[24] *Replication Insights for Problems in N.E. Asian and N. American Microblade Technology*

The present literature of Asian and North American microblade technology contains many untested assumptions about the economics, relative efficiency, reliability, and significance of variability in microcore morphology. Our controlled experiments in microblade production bring to bear on these problems both quantitative data and qualitative insights from hands-on experience. The implications of our replication experiments for understanding the origins and spread of microblade technologies are discussed.

**Eltsov, Piotr (Harvard University)**

[149] *The Treta Yuga and the Idea of Civilization in Ancient Indian Literature and South Asian Archaeology*

This article reconsiders the usefulness of applying the ideas of civilization and urban revolution to the Harappan archaeology. As an alternative to the previous theoretical models, this article presents and analyzes an historical narrative of the Yuga story from the two Sanskrit texts: the Vayu and Brahmanda Puranas. It argues that one of the main components of the Yuga story, the idea of the Treta Yuga, presents an interesting local alternative to the ideas of civilization and urban revolution. This article shows how the Yuga story can be utilized in the interpretation of South Asian proto-historic archaeology.

**Emerson, Thomas (University of Illinois)**

[45] *Deconstructing Mississippian religion*

The study of religion among late prehistoric chiefly societies in the North American southeast has relied heavily on iconography combined with ethnohistoric accounts to create a panoramic view of Mississippian period (AD 1000 - 1400) religion. I suggest that such all inclusive perspectives conflate expressions of political economy, cosmology, iconography and ideology under the guise of religion. This is especially true within the political and social context of complex, hierarchically organized societies. This paper examines the value of deconstructing such views of religion to better comprehend the rise of the 12th century North American center of Cahokia.

**Emery, Kitty F. (Florida Museum of Natural History) and Kazuo Aoyama (Ibaraki University)**

[79] *Bone Tool Manufacturing in Elite Maya Households at Aguateca, Guatemala*

The site of Aguateca, Guatemala, was rapidly abandoned at the end of the Late Classic period, leaving a Pompeii-style assemblage scattered on elite residential floors. Horizontal excavation of these residences has revealed ancient elite activity areas and occupational specialization, including evidence for in-situ bone tool manufacturing using stone tools. Analysis of bone tool production sequences is combined with lithic microwear analyses using the high-power microscopy approach to identify manufacturing tools, and a distributional analysis of manufacturing tools, debitage, and products to reveal the location and nature of bone tool manufacturing in the households of the Classic Maya elite.

**Endacott, Neal (Washington State University) and Robert E. Ackerman (Washington State**

[99] *Microtene Fauna from Lime Hills Cave, Southwest Alaska*

Most faunal research from the few excavated caves in eastern Beringia address questions of large mammal taphonomy or the timing of human entry into the New World. Ecologically sensitive microtene fauna are an under-utilized source of paleoenvironmental information throughout the arctic. This study uses microtene remains from Lime Hills Cave, southwest Alaska, to document shifts in species composition correlating with major vegetation changes from the late Pleistocene through the Holocene.

**Eng, Jacqueline [112] see Prizer, Kaethin; [112] see Walker, Phillip L.**

**Eng, Jacqueline T. (UC Santa Barbara), Per Holck (Department of Anatomy, Anthropological Laboratory, University of Oslo), Kaethin Prizer (UC Santa Barbara) and Phillip L. Walker (UC Santa Barbara)**

[112] *Activity patterns of an early Icelandic population*

Skeletal remains of 12 people buried in the early conversion period graveyard at Hrísbú provide evidence for the activity patterns of Iceland's early colonists. The economic life of these people centered on sailing, fishing, and stock-raising in a challenging marginal environment. Traumatic injuries appear to have been common. One person buried in the cemetery is an apparent homicide victim with massive head injuries. Another has a healed leg fracture. Several individuals, including an adolescent, show evidence of strenuous physical activity involving the hands and arms. Osteoarthritis is common. These data suggest that heavy labor was common among early Icelanders.

**Engelstad, Ericka (University of Tromsø)**

[157] *Feminist (Gender) Archaeology: Another F-word?*

There are now numerous publications on gender archaeology, which present case studies dominated by putting gender into analyses and making women also present and active in the past. There is little theoretical consideration of gender as a concept and little use of feminist theory and critique. Indeed, some newer gender archaeology is explicitly anti-feminist. But, gender in archaeology is not simply a problem of methodology, nor is feminism simply a matter of equality. This paper will examine the lack of feminist theorizing in gender archaeology; and consider its possible causes and consequences.

**Enloe, James G. (University of Iowa)**

[55] *Skeletal conundra: Equifinality and identification of site function*

Body part representation is often used to identify site function, particularly transport to or transport from kill sites. Taphonomic research has indicated that a number of pre- and post-depositional agencies can result in similar part representation, largely a function of bone density, while geological processes may work on size and shape variables. We are not always successful in discerning the combination of processes that have operated upon any given faunal assemblage. A combination of content and spatial configuration of the assemblage might offer the most useful evaluation of equifinality and contribute to more reliable identification of site integrity and function.

**Ennahid, Said [126] see Benco, Nancy**

**Eren, Metin (Stone Age Laboratory, Harvard University) and Brian Redmond (Cleveland Museum of Natural History)**

[156] *The North American Upper Paleolithic? Applying an Upper Paleolithic Typology to the Paleo Crossing Uniface Assemblage*

Numerous archaeologists throughout the twentieth century have compared Paleoindian stone tools to Upper Paleolithic assemblages. Paleo Crossing (33-ME-274) is an early Paleoindian site in Medina County, Ohio with over 450 unifaces, of which 216 have been measured and described so far. In an attempt to frame Paleo Crossing within the European Upper Paleolithic, a standard Paleolithic typology has been applied to the uniface assemblage as one aspect of description. The application of an Old World typology to a New World lithic assemblage is not only an interesting exercise, but has profound implications for the interpretation of Paleo Crossing.

**Erickson, Clark (University of Pennsylvania)**

[39] *Landscape Archaeology as Long-Term Historical Ecology*

Archaeologists have used concepts such as adaptation, optimal foraging strategies, carrying capacity, and ecosystems are used to understand subsistence, the origins of agriculture, settlement patterns, and complex societies. In these approaches, the environment is perceived as external and independent force determining local and regional cultures. In contrast, landscape archaeologists adopt the insights from Historical Ecology which highlights the cultural, anthropogenic, or built environment. The approach assumes that landscapes have complex histories and are continually under construction. I discuss archaeology's role in documenting long-term historical ecology and potential contribution to the conservation of biodiversity, development of sustainable landuse, establishment of indigenous territories, and promotion of local cultural heritage in the Bolivian Amazon.

**Ericson, Jonathan E. [173] see Simon, Arleyn W.**

**Eriksen, Berit Valentin (Moesgaard Museum)**

[61] *Heat Treatment of Chert as a Cultural Marker in the Early Mesolithic of Southwest Germany*  
 In the Early Mesolithic of Southwest Germany local cherts were often subjected to heat treatment before final processing. This technology was chronologically and geographically restricted, and may indicate a localized and unique regional knapping tradition. Raw material procurement patterns seem to have been embedded within other activities, reflecting seasonal movement. This is in accordance with the assumption of high residential mobility, and is consistent with the use of heat treatment as an optional preparatory stage. This paper addresses the interpretational implications of these observations within the contextual framework of mobility, contact and exchange among the hunter-gatherer groups in question.

**Erlanson, Jon M. (University of Oregon), Per Holck (University of Oslo), Phillip L. Walker (UC Santa Barbara), Jesse Byock (UC Los Angeles) and Melissa Reid (University of Oregon)**

[112] *Hulduhóll: A Viking Age Cremation Feature and Ship Mound at Hrísbú, Mosfell Valley, Iceland*

Although cremation graves were placed in symbolic ships through much of the Viking world, they have not been identified previously in Iceland. We have identified a Viking Age cremation feature atop a knoll at Hrísbú, where large curbstones were placed to support a layer of gravel and cobble fill, altering the knoll to resemble the prow of a ship. The cremation feature has produced four calcined human skull fragments, burned animal bone, metal artifacts, and a dense bed of charcoal and wood ash. AMS dates on burned twigs indicate the cremation took place between about AD 990 and 1020.

**Escobedo, Héctor [119] see Scherer, Andrew**

**Esparza Lopez, Juan Rodrigo (Centro de Estudios Arqueologicos El Colegio de Michoacan, A.C.)**

[181] *Los yacimientos de obsidiana de El Pedernal-La Mora: una explotacion constante durante el desarrollo de la Tradicion Teuchitlan.*

Uno de los factores mas importantes en el desarrollo de la Tradicion Teuchitlan fue la explotacion de yacimientos de obsidiana del volcan de Tequila. Durante las exploraciones llevadas a cabo dentro del yacimiento de El Pedernal-La Mora, se registraron mas de 150 minas de extraccion con características distintas segun la calidad del material, su ubicacion y al periodo cronologico que corresponden. Esto podria confirmar una especializacion en el proceso de explotacion para posteriormente transformarla en dos tipos de artefactos: las macronavajas y las navajillas prismaticas.

**Espinosa, Cesar (Cal State, Los Angeles), Sergio Garza (U.C. Riverside) and James Brady (Cal State, Los Angeles)**

[145] *Ulama in the Mesoamerican Landscape*

Few remnants of the ideological system associated with the ancient ballgame remain. There was a tendency for games to be associated with the religious celebration of saints' days that may have been a transference of earlier calendrical observances. Until the 1930s, sexual abstinence, often associated with religious rituals, was observed before games. The placement of ballcourts, however, still seems to be strongly associated with sacred landmarks and the taste appears as a prominent feature in the social landscape. The persistence of this pattern may be related to its connection to more fundamental cosmological concepts.

**Espinosa, Cesar [145] see Ramos, Maria**

**Estevez, Jordi (Universidad Autonoma Barcelona) and Assumpcio Vila (Consejo Superior de Investigaciones Cientificas)**

[122] *Variability in the lithic and faunal record during ten reoccupations of a XIX century Yamana hut.*

Tunel VII is a yamana settlement dating to the time of European contact in Tierra del Fuego. Our aim is to develop, improve and test our methodology for analyzing subsistence strategies. Traces of the activities carried out in a single hut and its surroundings over ten successive occupations by the same group of people are analyzed. Production and consumption are two key concepts for organizing the study methodology. Together with the spatial patterning, analysis of the lithic and faunal remains allow us to establish differences and common trends among the ten occupations which collectively represent about hundred years of occupation at the site.

**Estrada-Belli, Francisco (Vanderbilt University)**

[186] *The long life of Maya political power in the Holmul region*

Ongoing research at Holmul and its minor centers is revealing a complex and long history of ritual and political activity reaching back to the Middle Preclassic period. The patterns of public architecture, monumental sculpture, iconography, caches and burials at sites such as Holmul and Cival contribute fresh new data on the earliest development of the ideology of kingship among the Maya. Throughout Holmul's long history, we see a series of turning points during which its ceremonial centers were moved and/or reshaped to conform to new patrons and new inter-regional alliances. Residential settlement is also affected by the shifting politics.

**Ethridge, Robbie (University of Mississippi)**

[64] *The Origins of Chickasaw Factionalism*

In the mid-seventeenth century the Chickasaws became engaged in the global economy through the commercial trade for Indian slaves. Because slaving was an act of war, the red/war moiety directed slaving and, hence, participation in the colonial trade. The white moiety found themselves at a disadvantage, and their jockeying for position impacted and eventually changed the system. This paper examines the documentary and archaeological evidence to support the thesis that the red/white moiety system was a fundamental structural element in Chickasaw political and economic life, its link to the European slave trade, and the ensuing power struggle between the moieties.

**Ethridge, Robbie [64]** see *Johnson, Jay K.*

**Eubanks, Mary (Duke University)**

[86] *Progenitor Maize: Linking the Archaeological Evidence with Comparative Genomics*

Today most scientists agree that teosinte, a wild grass endemic to Mesoamerica, is the ancestor of maize. Nobel laureate Barbara McClintock, however, proposed that maize diversity derived from at least two different genomes. This paper presents evidence from experimental breeding that shows how the precursor to maize could have derived via introgression from gamagrass, another maize relative. Progenitor maize could have then been transformed into its domesticated form within a few generations by human selection. This hypothesis will be discussed in light of the archaeological record and comparative genomics.

**Evans, Jane [13]** see *Hughes, Susan S.*

**Evans, Susan Toby (Penn State University) [21]** *Discussant*

**Evans, Susan Toby (Penn State University)**

[21] *Green Evolution: Landscape Design and Culture Change in Ancient Mesoamerica*

Designed landscapes are an important indicator of societal complexity, and should be an integral part of the set of features that archaeologists and ethnohistorians look for in analyzing the societies they study. This paper establishes a range of types of designed landscapes and investigates how they functioned. From the milpa and calmil gardens of humble farmers from the Formative period on, to the elaborate pleasure gardens that Aztec kings used to display their wealth and power, designed landscapes expressed the necessity of plebeian horticultural production and the masterwork of elite cultural production.

**Fadem, Cynthia (Washington State University) and Gary Huckleberry (Washington State University)**

[33] *Archived Sediments & Isotope Geochemistry: Results from the Marmes Site (45FR50), Washington*

Recent isotope geochemistry studies show that measures of  $\delta^{18}\text{O}$  and  $\delta^{13}\text{C}$  from soil organic matter and carbonate rhizoliths function as proxies for paleoclimate and vegetative composition (C3 vs. C4) and distribution. The Marmes Site (45FR50) contains well-dated latest Pleistocene and early Holocene deposits for which conventional biophysical properties were obtained in 1968. Current inspection of these archived sediments indicates they contain sufficient organic matter and rhizoliths for isotopic study. These preliminary results imply potential for isotopic studies at other previously excavated sites where sediments have been archived and further paleoenvironmental information would benefit cultural interpretation.

**Fagan, Brian (Lindbriar Corporation) [105]** *Discussant*

**Fahsen, Federico (Universidad Francisco Marroquin) and Arthur Demarest (Vanderbilt University)**

[119] *An Historical Overview of the Evidence on the end of the Classic Maya Kingdoms of the Western Petén*

This paper reviews the epigraphic record of the final katuns of the major centers of the Classic Maya kingdoms along the great western Pasión/Usumacinta river system. From Palenque in the northwest to Cancuen far upstream in the southeast at the head of navigation, parallel recorded events and interactions are identified, including wars, alliances, trade, marriages, and movement of elites between major centers. The historical record is interpreted in the light of recent archeological and ecological evidence to assess alternative theories on the rise, florescence, and, especially, the decline of the Pasión and Usumacinta kingdoms.

**Falk, Nicole (University of South Florida), Robert Tykot (University of South Florida) and Julieta Gomez-Otero (Centro Nacional Patagonico)**

[4] *Subsistence Adaptations of Hunter-Gatherers in Central Patagonia (Argentina): New Data from Stable Isotope Analysis*

Stable isotope analysis on ancient human remains from central Patagonia reveals contrasting records of prehistoric subsistence patterns between coastal and inland populations in this region of Argentina over the last several thousand years. Carbon and nitrogen isotope analyses of bone collagen and bone apatite can identify the relative dietary contributions of terrestrial C3 and C4 plant and animal foods along with freshwater and marine resources. These data are then integrated with faunal, floral, ethnographic, and other dietary evidence to reconstruct geographic and chronological variation in prehistoric subsistence patterns in central Patagonia, and compared with hunter-gatherer adaptations elsewhere in South America.

**Fang, Hui [133]** see *Underhill, Anne P.*; [6] see *Cunnar, Geoffrey*

**Fanning, Patricia [172]** see *Holdaway, Simon*

**Fargher, Lane (University of Wisconsin-Madison)**

[84] *Complex Lithic Economies of the Valley of Oaxaca, Mexico*

The development of utilitarian craft specialization in prehispanic Mesoamerica has been the topic of various studies. In Oaxaca, research has focused primarily on ceramic production, and researchers have directed little theoretical or methodological effort towards understanding lithic specialization. In this paper, I provide new data on Classic and Postclassic lithic industries in the Valley of Oaxaca based on intensive site surveys. Using this method, I recovered clear evidence of highly complex lithic economies involving both specialized and unspecialized production. Drawing on this evidence, I offer some preliminary conclusions about lithic utilization during the late prehispanic era.

**Farkas, Michael [30]** see *Hargrave, Michael*

**Farney, Amy [100]** see *Schulenberg, Janet*

**Farnsworth, Paul [12]** see *Wilkie, Laurie A.*

**Farnum, Julie (Montclair State University), Haagen Klaus (Ohio State University) and Izumi Shimada (Southern Illinois University)**

[147] *Living within the Sicán State: Status and social integration*

A Bioarchaeological study of over 100 burials from the Sicán culture (1100 AD) of the north coast of Peru indicates complex social status relationships. Interpretations of patterns of child and adult health, strontium isotope data, and genetic measurements indicate that some individuals were non-local and experienced a change in status and health during their lifetimes through association with the Sicán state. Others appear to have emulated the status of the elites by including lesser material-value copies of elite items within their graves. Variation of status and health within and between Sicán sites will also be addressed.

**Farrell, Pat (University of Minnesota Duluth) and Thomas F. Bullard (Desert Research Institute)**

[146] *Soil Landscapes of the Sibun River Valley*

Soil survey is a useful tool for examining the interplay of settlement and environment. In the Sibun River valley, the complex interaction of land use, fluvial change, and weathering has left its

imprint in the soil. This paper presents the results of soil field survey and laboratory analyses of archaeologically significant portions of the Sibun valley. The results are presented as a series of soil-landscape models, intended to serve as heuristic frameworks for analysis of settlement, adaptation and environmental change in the valley.

**Farrell, Pat [146]** see *Bullard, Thomas F.*

**Fash, Barbara W. (Peabody Museum, Harvard University), Leonardo Lopez Lujan (Instituto Nacional de Antropología e Historia [Mexico]), William L. Fash (Harvard University), Laura Filloy Nadal (Museo Nacional de Antropología [Mexico]) and Pilar Hernandez [143]** *The Power of Images: Destruction and Desecration of Ritual Space in the Xalla Compound at Teotihuacan*

Archaeologically, we often find evidence of the destruction and desecration of ritual space, which in turn helps us reconstruct the meaning and importance of the specific area prior to the iconoclastic act. Taking the opposite approach from the title of this session, this paper will examine such evidence from recent excavations at the Xalla compound in Teotihuacan. There the remains of a destroyed anthropomorphic figure shed light on the inherent and mythical power of sculpture, its role in the consecration of the formal space, and the targeting of particular sacred and elite locals within the urban area for vandalism.

**Fash, William (Harvard University); [119] Discussant; [143]** see *Fash, Barbara W.*

**Fattorini Murillo, Graciela [96]** see *Paredes Eyzaguirre, G. Rolando*

**Fauman-Fichman, Ruth (University of Pittsburgh)**

[80] *Tlaxcala's indigenous response to Aztec imperialism*

Tlaxcala was an unconquered enemy of the Aztec Empire of central Mexico. It occupied a spatially distinct territory and never paid tribute to nor was subordinated by the imperialist empire. Settlement and ethnohistoric studies show no physical boundary dividing the two polities. To this day, modern Mexicans see Tlaxcallans as a group apart. How and why did this group, so similar linguistically, culturally and ethnically to the Aztecs and totally physically surrounded by them, resist domination? This paper explores the hypothesis that Tlaxcallan "difference", "separateness" and "unconquerability" was place-centered, with its roots in cultural, social and ecological practices.

**Fawcett, Clare (St. Francis Xavier University) and Junko Habu (University of California, Berkeley)**

[131] *Science and Story-Telling: Multivocality in Japanese Archaeology*

During the 1990s, archaeologists excavated several important Jomon period sites in Japan. In keeping with postwar Japanese archaeological practice, official interpretations of these sites, which elucidate the Japanese people's past, tend to be empirical. When presenting these sites to the public, archaeologists have implicitly acknowledged the importance of story-telling, and used a range of interpretations depending on their audience. Through an analysis of these interpretations, this paper examines which themes are emphasized for which audiences. The results are used to discuss the relevance of multivocality in a country where ethnic conflicts in relation to the archaeological past are rare.

**Fawcett, Clare [105]** see *Habu, Junko*

**Feathers, James (University of Washington)**

[101] *Resolving ceramic chronological problems with luminescence dating*

The advantages of direct dating ceramics by methods such as luminescence analysis have long been appreciated, but few demonstrative results have been published. Using ceramics from the Southeast, chronological problems dealing with mixed assemblages, site durations, technological transitions, and settlement dynamics are addressed using both thermoluminescence (TL) and optically stimulated luminescence (OSL).

**Fedje, Daryl W. [24]** see *Magne, Marty P. R.*

**Feinman, Gary M. (The Field Museum)**

[22] *Monte Alban's Economic Foundation: Perspectives from the Hinterlands*

Barry Isaac advanced comparative and cross-disciplinary approaches to economic anthropology that stimulated archaeological understandings of past economies in many significant ways. Yet in

one his geographic regions of interest, Mesoamerica, our present understanding of economies prior to Late Postclassic Aztec times remains sketchy. This paper draws on multi-scalar archaeological findings, to advance a preliminary perspective of the economy of Classic era (AD 200-800) Monte Alban in which part-time household craft production, inter-household interdependence, and marketplace exchanges had a significant role.

**Feinman, Gary M. [133]** see *Underhill, Anne P.*

**Ferguson, Jacqueline (Cultural Resources)**

[38] *Environmental Variability and the Distribution of American Indian Archaeological Sites in Northern Illinois*

A comparison of three large-scale surveys conducted in northern Illinois (Marseilles Training Area, Starved Rock State Park, and a probabilistic survey) indicates that when survey methods are taken into account, the training area and the probabilistic survey area are not different from one another environmentally. These areas are typical of the Upper Illinois Valley for intensity of their use by Native Americans and also with respect to the size of Native American artifact assemblages. Starved Rock State Park stands out as a unique place environmentally and with respect to its use by humans throughout the Holocene.

**Ferguson, Josalyn (University at Albany (SUNY))**

[135] *Reevaluating the Maya 'Collapse': Migration and Cultural Transition in the Terminal Classic Period (A.D. 750-1050)*

The broad application of collapse terminology has precluded an adequate understanding of Lowland Maya historical dynamics in the Terminal Classic period. The Terminal Classic period was not one of invariant 'collapse', but should more accurately be defined as a period marked by socio-political and economic degeneration, migration, and cultural transition. Archaeological data from the Strath Bogue site of Northern Belize support the need to consider migration a social strategy implemented by factions of Terminal Classic period Maya. This paper dissects the interwoven processes of stress and disorder, migration and transition, and relates them to the larger ethnographic, epigraphic and material evidence.

**Ferguson, Scott [31]** see *Varley, Kerry*

**Ferguson, T. J. [102]** see *Colwell-Chanthaphonh, Chip*

**Fergusson, Aaron (SWCA Environmental Consultants)**

[139] *Mitigating Pipes: Summary and Self Critique*

A project like the Kern River 2003 Expansion Project provides a vast array of information about many types of resources. Our goal was to not merely excavate every site, but to find ways to gather the most relevant data in order to meet the requirements of Section 106, while providing our client with the most bang for their buck. There are many things we accomplished that we are proud of, and there are other things that we wish we had done differently. A critique of our methods will add value to our current and future projects.

**Fernandez, Deepika (University of Calgary)**

[84] *Conspicuous Consumption: Late to Terminal Formative Subsistence in the lower Rio Verde Region, Oaxaca, Mexico*

The lower Rio Verde region contains several diverse microenvironments, whose resources were exploited by its prehistoric inhabitants. This paper discusses the results of faunal analysis from several sites in the lower Rio Verde valley, including Cerro de la Cruz and Rio Viejo. It will compare differences in subsistence at different sites and changes in subsistence over time. Additionally, this paper will examine the possible implications for economy, coastal adaptations and human behaviour. It will attempt to correlate changes in resource use to larger trends in the lower Rio Verde region.

**Fernandez, Marco [147]** see *Klaus, Haagen*

**Ferring, Reid (University of North Texas)**

[152] *Analytical Protocols for Assessing Technological Change in the Early Upper Paleolithic of the Levant*

Technological studies of Early UP assemblages are important adjuncts to stylistic/functional analysis of tools, yet are still prone to potential biases stemming from the use of a posteriori attribute/artifact taxa. Simplistic partitioning of artifacts and even assemblages into "hard

hammer" and "soft hammer" modes of reduction can bias or even prejudice comparative analyses towards affirmation of relationships defined on the basis of tool typologies or other criteria. A "typologically neutral" protocol for technological analysis, developed almost 25 years ago, is unshelved for this presentation. The protocol is based on a series of simple multi-attribute analyses designed specifically to elucidate patterns of technological variability associated with performing-decortification, core maintenance and detachment of blanks defined as assemblage-specific intentional products of core reduction. This protocol works well with analysis of blade reduction strategies, and incorporates the laws of fracture Mechanics as well as knowledge gained from replication and refitting efforts. By illustration, it is argued that the consensus application of a protocol is a prerequisite for moving beyond the impasse posed by intuitively constructed approaches to assessing technological change.

**Ferris, Neal (Ontario Ministry of Culture/McMaster University)**

[63] *In Their Own Time: 19th Century Iroquoian Households at Mohawk Village, Ontario*

When members of the Six Nations Iroquoian confederacy settled in Ontario after the American Revolution, it was eventually into small villages along the Grand River, including Joseph Brant's community of New Oswego or Mohawk Village. Salvage excavations there in the 1980's revealed two sequential cabins, collectively dating between 1800 and the 1860s, which were occupied by Paulus Sahonwadi's (Powless) family. The Powless households reflect in microcosm the competing strands of continuity and change/tradition and innovation active in the maintenance and revision of community identity occurring more broadly within the Grand River Six Nations through that time. These complex, multiple histories underscore the importance of this part of the archaeological record for examining community change and continuity, and undermine the viability of conventional readings of Native Americans within 19th century Euro-Canadian history.

**Fiedel, Stuart (Louis Berger Group) and Stephen Potter (National Park Service)**

[56] *Stratified Prehistoric Sites along the C & O Canal*

Geoarchaeological "prospecting," using a predictive model based upon Coe's Roanoke River basin strategy, has resulted in discovery of several deeply stratified, multi-component prehistoric sites on Potomac River floodplains within the C&O Canal National Historical Park. Occupation zones sealed by alluvial deposits include Late Woodland components, a Terminal Archaic Broadspire component, and an Early Woodland component containing Marcey Creek, Selden Island, and Accokeek pottery. An Early Archaic or Paleoindian component is characterized by debitage of exotic-looking materials such as jasper, chert, and chalcedony. We explore both the culture-historical significance and resource management implications of this ongoing research.

**Field, David (English Heritage)**

[106] *Resources, extraction and quarrying in southern Britain during the 4th to 2nd millennia BC*

Analytical survey, investigation and interpretation of surface undulations at prehistoric quarry and mine sites in southern Britain has provided significant information concerning site extraction processes and chronology. This paper will consider resources utilised in prehistoric Wessex and go on to describe processes of site development at the flint quarry sites of Easton Down and Martins Clump, comparing them to sites such as Cissbury and Harrow Hill that are situated on the fringes of the area. Finally it will consider why materials from some areas appear to be favoured above others.

**Field, Judith (University of Sydney) [70] *Discussant***

**Fiero, Kathy (Archaeologist, National Park Service) and Angelyn Bass Rivera (Conservator, National Park Service)**

[130] *Understanding Pueblo plasters: ten years of research and conservation*

Earthen plasters were common in Native American architecture of the southwestern United States and served both functional and aesthetic purposes. Many painted and plastered walls have been found, but only recently have archaeologists and conservators worked together to understand and conserve this resource. Analysis and characterization of the architectural finishes has provided information about plaster and paint composition, application techniques, decorative schemes and traditional use of space. In addition, a vocabulary has been developed to describe and interpret these plasters and their use. Conservation projects at Mesa Verde National Park and Bandelier National Monument will be used as case studies.

**Filean, Erik (University of Iowa)**

[98] *Political-Economic Change in the Roman Period Lower Rhineland: A Cow's-Eye View From*

*The Netherlands*

Druuten-Klepperhei is a late Iron Age and Roman-period farmstead near Nijmegen, The Netherlands with evident connections to both local Celtic-Germanic elites and the Roman military. This paper assesses evidence for Roman-period transformation of a non-marketized, socially-embedded Iron Age political economy in which cattle or cattle products played roles in multiple spheres of exchange. Key questions to be addressed are: (1) Can two breeds of cattle be identified at Druuten-Klepperhei, as common consensus of Dutch zooarchaeologists suggests; and (2) What changes in domesticated cattle breeding and consumption can be identified, with or without clear evidence for multiple breeds?

**Fillooy Nadal, Laura [143]** see *Fash, Barbara W.*

**Finney, Bruce [17]** see *Maschner, Herbert*

**Firor, Jim (Alpine Archaeological Consultants, Inc.) and Rand A. Greubel (Alpine Archaeological Consultants, Inc)**

[139] *Formative-Focused Alternative Mitigation Along the Kern River 2003 Expansion Pipeline* Investigations conducted during the data recovery phase of the Kern River 2003 Expansion Project included substantial excavations at two Formative habitation sites in western Utah, both off right-of-way, as well as several less intensively occupied Formative components on nonstructural sites. Omar's Site is a Virgin Anasazi structural habitation near St. George, where nearly 200 m<sup>2</sup> were excavated. Hunchback Shelter is a Fremont-occupied rockshelter in the Mineral Mountains, excavated in its entirety. The contrasting data from these and smaller components in the project area comprise a major contribution to the study of the Formative period in the eastern Great Basin.

**Fish, Adam (Center for Landscape & Artefact) and Eleanor Roper (Center for Landscape & Artefact)**

[113] *Film/Archaeology: Representing Excavation, Excavating Representation*

This presentation will be comprised of a lecture and two short films which document Native American burial ground exhumations: a newsreel advertisement made by the Ford Motor Company in 1934 and a documentation made by a contracted mortuary company in the Columbia Gorge in 1939. These films evince the uses of cinema in 1930s American archaeology (and vice-versa). Archaeology in the 1930s is a parallel mode to documentary film of the same era. Each is a representation that approximates an original event, affecting the social concept of the Native American.

**Fish, Paul [115]** see *Bayman, James M.*; [115] see *Harry, Karen*; [115] see *Fish, Suzanne*

**Fish, Suzanne (University of Arizona), Paul Fish (University of Arizona) and James Bayman (University of Hawaii)**

[115] *Competition and Cooperation: Marana Compounds as Corporate Groups*

Compounds, representing a new arrangement of Hohokam domestic architecture, are markers of the inception of the Classic period. Groupings of adobe rooms within compound walls became primary residential and social units. At the Marana Mound site, we examine compounds as nodes of competition, cooperation, and communal participation. Large compounds at this site were continuously remodeled and rebuilt, signaling investment in a corporate identity that also involved accumulation, specialization, entrepreneurial activity, and the creation and manipulation of external relationships. While distinctive or privileged elites are not evident, these processes occur within a context of increasingly differentiated and centralized communal organization.

**Fish, Suzanne [115]** see *Harry, Karen*; [115] see *Bayman, James M.*; [159] see *Fish, Paul R*

**Fish, Paul R. (Arizona State Museum, University of Arizona) and Suzanne K. Fish (University of Arizona)**

[159] *The Changing Structure of Hohokam Villages*

The development of Hohokam households and villages in the southwestern United States is examined as a unique historical sequence that begins with small, circular structures as the basic element of site plan. Although villages were associated with irrigation and other forms of water management throughout this 2500 year sequence, the form and layout of domestic architecture reflect dynamic trajectories of social, political, and economic change. The culmination of these changes after A.D. 1200 is marked by a new era of architectural expression commensurate with

increasing societal complexity.

**Fisher, Christopher (Kent State University)**

[39] *Prehistoric landscapes of Western Mexico: Human eco-dynamics and modern agroecology*  
Human eco-dynamics is an emerging theoretical perspective centered on the co-evolution of society and ecosystem with great promise for elucidating landscapes of the past for future conservation. Here I outline three key features of the human eco-dynamics approach namely; the recursive nature of socio-natural interactions; landscapes as historically contingent entities; and ecosystems as dynamic rather than equilibrium tending entities. Recent landscape research from Western Mexico will be used to illustrate how human eco-dynamics can help guide multi-disciplinary research.

**Fisher, Erich (University of Florida)**

[126] *Computer Morphometrics of Lithics: Reconstructing a Stone Age Lithic Chronology Based on Flake Shape From Southwestern Ethiopia*  
Contemporary lithic analysis utilizes many subjective methodologies. However, using a morphometric approach—the quantitative, less-subjective study of shape—provides accurate analysis of stone tools and other artifacts. Relying on an analysis of 1900 Middle and Late Stone Age tools this paper will present a Stone Age relative chronology for the Gilgel Gibe area of Southwestern Ethiopia based on a morphometric analysis of whole flakes and discuss these results within a larger theory of technological innovation and process.

**Fisher, Genevieve (Peabody Museum, Harvard)**

[43] *Spinning the Self: Textiles, Technology, and Identities in Early Anglo-Saxon England*  
Documentary and archaeological evidence from early Anglo-Saxon England (ca. AD 450-650) present a stereotyped association between women and the textile arts. However, reading archaeological finds of textile implements simply as expressions of gendered identity masks the diversity of individual experience. Finds of spindle whorls from burial and settlement sites demonstrate that textile manufacture was an active technology that created individuals through particular bodily experiences and relationships. The identities associated with spinning were by no means uniform or rigid but instead articulated concerns of age, disability, status, and privileged knowledge, as well as gender.

**Fisher, Kevin D. (University of Toronto)**

[97] *Rooms with a View: Elite Buildings, Interior Viewsheds, and Sociopolitical Relations in Late Bronze Age Cyprus*  
Using an approach that integrates space syntax with nonverbal communication and the analysis of interior viewsheds using GIS, I explore the role of monumental architecture in the creation, development and maintenance of sociopolitical relations during the Late Bronze Age (c. 1650-1150 BCE) in Cyprus. I demonstrate that the placement of architectural elements such as ashlar masonry within strategic viewsheds was part of a conscious program of design through which elites encoded messages of power and inequality that both influenced interactions between the elites and visitors to their buildings, and were communicated more widely to the constituents of Late Bronze Age society.

**Fisher, Lynn (University of Illinois at Springfield)**

[61] *Early Mesolithic Settlement and Activities in the Upper Danube*  
This paper draws on surface survey and study of private collections to test hypotheses about hunter-gatherer spatial behavior in Early Holocene southern Germany. I propose that Early Mesolithic hunter-gatherers in this region adjusted to dispersed resources on an increasingly wooded landscape by altering residential mobility and search behavior to minimize travel time and increase encounter rates in foraging. I examine surface site distributions in two contrasting areas of the upper Danube drainage - moraine lowlands and the limestone uplands of the middle Swabian Alb. The value and shortcomings of surface site data for testing behavioral hypotheses are discussed.

**Fisher, Jr., John W.** [36] see *Parkington, John*; [75] see *Neeley, Michael P.*

**Fiske, Jessica** [75] see *Beckett-Roth, Bridget*

**Fitzgerald, Carlos** [92] see *Wake, Thomas*

**Fitzgibbons, Philip (Franciscan University of Steubenville) and David Cremeens (G.A.I. Consultants, Inc.)**

[73] *Archaeology and Geomorphology of the East Steubenville Site, Brooke County, WV*  
This poster summarizes the archaeology and geomorphology of the East Steubenville Site, situated in northern WV. After discovery in the 1930's, Mayer-Oakes (1955) used artifact collections from the site to define the Panhandle Archaic as an Upper Ohio Valley riverine lifeway. The Univ. of Steubenville conducted the first systematic investigations at the site in the 1970's. WVDOH and GAI's data recovery excavations in 1999-2000 revealed Archaic shell middens, pit features, and artifacts distributed across a ridge spur, situated 300 ft. above the adjacent Ohio River. Geomorphological studies of this Pleistocene terrace strath landform provide a physical context for modeling site formation and interpreting the cultural remains.

**Fitzhugh, Ben (University of Washington)**

[62] *Testing the risk sensitivity theory of technological evolution*

The evolution of technology (like culture more generally) is driven by the linked processes of invention and communication. Evolutionary models of communication are better developed than those of invention. This paper addresses methodological concerns in the testing of the risk sensitivity model of technological invention. Measuring variation in rates of technological change requires methods of classification and quantification. Once developed, it is then possible to use occurrence seriation (with independent chronological control) to measure rates of change and frequency seriation to evaluate technological importance. The potential of the approach is demonstrated with archaeological assemblages from new and old world contexts.

**Fitzhugh, Ben [99]** see *Taylor, James*

**Fitzhugh, William (Smithsonian Institution) [46]** *Discussant*

**Fitzsimons, Rodney D. (Iowa State University)**

[97] *The Monumentalization of the Landscape in Bronze Age Greece*

The southern Greek mainland during the late Middle Bronze and early Late Bronze Age provides one excellent example of the application of conspicuous consumption through the evolution of monumental architecture. Here, over the course of several generations, small segments of the population succeeded in transforming the socio-political landscape from one inhabited by a rural, isolated people to one characterized by a series of palace centres whose products, influence and inhabitants stretched across the central and eastern Mediterranean. This paper will demonstrate how this evolution in architectural practice reflected concurrent changes in the socio-political system which produced these monuments.

**Fleischmann, Stefanie [31]** see *Varley, Kerry*

**Flint, Richard (New Mexico Highlands University) [90]** *Discussant*

**Flood, Holly [100]** see *Randazzo, Rudy*

**Florey Folan, Lynda [27]** see *Folan, William J.*

**Fógas, Óttó [123]** see *Gyucha, Attila*

**Fogelin, Lars (University of Michigan)**

[45] *Delegitimizing religion: The limits of Marxist perspectives in archaeological interpretations of religious architecture*

Archaeological interpretations of religion, particularly state-level religion, have long applied Marxist perspectives despite the lack of clear material indicators to support them. Whether phrased in terms of legitimization or false consciousness, archaeologists often explain the role of religious architecture in terms of supporting the appropriation of wealth, power and authority by the elite. Using examples from Buddhist monastic architecture in South Asia in the first millennium AD, I examine what constitutes the material traces of legitimization and to what degree legitimization is, and is not, demonstrated.

**Folan, William J. (Universidad Autonoma de Campeche), Abel Morales Lopez (Universidad Autonoma de Campeche), Raymundo Gonzalez Herodia (Universidad Autonoma do Campeche), Jose Antonio Hernandez Trujeque (Universidad Autonoma do Campeche) and Lynda Florey Folan (Universidad Autonoma de Campeche)**

[27] *The Port City of Champoton (chakan putun), Campeche, Mexico: A major Middle Preclassic to Late Postclassic central place on the West Coast of the Peninsula of Yucatan*

The Universidad Autonoma de Campeche (UAC), through its Centro de investigaciones Historicas y Sociales (CIHS) has been testing the precision of references to chakan putun recorded in the Chilam Balames in third place after Chichen Itza and Mayapan as well as its relationship to Chichen Itza and Mayapan through the direct historic approach as well as earlier outside contacts including ceramic and lithic analyses and climatic change since 400 B.C.

**Foley, Jennifer (Vanderbilt University)**

[186] *Rethinking La Entrada: Evidence from the Early Classic at La Sufricaya, Holmul*

The minor site of La Sufricaya, in the Holmul region of the Northeastern Peten, has become the latest proving ground in the debate over internal and external influences in the rise of Ancient Maya political power. Evidence from the last three field seasons suggests ties to the Central Mexican site of Teotihuacan, but it remains to be seen whether the connections between the sites were direct or indirect through the nearby center of Tikal. Ongoing investigations provide a unique opportunity to evaluate models of internal and external influences in the rise of a local dynasty at this intriguing site.

**Foley Winkler, Kathleen M. (University of Wisconsin-Milwaukee) and Robert J. Jeske (University of Wisconsin-Milwaukee)**

[156] *Oneota Mortuary Practices in Wisconsin: An Example From the Crescent Bay Hunt Club Site*

Data concerning Oneota mortuary practices in southern Wisconsin are scarce and unsynthesized. Mortuary data from the Crescent Bay Hunt Club site will be used to discuss issues of Oneota health, nutrition, and social interactions. The site is a Developmental Horizon (A.D. 1250-1350) Oneota site on Lake Koshkonong in southwest Jefferson County, Wisconsin. The data from Crescent Bay will be compared to contemporary Oneota sites in southeast Wisconsin and northern Illinois.

**Follensbee, Billie (Southwest Missouri State University)**

[144] *Fiber Technology and Weaving in Formative Period Gulf Coast Cultures*

While considerable research has been conducted on the importance of skilled textile production in later Mesoamerican cultures, little study has been conducted on the importance of fiber technology among the Olmec. Formative Period artifacts are usually poorly preserved, but finds of cloth and cordage fragments at El Manati, along with Gulf Coast sculptures depicting rope, nets, and garments, provide evidence for analysis. Further evidence is found in the re-examination of enigmatic artifacts from Gulf Coast graves and offerings, which are likely elite weaving tools and effigies. Together, analysis of these data show that textiles held similar importance for Formative cultures.

**Fonseca Zamora, Oscar (University of Costa Rica) and David Watters (Carnegie Museum of Natural History)**

[37] *Pioneers of Costa Rican Archaeology*

Costa Rican Anastasio Alfaro (Museo Nacional), Swiss-born Henri Pittier de Fabrega (Instituto Físico-Geográfico), and Swedish botanist-turned-archaeologist Carl. V. Hartman (Naturhistoriska Riksmuseet and Carnegie Museum) inaugurated Costa Rican archaeology a century ago. Educated in the natural history tradition of the 19th century, they pioneered the case of systematic archaeological methods in Costa Rica. Their fieldwork contrasted markedly with the widespread looting of sites for the antiquities trade. Creation of the Museo Nacional, a project to map the country, the International Congress of Americanists, and national and international expositions were activities fostering, each in its own way, the development of archaeology in the republic.

**Fontana, Marisa (University of Illinois at Chicago)**

[56] *This is War? Standardizing Fortification in the Mississippian Southeast*

In the past, the role of fortification in premodern warfare has generally been either minimized or ignored. This bias has resulted in the conflation of terms regarding fortification features rendering them vague and meaningless. This paper discusses the consequences of this ambiguity for Mississippian Period archaeology. It calls for standardization and proposes specific definitions for fortification terminology. This will enable a more detailed and specific dialogue regarding fortification and its role in Mississippian warfare.

**Forbes, Jonathan (University College London) and Christophe Helmke (University College London)**

[116] *Musical Instruments of the Roaring Creek Valley.*

This paper investigates various ancient Maya musical instruments dating to the Terminal Classic period (830-950 AD) at cave and surface sites in the Roaring Creek Valley of West-central Belize. To understand the nature of musical performances represented, the intrasite spatial patterning of instrument types is considered and evaluated on an intersite basis. In order to elucidate the similarities and differences in the symbolism inherent in a range of musical performances, the iconography of ocarinas is contrasted between domestic and ritual sites. This provides an analysis of the use and significance of music to the ancient Maya of West-central Belize.

**Ford, Richard I. (Museum of Anthropology) [161] *Discussant***

**Forenbaher, Staso [158] *see Kaiser, Timothy***

**Forgey, Kathleen (University of Illinois at Chicago) and Sloan R. Williams (University of Illinois at Chicago)**

[147] *An ancient DNA study of Nasca trophy heads*

Some researchers argue that the trophy heads found in the Nasca valley of southern Peru (~AD 1-800) were war trophies, while others believe they are evidence of an ancestor cult. Genetic data can be used to test these hypotheses because, if the trophy heads biologically resemble other skeletons buried at the same site, they most likely belonged to the same community or gene pool, while significant genetic differences would suggest that they were war trophies. Our presentation will present preliminary results of an ancient DNA study of Nasca trophy heads and other remains designed to test these hypotheses.

**Forman, Steven (Univ. of Illinois), Michael Collins (Univ. of Texas) and Michael Waters (Texas A & M University)**

[138] *Optically stimulated luminescence (OSL) dating of Clovis-artifact bearing sediments from southern Texas*

An enduring challenge in archaeology is securing ages for artifact bearing horizons that lack radiocarbon datable materials. Fortunately, the advent of OSL dating in the past decade provides improved resolution in dating eolian, colluvial and some fluvial sediment associated with cultural horizons. Presented are sequences of OSL ages on the fine-grained polymineral and quartz fraction for the Gault and Pavo Real sites, Texas. Ages were generated under infrared or green stimulation using additive and regenerative dose procedures. OSL ages are concordant with known ages for associated Clovis, Folsom and Archaic levels and, provide insight into early and late Clovis components.

**Forsman, Leonard (Suquamish Tribe)**

[151] *Cultural Resource Management and Indian Tribes: Who Should Manage the Past?*

As Indian Tribes gain more influence in cultural resource management (CRM) in the West, several questions arise regarding the future of cultural resource management as many Tribes seek to go beyond striving to be co-managers of cultural resources with federal and state agencies and acquire contracts to conduct surveys, testing and data recovery in their aboriginal territory. This paper will explore how tribes, government agencies, private CRM firms, and project proponents expect to interact in order to manage cultural resources in an effective and responsible way.

**Forsyth, Marion (Baker & Daniels)**

[40] *Resources for Teaching Cultural Property Law & Ethics*

This paper will discuss the numerous resources available to educators who teach courses in cultural property law and ethics. Material suitable for undergraduate and graduate programs will be introduced as well material available for the law school curriculum. Web based resources also will be discussed.

**Foster, Thomas (Panamerican Consultants, Inc.)**

[56] *Long-term optimal land use among shifting horticulturalists*

This paper uses the theory and set of assumptions from behavioral ecology to formulate a model of optimal horticultural land use. The model developed here is based on Eric Charnov's marginal value theorem (1976). In this model, the patch is conceptually transformed to a horticultural garden. In contrast to the marginal value theorem, this horticultural model incorporates the effects

of variable patch size through time. Lastly the model is quantitatively applied to the late historic Muscogee Creek Indians of the southeastern United States (1725-1825).

**Fournier, Julie (Universite de Montreal)**

[51] *Fiber Artifacts on Moche Sites in the Lower Santa Valley*

Fiber arts are occupying a significant place in everyday life of Moche people and still do in the life of modern Peruvians. The very good organic preservation encountered on several sites of the Lower Santa Valley allows the recovery of numerous Moche fiber artifacts in archaeological contexts. Information about fabrication techniques, materials used, and nature and functions of these fiber objects can be obtained. This inferred information should enhance our understanding of the Moche State and their relevance to cultural identity and social status would be discussed in this paper.

**Fowler, Catherine S. (University of Nevada, Reno)**

[37] *Bertha P. Dutton and Girl Scouts in the Southwest*

Although Bertha P. Dutton in many ways had a "traditional" career, in that she had a Ph.D. (Columbia 1952), did archaeological field work in the Southwest, Mexico, South America and elsewhere, and held professional museum curatorships and a directorship, she is also remembered for her efforts on behalf of the education of Senior Girl Scouts between 1946 and 1957 through her Archaeological Mobile Camps and excavations in New Mexico. During those summers, she hosted and toured more than 200 young women, opening their eyes to archaeology, ethnology and the world of science. Her involvement with this experiment in educational outreach is explored.

**Fowler, Don (University of Nevada, Reno) and Nancy Parezo (University of Arizona)**

[37] *Cliff Dwellers, Moundbuilders, Mayas and Phoenicians: Archaeology at Early World's Fairs, 1876-1915*

Archaeological Displays, ranging from small arrowhead collections to full-scale replicas of ruins were prominent features of world's fairs in the U.S. from 1876 to 1915. The displays were presented by both amateur enthusiasts and professional museum- and university-based archaeologists. Selected displays and their creators are illustrated and discussed in the paper.

**Fowler, Melvin (University of Wisconsin--Milwaukee) [19] Discussant**

**Fowler, William (Vanderbilt University) [165] Discussant**

**Fowles, Severin (University of Michigan)**

[20] *The Coalition Period Foundations of Moiety Organization in the Northern Rio Grande*

Two broad organizational patterns were present among the historic Pueblos of the American Southwest. In the west, villages were principally organized along clan lines. In the east, moiety divisions more often organized villages and clans were of little significance. This paper considers the Coalition Period (AD 1150-1325) origins of the Eastern moiety system as it developed within the northern Rio Grande Valley. While it has been common to explain this system as an organizational adaptation to irrigation agriculture, it is argued that moieties may have been more important as a means of incorporating immigrant groups within autochthonous Rio Grande communities.

**Fox, William (Canadian Museum of Civilization)**

[88] *Transcendental Archaeology*

The history of Native religious belief systems research in the Great Lakes region over the last century is presented, particularly the role of ethnographic analogy, in order to discuss recent contributions by researchers in the United States and Canada. Modern approaches are evaluated from a theoretical standpoint using site-specific examples.

**Frchetti, Michael (U. Pennsylvania) and Alexander A. Bauer (U. Pennsylvania)**

[12] *Shared traditions, shared objects: Trade and social relations in pastoral and maritime Eurasia*

Trade operates at the crossroads between economic and social interactions. For archaeologists, material forms often serve as the index for human relationships, but the underlying motivations of these relationships is often more difficult to depict. This paper explores the mechanisms and

motivations of social communication in two different cases from Eurasia: one from the Iron Age steppe focuses on the media of trade goods, while a second from the Bronze Age Black Sea looks at knowledge-sharing. But both illustrate how trade itself may have played a formative role in the development of communities across social and geographic boundaries.

**Frachetti, Michael (University of Pennsylvania) and Paul Goldstein (UCSD)**

[175] *Less-Centralized States and their Autonomous Segments: Territory, Mobility, Migration and Control in two Archaic States*

Recent discussions of globalization suggest that increased mobility, decentralization and local autonomy necessarily erode the stability and reality of the modern nation-state. This paper proposes that decentralized power structures can coexist with political bodies that can control large heterogeneous social and physical landscapes (e.g. states and empires). These questions are explored in second millennium BC Central Asia and the Middle Horizon of the South Central Andes. In each region, alternative forms of state-like political structures may have accommodated interactions between small-scale polities and seemingly disarticulated nomadic or migrant populations.

**Franco, Nora (DIPA-CONICET) and Ramiro Barberena (DIPA-CONICET)**

[168] *Stones and isotopes: exploratory evaluation of hunter-gatherer home ranges in Patagonia and Tierra del Fuego*

On the basis of ethnographical information, it has long been thought that hunter-gatherers living at southern South America had very extensive home ranges of more than 250 kms, including both the coast and the interior. It was also proposed that this situation was similar in the past. We use ecological information, lithic raw material provenance and isotopic information from human bones in order to evaluate the extension of home ranges of archaeological populations in Southern Patagonia and Tierra del Fuego. The analysis points to variability in the extension of home ranges, both spatially and temporally.

**Fraser, Meredith (American University)**

[157] *Building bodies, building knowledge: exploring how gendered perspectives articulate with the study of dis/ability in archaeology*

A key contribution of the study of gender in archaeology is its explicit concern with bodiedness as it relates to the physical and intellectual practices of archaeology. Popular culture traditionally portrays archaeologists as white, male, able-bodied, heterosexual individuals. Gender archaeologies problematize these images by positioning the body as a subject of inquiry. Whereas initially gender archaeologies accomplished this by raising awareness of women as practitioners of archaeological research and as subjects of archaeological investigation, subsequently this strategy has been used to raise awareness of other bodies, persons, and experiences that contradict popular portrayals of archaeologists, including those described, or self-identified as, physically dis/abled.

**Fratello, Edward (University of Wisconsin-Milwaukee)**

[98] *Neolithic Agriculture on the Swiss Plateau: A Preliminary Report on Botanical Remains from Robenhausen at the Milwaukee Public Museum*

Migrants from the Balkans are generally considered to have brought Neolithic agriculture to Central and Northern Europe during the fifth millennium BC. However, botanical evidence from Neolithic lake sites on the Swiss Plateau suggests that preexisting Mesolithic populations beyond the main Linearbandkeramik (LBK) migration path adopted agricultural methods without experiencing large scale colonization. A previously unpublished collection of wild and domesticated botanical remains from the Neolithic lake site of Robenhausen are examined in light of recent economic and dietary models. Comparisons are drawn with other sites in Switzerland and regions north and west of the LBK zone.

**Freckleton, Iain (California State University Long Beach), Carl Lipo (California State University Long Beach) and Hector Neff (California State University Long Beach)**

[124] *ICP-MS Analyses of Obsidian Sources on Easter Island: A Study of Resource Movement and Microcommunity Exchange*

Rapa Nui (Easter Island) is an archaeological setting that provides no end of questions for researchers, not the least of which centers on differential population size and access to resources between competing groups. In light of recent field inquiry into patterns of settlement and raw materials distributions, it has become plausible to apply certain conditions of a bet-hedging model as proposed by Lipo and others. Trace element analysis of Rapa Nui obsidian fragments, as

exacted by a laser ablator, provides information on the movement of resources around the island and between microcommunities.

**Freeman, Brett [4]** see *Henderson, Matthew*

**Freeman, Jacob (Truman State University)**

[28] *Comparing Patterns of Intensification Where Aquatics are an Option*

The durations of the hunting-gathering adaptation in archaeological sequences around the world pattern in a regular way with projected hunter-gatherer subsistence diversity (following Binford 2001), although not always in the way anticipated by Johnson (1997). The results of a comparative study of archaeological sequences from the northern temperate zone are presented. Two sets of durations are calculated in order to monitor periods with distinct mobility and intensification characteristics independently. The relationship between archaeological system stability and projected hunter-gatherer subsistence diversity is investigated, patterns are discussed, explanations are proposed, and questions are developed to guide further research.

**Freeman, Jeremy B. (Ball State University)**

[30] *Determining High Probability Areas for Historic Structural Locations*

A pit (Feature 1) on the eastern side of the site grid and a concentrated area of brick deposits indicates that a structure was present at site 12MA648. The excavation of an exploratory trench (Trench 1) between this feature and brick deposit, however, was unable to uncover subsurface structural evidence. The results of a ground penetrating radar survey are compared to site depositional orientation in order to locate high probability locations of an historic structure.

**Freiert, Joanna (Ohio State University)**

[123] *Vessel Form and Function at Vésztő-Bikeri*

This paper discusses ceramic vessel form and function in an attempt to determine specific areas of activity on the Early Copper Age settlement of Vésztő-Bikeri. The study focuses on the relationship between ceramic assemblages collected from discrete features near the center of the site associated with domestic structures. The results indicate a high degree of homogeneity between different features, suggesting a similar function for each feature.

**Frey, Carol (University of Washington) and Aksel Casson (University of Washington)**

[74] *Replacing textbooks: courseware effectiveness in two college classrooms*

This project examines the use of interactive computer software in the teaching of introductory and intermediate level archaeology courses, in two different university settings. We investigate the relationship between various learning styles (combinations of visual, verbal, social, aural, physical, solitary, and logical) and the effectiveness of particular software elements as a replacement for traditional texts. The effectiveness of the software is evaluated based on student performance, skill acquisition, and enjoyment.

**Frey, Carol J. [55]** see *Grayson, Donald K.*

**Fricke, Henry [13]** see *Muller, Wolfgang*

**Friesen, Max (University of Toronto)**

[17] *The Last Supper: Terminal Dorset Economic Change at Iqaluktuuq, Victoria Island*

The Twelfth Century A.D. witnessed major social and territorial changes in the eastern North American Arctic, exemplified most radically by the replacement of many Late Dorset populations by incoming Thule migrants. This paper takes advantage of the high resolution Late Dorset record at Iqaluktuuq, southeastern Victoria Island, to attempt to understand economic patterns during this period. At Iqaluktuuq, changing patterns of settlement and resource acquisition suggest that the final Dorset occupation of the region was characterized by economic intensification, which may be a direct result of social upheaval and population movements.

**Frink, Lisa (Univ. of Nevada, Las Vegas)**

[36] *Gender, Storage, and Space in Colonial Western Alaska*

It has been commonly presented in the Arctic literature that native people in parts of western Alaska were fairly isolated from colonially-inspired cultural changes until missionaries entered the region in the early 20th century. But an analytical focus on gender and the changing use and placement of storage facilities reveals that prior Russian and Anglo-American colonial market forces impacted social and economic patterns including relations between indigenous women and

men. The place and use of storage is compared among three sequentially occupied sites dating from late prehistoric to recent occupations and contextualized with historic and oral historic data.

**Fritz, Brian (Carnegie Museum)**

[29] *Assembling a Comparative Collection for Prehistorically Utilized Lithics of South-Central Pennsylvania*

Prehistorically utilized lithic types found naturally in South-Central Pennsylvania were geologically identified and systematically collected. The resulting comparative collection and lithic database are designed to facilitate future studies in lithic sourcing of prehistoric stone tool assemblages found within South-Central Pennsylvania and surrounding regions. Observations made during field checking and sample collection continue to yield important insights into prehistoric lithic procurement and distribution.

**Fritz, Brian [29]** see *MacDonald, Douglas*

**Fritz, Gayle (Washington University- St. Louis) [161] Discussant**

**Fritz, Gayle (Washington University in St. Louis) and John Kelly (Washington University in St. Louis)**

[111] *Maize Symbolism in Context: Plants on Mississippian Figurines and Pipes*

Plants, agricultural tools, and other fertility-related objects are common iconographic elements on Mississippian statuary. Because a series of well-known pipes and other anthropomorphic figures made of red claystone were probably all manufactured at or near Cahokia between A.D. 1100 and 1200, we focus on their symbolism in the context of early Cahokian ideology and economy. We examine figures that have been described as holding or processing maize or participating in Green Corn ceremonialism. Ethnographic and archaeobotanical evidence are combined with clues from Cahokian material culture to suggest renewal and fertility, but involving other plants and different activities.

**Fuglestad, Ingrid (Department of Archaeology, University of Oslo)**

[134] *Man - Reindeer - Landscape: Cosmology of the Early Pioneers in West Norway, ca. 10,000 BP*

Man's relationship to the world is one of ambiguity. On the one hand, his position is of belonging to it, knowing it, i.e. 'being of' the world. On the other hand, man cannot explain the world in toto, neither its origin nor his own relation to it. This topic may be interpreted as becoming accentuated in the Late Glacial period, when Late Upper Palaeolithic groups in North Europe expanded northwards into the landscapes of West Norway. This expansion involves moving between two very different landscape types; from the low altitude plains of the North European continent, to the spectacular archipelagoes, fjords and mountains of West Norway.

**Fuleki, Aaron (Denison University), Jonathan Vanderplough (University of Cincinnati) and P. Nick Kardulias (College of Wooster)**

[156] *GIS Analysis of Settlement in the Lower Kokosing River Basin*

The Kokosing River Basin Archaeological Survey has identified over 100 sites, while excavation focused on the multi-component Acton Site (33KN345) and Millwood Rockshelter (33KN395). To place these sites in their regional context, we undertook GIS analysis of the potential catchment area within a 10-km radius around the two loci. We examined physiographic features (soil type, elevation, aspect, proximity to water sources, and distance from major chert quarries). The analysis suggests the shift from Archaic foraging to Woodland horticulture did not have a major impact on residential mobility, similar to what some scholars have suggested for other parts of Ohio.

**Fullagar, Paul D. [13] see Burton, James H.**

**Fullagar, Richard (University of Sydney) [70] Discussant**

**Fuller, Dorian (University College London)**

[108] *Routine Activities, Tertiary Refuse and Labor Organization: Social Inferences from Post-Storage Archaeobotany*

Standard charred archaeobotanical samples represent re-deposition from fire contexts, where plant remains may already represent secondary refuse. Despite their tertiary nature, however, the

recurrent patterns of archaeobotanical patterns across sites, suggests that they reflect in general broad social patterns in the organization of food processing. Ethnoarchaeological studies on various Old World crops provides a basis for interpreting these patterns in terms of choices about the mobilization of labor before and after storage, and thus fundamental parameters of social organization. Archaeological examples from Britain, India and West Africa will be referred to.

**Funk, Caroline (Richard Stockton College of New Jersey)**

[99] *Comparing human behavioral ecology and cognitive decision-making models for historic Yup'ik Eskimo settlement patterns*

Hunter-gatherers simultaneously satisfy subsistence goals and cultural requirements during site selection. Using oral histories and archaeological data, I found that the settlement patterns resulting from historic Yup'ik Eskimo seasonal decisions about camp and village placement do not conform as expected to human behavioral ecology models, or to patterns predicted from Yup'ik definitions of landscape use. The relationship between cognitive-cultural and subsistence requirements during site selection is more complex and less patterned than anticipated. Examining the site location decisions made by historic Yup'ik and the resulting settlement pattern provides valuable insight into the variability present in prehistoric hunter-gatherer settlement patterns.

**Gaff, Donald (Michigan State University), Jon Carroll (Michigan State University), Lynne Goldstein (Michigan State University) and Bradley Sekedat (Michigan State University)**

[156] *Painting the Big Picture with a Fine Brush: Archaeological Insights from the Aztalan GIS Group*

Aztalan (47 JE 1), a Woodland-Mississippian site in southeastern Wisconsin, has seen nearly 200 years of investigation. Despite the data volume, no comprehensive synthesis of Aztalan has been produced. The development of a site-level GIS by Michigan State University archaeologists provides the opportunity to generate a detailed overview and intra-site comparisons. Previously, we presented the integrated site map and outlined how we dealt with data and excavator inconsistencies. This paper focuses on intra-site patterning and spatial integration of various data sources. We begin to present a portrait of the site with structural insights that could only have been drawn from a GIS incorporating diverse and disparate data sets.

**Gagne, Gerard (Université de Montréal)**

[51] *Human Burials from the Santa River Valley, Peru*

This paper deals with human burials found during archaeological investigation in the Santa River Valley in Peru, under the supervision of Dr. Claude Chapdelaine of the Université de Montréal. Archaeological contexts are reliable and allow the affiliation of human remains to different cultures: different periods of occupation of the Moche culture, the Middle Horizon period, and the pre-Moche Period called Gallinazo. The bioarchaeological analysis provides clues to cultural attitudes toward death.

**Gaither, Catherine (Tulane University), Melissa Murphy (University of Pennsylvania), Guillermo Cock (Proyecto Puruchuco-Huaquerones) and Mellisa Lund Valle (Equipo Peruano de Antropología Forense)**

[147] *Insights from a provincial Inca cemetery: Mortuary patterns, growth and health at Puruchuco- Huaquerones*

Recent investigations at Puruchuco-Huaquerones, Peru have unearthed a large Inca cemetery containing the remains of both adults and children. These remains range in their preservation from large textile bundles to skeletons without any tissue. Spatial patterns and contextual evidence from the burials have revealed information about organization within the cemetery. This paper will explore the possible relationship between the mortuary patterns and data on long bone growth and adult stature from a subsample of the human remains. The results of the contextual evidence are considered in light of their significance for social stratification and possible implications concerning individual health.

**Galanidou, Nena [122] see Pellegatti, Paolo**

**Galaty, Michael [123] see Lee, Elizabeth**

**Galke, Laura (Washington and Lee University) and Howard Wellman (Maryland Archaeological Conservation Lab)**

[130] *Collaborative investigation of an incised spoon from the context of enslaved African-*

*Americans*

At Garrison Plantation in Maryland, a white metal spoon with post-manufacture incised markings was among the finds. The original investigators argued that these markings represented a form of Maroon art and reflected African influence. Visual inspection of the spoon by archaeologist Laura Galke failed to detect the full range of patterns described. Collaboration with conservator Howard Wellman involved several non-invasive investigative techniques to locate and document any markings on the spoon. While some markings were noted, the full pattern as described in the initial reports was not confirmed. This would lead to a re-interpretation of the object and its context.

**Gallaga, Emiliano [185]** *see Abbott, David*

**Gallard, Evan [176]** *see Tacon, Paul S.C.*

**Galle, Jillian (Monticello) [150]** *Discussant*

**Galm, Jerry (Eastern Washington University), Stan Gough (Eastern Washington University) and Fred Nials (Geoarch)**

[33] *Climate Change and the Paleoindian-Archaic Transition in the Interior Pacific Northwest*

Paleoenvironmental investigations in central Washington provide a proxy record of climate change at the Pleistocene-Holocene boundary (PHB). This record mirrors a regional cultural transition from Late Paleoindian to archaic adaptations of the Windust phase.

Chronostratigraphic, soil formation, and tephra data indicate environmental conditions at the PHB change from cool-moist between ca. 12,000-11,000 B.P. to warm-dry by ca. 10,000 B.P. Buried soils radiocarbon dated between ca. 12,000 yrs. B.P. and ca. 10,000 yrs. B.P. document soil development within the age-range of the Younger Dryas cooling event. Evidence of accelerated eolian deposition and fluctuating water tables mark the transition into the early Holocene.

**Gama Castro, Jorge [118]** *see McClung de Tapia, Emily*

**Gamble, Clive (University of Southampton)**

[78] *Agency and the Human revolution*

The investigation of earliest prehistory is littered with anachronistic terms such as anatomically modern humans, archaic humans and fully modern behaviour. These have arisen in the context of studying change by claiming a human revolution as indicative of the origins of modern humanity. The time has come to dispense with this conceptual baggage. We need to reconsider what we understand by change. This will only occur when material culture is no longer interpreted as a reflection of change but instead as a hybrid which derives symbolic force from action and agency. The implications for a future Palaeolithic will be discussed.

**Garber, Jim (Texas State University) [116]** *Discussant*

**Garcia-Des Lauriers, Claudia (University of California, Riverside)**

[169] *The Iconography and Symbolism of the Sculpture from Cerro Bernal, Chiapas*

In the 1970's, Carlos Navarrete first looked at the sculptural complex of Cerro Bernal, and its links with Teotihuacan art and iconography. This paper looks to re-analyze the iconography and symbolism of these sculptures within the context of Teotihuacan cultural interaction in this area. I would like to present more specifically at the themes and texts represented and their possible meanings when compared to known Teotihuacan sculpture from other regions and the site itself.

**Gardella, Kristen (University of Pennsylvania)**

[186] *The Settlement Survey at Holmul: Mapping the Community and Its Landscape*

Exploration of the hinterlands of Holmul, a Maya center in the Department of Peten, Guatemala, has been ongoing since the inception of the Vanderbilt University project in 2000. In 2003, the extension of radial transects to the north and east of the site core and an additional transect connecting the adjacent Early Classic center of Sufricaya to Holmul center, have added greatly to our understanding the nature of the settlement of this regional center. Recent analysis suggests a distinctive pattern of settlement marked by specific areas devoid of habitation as well as a densely populated peripheral zone to the east.

**Gardner, Jill K. (California State University, Bakersfield) and Joan S. Schneider (University of California, Riverside)**

[106] *Geological Observations on the Relationship between Rock Weathering Characteristics and Milling- Implement Production at Quarries in the American Southwest*

Volcanic and sedimentary rock bodies weather in a variety of ways: Observations at many quarries seem to implicate jointing patterns as the most important weathering characteristic in distinguishing quarried from non-quarried faces at most milling-implement quarry and production sites. Furthermore, the jointing patterns are related to the types and sizes of the tools produced at the quarries, as well as the methodological approach of prehistoric quarry workers.

**Garrison, Ervin (University of Georgia), Wendy Weaver, Megan Mitchell (Coneco Engineers & Scientists) and Sherri L. Littman (Panamerican Consultants, Inc.)**

[177] *Geoarchaeology & Paleontology of Gray's Reef National Marine Sanctuary*

Gray's Reef National Marine Sanctuary is a series of exposed calcarenite outcrops on a drowned coastal plain. The University of Georgia and NOAA have identified a viable fossil locality composed of Pleistocene and Holocene taphocenose. Research studies have recovered fossils and two Archaic Period artifacts from a transgressive sand sheet and eroded reef facies. Vertebrate species include *Equus*, bison sp., *mammuthus* sp. and important invertebrates include bivalvia-scallops and oyster-that give insights into the paleoecology as well as eustasy and relative sea level. Sediment cores, shallow seismic reflection, and AMS-radiocarbon and optically-stimulated luminescence dating provide a basis for a working lithostratigraphy of the site. Palynological studies of the core sediments show mid-Wisconsin shifts (OIS-3/OIS-2) in frequencies of the dominant oak-pine species.

**Garver, Lydia (Indiana University) and Erin Kuns (Indiana University)**

[89] *You are What You Keep: Constructing Nationalism in Public Park Archaeology*

The choice of what sites to preserve and what time periods to explore archaeologically can be understood as a reflection of national and local interests in the past and perceptions of current relationships to them. How has the history of the United States and Canada affected the development choices made within national and state or provincial park systems? This paper will explore the relationships between archaeology and nationalism and their public presentation as they are manifest in national and state or provincial parks in the U.S. and Canada.

**Garvey, S. Raven (University of Montana)**

[187] *The Avon site, Montana: An examination of goals of biface production from a late Paleoindian context*

A collection of bifaces from the Paleoindian component (ca. 9300 B.P.) of the Avon site, near Helena, Montana, is described and interpreted. At issue is whether archaeologists can discuss the goals of stone tool production in meaningful and quantifiable ways. It is hypothesized that the bifaces in this assemblage were intended for use as core and/or long-term use-life tools. Potential goals of production are addressed through various methods including biface production stage, and the concept of a symmetry index is introduced and used to discuss the potential goals of production among late Paleoindians at the Avon site.

**Garza, Sergio (U.C. Riverside) and James Brady (Cal State, Los Angeles)**

[145] *Hule, Semen, Ulama and Machismo*

Ethnographic data collected from male Ulama players shows a strong identification of the ballgame with sexuality. To be good at Ulama is associated with being a good sexual performer and a poor player to be considered to be poor in bed. Sexual abstinence practiced before games in the past was thought to be essential to the maintenance of strength and energy. Post-game fiestas were often the occasion for sexual release. Discussions indicate that sex is an important dimension in the minds of the players and an attraction that has not been previously discussed.

**Garza, Sergio [145] see *Espinosa, Cesar***

**Gasco, Jan (CSU Dominguez Hills)**

[93] *Cacao and Economic Change in Postclassic Soconusco*

One of the commodities widely traded in Postclassic Mesoamerica was cacao, and the Soconusco region was a major cacao-producing zone. Although Soconusco was conquered late in the Postclassic period by the Aztecs, and its residents subsequently paid large quantities of cacao as tribute, Aztec domination of the region lasted for less than 40 years. To more fully understand the processes of change during the entire Postclassic period--particularly economic changes related to cacao production and distribution--I review here what recent archaeological and ethnohistorical research reveals about Postclassic Soconusco both prior to and following the Aztec conquest of the region.

**Gasco, Janine (CSU Dominguez Hills) [14] *Discussant***

**Gaspar, Maria Dulce (Museu Nacional) and Daniela Klokler (University of Arizona)**

[168] *Time to die, time to eat: ritual in shell mounds*

This study intends to present new archaeological evidence from research done in a shell mound located in the southern Brazilian coast. The site studied, Jabuticabeira II, was a communal cemetery constructed through a set of funerary ritual activities. Preliminary analysis provided evidence that can be related to the presence of feasting and mortuary offerings. We intend to investigate the ritual behavior of the people that built shell mounds and particularly explore the mortuary ritual activities performed in these sites.

**Gaspar, Maria Dulce [108] see Scheel-Ybert, Rita**

**Gates St-Pierre, Christian (University of Illinois at Chicago)**

[79] *Use Wear Analysis of Bone Awls from Iroquoian Sites*

Bone awls are very common on Iroquoian sites. Rarely studied in detail, they are also peculiar because they are usually so numerous and morphologically diverse that some of these might not be awls at all, or might be multifunctional tools. With that problem in mind, experimentally produced use wear on bone awls was examined and compared to use wear on archaeological bone awls from various St. Lawrence Iroquoian villages. The results leads to a better understanding of what these awls were used for and show the path to typologies based not solely on morphological traits, but also on function.

**Gates St-Pierre, Christian [1] see Brumbach, Hetty Jo**

**Gauthier, Rory [20] see Herhahn, Cynthia**

**Gavioli, Lisa (University of Arizona)**

[102] *Cooking Pots, Cuisine, and Household Labor at Zuni Pueblo: A Study of Protohistoric and Historic Contexts of Change*

The interrelationship of cooking technologies, cuisines, and household labor organization leads to complex configurations of change and continuity in foodways. These changes are tracked at Zuni Pueblo through analysis of utilitarian ceramics. It is postulated that changes in cooking pot manufacture at Zuni involved reorganization of household labor induced by Protohistoric introduction of flat breads and Colonial Period introduction of new domesticates. Results of strength testing and temper analysis indicate that these changes involved shifts in surface treatment, thickness, and temper preferences and were related to shifting performance requirements for cooking vessels and labor requirements for food preparation.

**Gebhard, Rupert (Archaeologische Staatssammlung, Muenchen), Werner Haeusler (Physik-Department E15, TU-Muenchen), Fritz E. Wagner (Physik-Department E15, TU-Muenchen) and Ursel Wagner (Physik-Department E15, TU-Muenchen)**

[2] *Remnants of a Bronze Age Rampart in Upper Bavaria: A Moessbauer Study*

The remains of a Bronze Age rampart found near Bernstorf, above the Amper valley, some 30 km north of Munich in Upper Bavaria, were recently studied by physical methods, mainly Moessbauer spectroscopy and X-Ray diffraction. Archaeological evidence that the rampart was destroyed by a fire could be confirmed and the temperatures reached at individual spots could be determined. They exceeded 1000°C in many places, causing the loam used in the construction to vitrify. These results demonstrate that Moessbauer spectroscopy has a useful place in archaeometry beyond studies of pottery, where it is already well established.

**Gendron, Daniel (Avataq Cultural Institute)**

[87] *Population Movement and Development on the Southern Coast of Hudson Strait during the Early Palaeoeskimo Period: Part I*

This presentation explores issues related to the initial colonization of the southern Hudson Strait coast some 4,000 years ago. In Part I we examine the relationship of these first inhabitants with human groups moving throughout the eastern Arctic during the initial peopling of these regions, and try to identify elements that will indicate their specific origin.

**Gendron, Daniel [87] see Desrosiers, Pierre M.**

**Genheimer, Robert A. [180] see Cowan, Frank L.**

**George, Diane (Hunter College - CUNY)**

[109] *Production of National Identity in Ireland*

This paper explores the production of national identity as evidenced in the material culture of

post-medieval Ireland. The transformation of cultural identity under the consolidation of British colonialism is considered, as is archaeological evidence of evolving concepts of Irish identity and nationhood. The paper investigates the role of archaeology in the process of developing and solidifying national identity and assesses the ways in which an evaluation of the archaeological record may elucidate, alter or confirm contemporary perceptions of ethnic identity and nationalism

**Germann, Carlos (Culture, Youth and Recreation, Government of Saskatchewan)**

[89] *State of the Reburial-Repatriation Movement in Canada*

Canada's policies on repatriating and re-burying ancient human remains continue to mature in response to changing ethical codes in archaeology and museums, First Nations cultural revitalization and political empowerment, a growing awareness on governments' part to consider and be responsive to the spiritual needs of Aboriginal communities, and legal judgments that bear on issues of ownership and management of human remains. This paper will review the state of the reburial-repatriation issue in Canada today and attempt to offer some perspective. Legal and ethical frameworks in various regions and jurisdictions are examined and several case studies presented as possible models of cooperation, co-management, and remedy.

**Gero, Joan (American University)**

[157] *Can Feminist Archaeologies Co-Exist with Mainstream Practice?*

The resounding response generated by Conkey and Spector's call for attention to gender is reflected today in many theoretical and empirical directions developed in the last twenty years. But the fundamental feminist transformation of structure and practice that Conkey and Spector envisioned in 1984 has not been accomplished. This paper inquires whether 'revolutionary transformations' can still take place in discrete areas of the discipline as a continuation of the development of a (separate) feminist line of practice, or whether such a fragmentation of disciplinary perspectives must necessarily marginalize a largely ineffective subclass of practitioners.

**Giacobini, Giacomo [79]** see *Vercoutere, Carole*

**Gibbs, Kevin (University of Toronto)**

[169] *Persistent Pots: Zapotec ceramics in the Oaxaca barrio, Teotihuacan*

Around AD 200 Zapotec immigrants from the Valley of Oaxaca settled near the western edge of Teotihuacan. For centuries these settlers retained elements of a distinctly Zapotec material repertoire, including public architecture and tombs. Zapotec pottery was also made in the barrio, but unlike more public or ritual objects, the duration of its manufacture is debated. This is unfortunate because domestic objects such as pottery also play a role in constructing a group's sense of identity. This paper provides evidence for a long duration of pottery manufacture, and examines pottery's role in the construction of a distinct Oaxaca barrio identity.

**Gibbs, Sherry (Belize Tourism Development Project) and Jaime Awe (Belize Institute of**

[116] *The Architecture of Caracol: a Different Angle*

For the past 3 years the Tourism Development Project of Belize has conducted excavations and consolidation work at the site of Caracol. This project has had the opportunity to fully expose and consolidate terminal phase architecture constructed during the Late Classic period. In certain areas of the site earlier architectural phases have also been exposed. An example of this is on the large A1 complex, where architectural 'ramps' dating to different time periods were exposed on both the northern and southern ends of the complex. This paper explores and discusses possible purposes and functions of these architectural features.

**Giblin, Julia (Florida State University) and Michelle Hughes (Florida State University)**

[123] *Mortuary Analysis of an Early Copper Age Settlement on the Great Hungarian Plain*

This paper focuses on the skeletal material and burial practices identified at Vésztő-Bikeri, and how these data relate to the changing dynamics of mortuary practices during the later prehistory of the region. Basic age, sex, and health information was collected from the two prehistoric burials excavated (one adult and one sub-adult) at Vésztő-Bikeri. The data are discussed with regard to position, orientation, grave goods, and are compared with burials from other Early Copper Age sites in the region.

**Gibson, Denise (University of Saskatchewan) and Geoffrey McCafferty (University of Calgary)**

[165] *All That Glitters is Not Gold: Elite Production of Status Markers in Santa Isabel, Nicaragua*

The site of Santa Isabel, Nicaragua yields many treasures. Here we will be exploring the evidence, discovered in the summer of 2003, of lithic tool manufacture, greenstone production, textile manufacture, and worked bone. Through the spatial plotting of these types of manufacture we hope to explore the ideas of craft and spatial specialization across the site. In this study we strive to gain a better understanding of modes of manufacture, elite production, and craft specialization in the Rivas region, and through this a better understanding of the culture itself.  
**Gibson, Denise [165]** see *McCafferty, Geoffrey*

**Gibson, McGuire [54]** see *Hritz, Carrie*

**Giesler, Jennifer (University of California, Santa Barbara) and Eric Nocerino (University of California, Santa Barbara)**

[2] *Functional Differences Between Two German Neolithic Surface Collections*

Lithic materials from two sites in southwest Germany were analyzed as part of a larger project investigating Neolithic settlement on the Swabian Alb Plateau. The first site, Sonderbuch 8, has a varied plowing history. The second site, Wipplingen 1, is located 100 meters from a raw material source and 5 kilometers from Sonderbuch 8. Wipplingen 1 had a higher percentage of heating and retouch, while Sonderbuch 8 contained a higher number of cores and blades. Results will be discussed in terms of exploitation of raw material, functional differences between sites, and the effect of plowing on artifact recovery.

**Gifford, Chad (Columbia University), Sam Connell and Ana Lucia Gonzales**

[184] *Colonial Bookends: Encountering the Inkas in Argentina and Ecuador*

Understanding the nature of colonialism in the wake of state expansion remains one of the central problems in the anthropological study of pre-modern societies. In the case of the Inka Empire Andean scholars consistently remind us that the interplay between Inka strategies of colonization and the initiatives of provincial groups created a tremendous diversity of relationships across the Andes. This paper compares archaeological data from Argentina and Ecuador and provides research updates from two distant but well-known Inka settlements. In the first case, architectural and site-planning data from the Calchaqui Valley (Argentina) are explored for evidence of consensual colonial encounters. In the second case similar data from Pambamarca (Ecuador) are presented as evidence for entirely different conflictive encounters. While both top-down and bottom-up perspective are crucial in the study of pre-modern colonialism, this paper emphasizes in particular the later in its attempts to reconstruct and understand Inka imperialism.

**Gifford, Chad [4]** see *Connell, Samuel*

**Gifford-Gonzalez, Diane (U of California-Santa Cruz) [42]** *Discussant*

**Gifford-Gonzalez, Diane (U of California - Santa Cruz)**

[10] *The Place of Cartoons in Visual Anthropology*

Cartoons famously communicate a short, sharp message, nearly always with a humorous edge that can range from subtle to savage. Over the last two centuries, the variety of cartoon types in popular discourse has grown and ramified tremendously. Visual anthropology has only begun to deal with any of these forms, either from historic times or from the present. This presentation looks at the ways in which anthropological cartooning explicitly expresses cultural insights and how cartoons with anthropological themes blend and blur the boundaries between the academic and the popular.

**Gifford-Gonzalez, Diane [74]** see *Peabody, Joshua*

**Gil, Adolfo [4]** see *Shelnut, Nicole*

**Gilbert, Allan (Fordham University) and Rob Sternberg (Franklin & Marshall College)**

[26] *Historical Geoarchaeology at the Rose Hill Manor Site, Bronx, NY*

Three geoarchaeological investigations conducted on historic site remains at Rose Hill manor in the Bronx are described. First, compositional analysis has provided not only production sources for many of the bricks but also who made them and under what circumstances. Second, a stone survey of the manor's foundations has revealed something about access to resources by the various builders, their financial investment, and their approaches to structural problem solving. Third, archaeomagnetic dating has shown that archaeointensities and magnetic inclinations may allow individual bricks to be dated by reference to the geomagnetic secular variation curve for their region of manufacture.

**Gilbert, Louis (Universite Laval)**

[87] *A GIS analysis of Dorset Settlement Patterns on Southern Hudson Strait (Nunavik, Quebec, Canada)*

There is an accepted idea that Arctic prehistoric population's settlement patterns follow some environmental criteria as for their location on the territory. However, there are little studies in Northern Quebec trying to explicitly and systematically correlate settlement location with environmental traits. In this paper, GIS is used to evaluate these relationships in the study region. Given that recent theoretical developments in landscape archaeology suggest an important role for social and cognitive factors in the settlement decision-making process, the identification of the ecological aspects of settlement open the way to better understand those other aspects.

**Gilead, Isaac (Ben Gurion University)**

[152] *The Qatifian and Other Pre-Ghassulian Traditions in Southern Palestine*

The "Qatifian culture" of southern Palestine was defined in the late 1980's. It was regarded as a late Neolithic entity, about 7000 years old, a precursor of the Chalcolithic Ghassulian culture. During the past 15 years, new late Neolithic/Early Chalcolithic sites have been excavated and more 14C dates are now available. This paper discusses the impact of the new data for a better understanding of the pre-Ghassulian cultural sequence.

**Giles, Bretton (SUNY Binghamton)**

[56] *The Power of Place in the Eastern Woodlands*

I explore how changes in the constitution of "place" in the landscape of the Eastern Woodland, from the Late Archaic through the Mississippian, created new arenas for the expression of social power. Foucault's (1984) notion that social power is based on the control of social space is used as an entry point into how changes in the constitution of "place" articulate with changes in social power. The emergence of mounds, earthworks, "permanent" settlements, and agricultural fields in the Eastern Woodlands are interpreted as leading to diversification in the avenues to social power, although not necessarily social stratification.

**Gilgan, Elizabeth (AIA)**

[89] *Supply and Demand: Assessing the American art market's role in the pillaging of Mesoamerica*

Over the past 30 years, the illegal export of artifacts has increasingly depleted Central America's rich cultural heritage. Looting and destruction of archaeological sites in Mexico, Guatemala, Honduras, El Salvador and Belize can be attributed, in part, to the demands of the American art market. The illicit trade of Maya antiquities will be considered in light of consumer demand and solutions will be proposed with regard to current legislation and local law enforcement policies.

**Gill, Adolfo Fabian (Museo De Historia Natural De San Rafael (Conicet)), Robert Tykot (University of South Florida), Gustavo Adolfo Neme (Museo De Historia Natural De San Rafael (Conicet)) and Alicia Mabel Hernandez (Museo De Historia Natural De San Raf**

[86] *Maize on the Frontier: Isotopic and Macrobotanical Data from Central-Western Argentina*  
Evidence from arid Northern Chile, containing prehistoric maize is presented from sites such as Tiliviche and Camarones 14. New stratigraphic controls and C-14 dates from Tiliviche assure that maize was present there between 5255-4760 B.C., but with even more emphasis between 3235-2720 B.C. From the Pichasca site, new AMS samples of maize and *Phaseolus* are providing a different perspective. Additionally, new data from Guatacondo and Ramaditas, in the Atacama desert complete the report. Problems related to the homogeneity of varieties and their possible antiquity are also discussed. Overall, new hypothesis and insights are suggested for future research.

**Gillam, J. Christopher (University of South Carolina (SRARP-SCIAA)), Alexander A. Kryp'anko (Far Eastern State University, Vladivostok, Russia), Anatolii M. Kuznetsov (Far Eastern State University, Vladivostok, Russia) and Andrei V. Tabarev (Institute [149] *Upper Paleolithic Research in the Russian Far East***

The Maritime Region of the Russian Far East contains numerous sources of obsidian used by hunter-gatherers during the late Pleistocene. Ongoing excavations at sites dating to the final Upper Paleolithic, such as Osinovka and Gorbatka-3, are expanding our knowledge of these early cultures. As the distribution of Upper Paleolithic sites becomes clearer, new research examining the geographic patterns of migration, interaction, and exchange has begun to take form. Using known archaeological distributions with geographic data from the U. S. Geological Survey we have begun to explore potential paths connecting sites and sources throughout the natural

landscape of the region.

**Gillespie, Susan (University of Florida) [137] *Discussant***

**Gillette, Donna (University of California, Berkeley)**

[170] *The Application of Ethnographic Analogy in Rock Art Research*

Ethnographic analogies were introduced in 1889 as a general theory to interpret Upper Paleolithic cave paintings in Europe, based largely on similarities with Australian cultures, yet, the acceptance of ethnographic analogy as a viable interpretive tool still comes under scrutiny. Questions prevail regarding the determination of cultural continuity, validity in deep time, and the accuracy of the questioning and recording process by ethnographers. In the last several years, several archaeologists and rock art researchers, particularly in South Africa, Australia, and North America (especially California) have argued both sides of the issue. How are ethnographic analogies informing rock art research?

**Giovas, Christina M. (University of Washington)**

[124] *No Pigs Atoll: Island Biogeography and the Extirpation of a Polynesian Domesticated Behavioural Traits*

The extinction of domestic mammals is a phenomenon apparently unique to prehistoric Polynesia. Although well-recognized, the local extinction of domestic pigs in Polynesia prior to European contact has yet to be satisfactorily explained. Earlier accounts attributed the patchy distribution of pigs across the island South Pacific to intentional extermination by their Polynesian keepers. More recent approaches, however, seek to understand the disappearance of these animals within a biogeographic and ecological framework. Here, I test the hypothesis that pig husbandry could not be sustained on smaller islands and demonstrate that the likelihood of pig extinction increases with decreasing island size.

**Giraud, Rachel (UC Berkeley)**

[98] *The Past Less Travelled*

Material culture is archaeology's commodity, and excavation is where many material culture encounters take place. Time spent literally uncovering the past becomes part of the process of archaeological interpretation. Rather than assuming that particular interpretations are ever self-evident, it is necessary to study the social act of excavation to gain an understanding of the dynamics of interpretation. This paper addresses the excavation process and what it means to excavators, based on a case study of the life-histories approach, which considers the re-uses and re-appropriations of ancient objects, at Monte da Igreja, Portugal.

**Gladwell, Randi (University of New Mexico), Larisa Pacheco (University of New Mexico), Viorel Atudorei (University of New Mexico), Zachary Sharp (University of New Mexico) and Tiffany Tung (University of North Carolina, Chapel Hill)**

[25] *Atomic Llama: Can Stable Isotope Analysis of Camelid Hair be used to Measure Andean Pastoralist Activities and Herding Practices?*

Stable isotope analysis performed on camelid hair may offer a new method to make inferences about migration activities and herding practices of Andean pastoralists during the Middle Horizon (AD600-1000) and first half of the Late Intermediate Period (AD1000-1150). The objective is to determine where camelids lived throughout their lifecycle and what food they consumed. This is achieved through stable isotope analysis of sequential segments of camelid hair recovered from the site of Beringa (7000 m.a.s.l), in the Majes Valle of the southern Peru. The stable isotope data elucidate camelid elevation movement (hydrogen) and their dietary intake (carbon, nitrogen, and sulfur).

**Glantz, Michelle [2] see Ritzman, Terrence ; [2] see Adams, Jeffrey A.**

**Glascok, Michael (University of Missouri), John Cook (BLM-Alaska), Randy Korotev (Washington University-St. Louis) and Larry Haskin (Washington University-St. Louis)**

[8] *Characterization of Sources and Distribution of Obsidian Artifacts in Alaska*

Obsidian has proven to be an invaluable tool for the elucidation of local, regional, and long-distance exchange in many areas of the world. Over the past 25 years, more than 1000 obsidian source specimens and artifacts from Alaska, the Yukon Territory, British Columbia, and northeastern Siberia have been characterized by instrumental neutron activation analysis. From these data, more than 40 discrete varieties of obsidian have been identified within the region.

These data offers glimpses of prehistoric exchange patterns in Alaska that have not been discernible by any other means.

**Glascock, Michael [126]** see *Benco, Nancy*; [29] see *Chiarulli, Beverly*; [8] see *Speakman, Jeff*; see *Kennett, Douglas*; [3] see *Little, Nicole*

**Glassow, Michael (University of California, Santa Barbara) [171]** *Discussant*

**Glatz, Claudia (University College London)**

[80] *Negotiating empire. A comparative investigation into the responses to Hittite imperialism by the vassal state of Ugarit and the semi-nomadic herders of the Pontic region.*

Hittite imperialism is characterised by a set of strategies to expand and exploit. In this process, numerous peripheral strategies, as diverse as the societies themselves, were encountered and different relationships created. Based on archaeological and historical evidence, this paper will compare and contrast the spectrum of tactics of resistance and adaptation to Hittite imperialism by the vassal state of Ugarit and the nomadic populations of northern Anatolia. The aim of this paper is to highlight the diversity of core-periphery relationships within a single imperial entity and the causal importance of peripheral agency to overall imperial developments.

**Glaude, Matt (Washington State University) and Mark Collard (Washington State University)**

[2] *An assessment of the phylogenetic status of shared Neanderthal and modern human behavioural*

D'Errico (2003) has argued that many behavioral traits that have been considered to be unique to modern human can also be found in Neanderthal contexts. This raises the key phylogenetic issue of whether the resemblances between the two species are synapomorphic, symplesiomorphic, or homoplastic. Here we report the results of a study that examines technological, temporal, and geographic aspects of the traits highlighted by D'Errico in order to determine their phylogenetic status. Preliminary results of the study suggest that traits of all three kinds are present in D'Errico's list, which has important for our understanding of modern human origins.

**Glencross, Bonnie [26]** see *Agarwal, Sabrina*

**Glidden, K. C. (Chris) (Indiana University Purdue University Indianapolis)**

[30] *Archaeology as an Educational Tool: The Successes of the Next Step Education Through Archaeology Project*

The Next Step Through Archaeology Project (NSEAP) at Martin University in Indianapolis, Indiana has just completed its fifth annual field school at Benjamin Harrison State Park. Inner-city high school students, supervised by graduate students, provide the archaeological labor and produce research papers that are a part of the Phase II Archaeological Survey report as mandated by the state. The poster highlights the five years of student research, the site they have worked on, and their evaluations of how the archaeological program has helped them in their personal lives and with their educational goals.

**Glowacki, Donna (Arizona State University), Fumiyasu Arakawa (Washington State University), C. David Johnson (Washington State University) and Hugh Robinson (Washington State University)**

[72] *Community Center Survey: Large Sites in Central Mesa Verde Revisited*

Within our project study area there are about 100 sites dating from A.D. 600-1300, that stand out as being significantly larger than the rest of the recorded habitation sites. Our crew visited 59 of these sites to record information related to site size and occupation period in order to provide better data for a larger project modeling settlement patterns in the Central Mesa Verde region. During two seasons of survey, our work produced new maps of 35 of these sites and nearly 40,000 sherds were analyzed to better date site occupations. This poster summarizes our results.

**Glowacki, Donna [54]** see *Varien, Mark*

**Gnivecki, Perry (Miami University, Oxford, Ohio)**

[36] *Lucayan Spatial Organization: Views from the Three Dog Site, San Salvador Island, Bahamas*

The Lucayans encountered Christopher Columbus on 12 October 1492. Excavations at the Three

Dog Site (SS21), conducted from 1984-1994, revealed a Lucayan occupation dating to the AD 800's making it one of the earliest Lucayan sites in the Bahama archipelago. Spanish material dating to the AD 1490's was also recovered. Analyses of artifacts, ecofacts, and features provide unique insights into Lucayan spatial structure and organization. The use of space at this site will be analyzed and interpreted in light of Susan Kent's contributions to this subject.

**Gnivecki, Perry L. [92]** *see Whyte, Thomas R.*

**Goebel, Ted (University of Nevada Reno), Ken Adams (Desert Research Institute), Kelly Graf (University of Nevada Reno), Pat Bruce (University of Nevada Reno) and Zandra Winter (University of Nevada Reno)**

[83] *Jakes Depression: A New Clovis Site in the Great Basin*

We know precious little about the Clovis occupation of the Great Basin. Surface sites with Clovis artifacts are rare, and buried sites in sealed primary contexts have not been found. One Clovis discovery that has the potential to contribute significant information about the region's early human inhabitants is Jakes Depression, an extensive surface Paleoindian site located 50 km west of Ely, eastern Nevada. Here we present the first results of (1) surface mapping of the site, (2) geologic trenching in the vicinity of the Clovis finds, and (3) lithic analyses of Clovis and stemmed point assemblages thus far recovered.

**Goebel, Ted [11]** *see Graf, Kelly*

**Gohacki, Brian (Brown University) and Krysta Ryzewski (Brown University)**

[100] *A Ships' Graveyard at Newport : Documenting and Preserving Rhode Island's Maritime Heritage*

Since the beginning of the British Colonial period in North America, the ports of the Ocean state have played a conspicuous role in the development of transatlantic and global maritime commerce. The multiple historic wrecks found in the "Ships' Graveyard" of Breton Cove illustrate the challenge of preserving and documenting Rhode Island's maritime heritage in the face of a still-vibrant modern maritime culture. This season's investigations, part of an ongoing effort to document the state's underwater archaeological resources, have concentrated on an unidentified 19th century wreck at the base of the Fort Adams boat ramp, a site that is both particularly threatened and of potentially extreme historical significance due to its possible connection to the illicit slave trade.

**Goldberg, Paul [3]** *see Levine, Marc*

**Goldberg, Paul (Boston University)**

[129] *A Geologist Working with Archaeologists*

I have spent much of my professional career working with archaeologists, on sites ranging from prehistoric caves to recent Bedouin tents. The best interactions transpire when there is full candidness and willingness to change hypotheses resulting from both geological and archaeological data. The worst experiences have involved researchers with limited vision and pre-occupations with material or bio-anthropological finds; they tend to minimize context and geological efforts to provide the stratigraphic framework upon which everything else hangs. Three decades of collaboration with Ofer Bar-Yosef have encouraged me to integrate the questions and answers that archaeologists and geologists are always asking.

**Goldberg, Paul [23]** *see Mentzer, Susan*

**Golden, Charles [119]** *see Scherer, Andrew*

**Golden, Charles W. (University of Pennsylvania)**

[175] *Not too Weak, Not too Strong: Reformulating Classic Maya States*

Classic period Maya polities have typically been examined through the lens of cross-cultural models of "states" that oscillate between "strong" and "weak" formulations. These models are hampered by their static nature, their origins in other areas of the world, and an exclusive focus on the top tier of the socio-political hierarchy, ignoring the dynamic nature of competition and resistance at all levels of society. This paper presents a conception of the Maya state based on a dynamic understanding of social processes of power, competition and resistance; processes that participated in the growth and the eventual collapse of the Classic system.

**Golden, Charles William [160]** *see Muñoz, Arturo*

**Goldsmith, Sean (University of Calgary)**

[67] *Material Variability Among Ancient Houselots at Chau Hiix, Belize: Some Observations and Implications.*

Three seasons of the Chau Hiix Houselot Project have collected a substantial material database regarding domestic activities at that ancient Maya site. The project has focused on a multi-stage field methodology that has defined and sampled within entire houselot areas rather than excavating into mounds alone. It is thought that sampling from the material refuse of entire houselot areas allows more meaningful discussion of variability as it is manifested from one domestic compound to the next. This paper examines some of the implications of houselot material variability, especially as it relates to ancient Maya rural community integration.

**Goldstein, David [71]** see *Valencia, Rossana Nelly Quiste*

**Goldstein, David John (Southern Illinois University) and Izumi Shimada (Southern Illinois)**

[153] *Feeding the Fire: Food, Metal, and Ceramic Production in the Middle Sican Period (950-1050 C.E.)*

Recent investigations of the Huaca Sialupe metal and ceramic production site permit a better understanding of technology and production during the Middle Sican on the Peruvian North Coast. We have excavated a series of food preparation areas attendant to the production contexts, and use a paleoethnobotanical approach to compare the plant remains from these features to describe resource use at the site. We use the Sialupe data as a case study for interpreting the relationship between the organization of craft production and the social and cultural forms of food preparation and distribution.

**Goldstein, Lynne [156]** see *Gaff, Donald*

**Goldstein, Paul (UCSD) and Tara Carter (UCSD)**

[71] *An Outpost in Tiwanaku's valley: The Wari occupation at the Cerro Trapiche site*

Our previous understanding of the Tiwanaku - Wari frontier has focused on the segregation of the two cultures in the middle and upper Osmore drainages, respectively. 2003 excavations of a substantial Wari occupation at the Cerro Trapiche site confirm that Wari maintained one occupation site within sight of a major Tiwanaku town in the middle Moquegua valley. The significance and dating of Wari architecture and site functions at Trapiche is examined in the context of the middle Valley's far more substantial Tiwanaku settlement pattern.

**Goldstein, Paul [175]** see *Frachetti, Michael*

**Golladay, Amy [100]** see *Trigg, Heather*

**Gomez-Otero, Julieta [4]** see *Falk, Nicole*

**Gonzales, Ana Lucia [184]** see *Gifford, Chad*

**Gonzales-Licon, Ernesto (INAH-Mexico) and Enrique Terrones-Gonzalez (INAH-Mexico)**

[27] *Gender, Hierarchy, and Funerary Practices among Postclassic Maya of Chac-Mool, Quintana Roo.*

Based on funerary analysis, we explore gender relations and social inequality among the inhabitants of Chac-Mool during the Early and Late Postclassic which are related to mayor social and political changes in the northern Maya Region. Chac-Mool was a relatively small settlement but strategically located for shore and continental trade at the eastern coast of the Yucatan peninsula, between the Ascension and Espiritu Santo bays. Here we employ traditional archaeological, mortuary, and skeletal indicators as well as demographic analysis that allow a more detailed understanding about gender relations, power and prestige of this population throughout time.

**Gonzalez, Ana Lucia [4]** see *Connell, Samuel*

**Gonzalez Herodia, Raymundo [27]** see *Folan, William J.*

**Good, Catherine (Instituto Nacional de Antropología)**

[21] *Traditional Gardening Techniques among Nahuatl Indians: Huertas de Humedad in the Balsas River Valley, Guerrero, Mexico*

This paper documents a form of dry season gardening, huertas de humedad, practiced by nahuatl speaking Indians in the state of Guerrero, Mexico. These plots, constructed on the banks of the Balsas River as the water level recedes in the dry season, were reported by Spaniards in the sixteenth century and described by Pedro Armillas in the 1940s. This agricultural system is of special interest because it represents a contemporary continuation of prehispanic farming techniques. Based on ethnographic research this paper considers the construction techniques, crops grown, social organization of gardening, economic importance, ecological implications of this form of agriculture.

**Good, Catherine [166]** see *Olvera, Priscilia*

**Goodale, Nathan (Washington State University) and Ian Kuijt (University of Notre Dame)**

[85] *Lithic Technology Trajectories and the Forager to Farmer Transition: An Examination of Late/Final Natufian and Pre-Pottery Neolithic A Occupations at 'Iraq ed-Dubb, Jordan*  
The technological trajectory of the Near East forager-farmer transition remains unresolved. This report presents a detailed spatial and stratigraphic analysis of the chipped stone assemblages dating to the Late/Final Natufian and Pre-Pottery Neolithic A occupations at 'Iraq ed-Dubb, Jordan. As the only known site with radiocarbon dates from both of these periods, this analysis allows for a detailed comparison on the presence/absence and spatial distribution of specific tools for these occupations. This critical evaluation of cultural events provides a more thorough understanding of lithic technology in the transition from high mobility to sedentary residences based on an agricultural economy.

**Goodman Elgar, Melissa (University of California, Berkeley)**

[170] *A geoarchaeological exploration of Andean mudbrick structures*  
Precolumbian structures in the Andes are often constructed of adobe mudbricks, or at least assumed to be. Construction and taphonomic processes of mudbricks are not well understood. This ethnoarchaeological study employed geoarchaeological methods including soil micromorphology to assess the impact of mudbrick composition and structure, hearths, surface treatments and features such as roofing material on the taphonomy of abandoned house decay. The results provide insight into the identification of buried structures and features applicable to the Andes and other regions where earth is a primary construction material. Keywords: Andes, ethnoarchaeology, mudbricks, soil micromorphology

**Gopher, Avi (Tel-Aviv University) and Ron Barkai (Tel-Aviv University)**

[129] *Qesem Cave: An Acheulo-Yabrudian Site in Israel*  
Qesem Cave is found ten klms km east of Tel Aviv. Although damaged by road construction excavations exposed rich assemblages of fauna and lithics in an outstanding state of preservation. Two short salvage seasons revealed ca. 7.5 m of sediments with overlying distinct archaeological horizons, mainly assigned to the Acheuleo-Yabrudian. Assemblages dominated by blade production and blade tools alternate with flake dominated assemblages. A series of U/Th (TIMS) dates indicate a range of ca. 400-210 kyr for the Acheuleo-Yabrudian of Qesem Cave.

**Goring-Morris, Nigel [152]** see *Belfer-Cohen, Anna*

**Gorman, Alice (Honorary Research Fellow, University of New England)**

[104] *Beyond the Space Race: the significance of space sites in a new global context*  
Typically, space history is configured as the Space Race. The US and USSR achievements in space are held to be the achievements of all mankind; the claimed universality of the human drive to conquer space masks economic, social and political inequalities between space-faring and non-space-faring states, between men and women, and between imperial powers and their colonies. I argue that it is crucial to explore these inequalities in order to properly manage the cultural heritage of the space age, through an examination of the significance of terrestrial and celestial space sites such as Woomera (Australia) and Vanguard I.

**Gorgianni, Evi (Department of Classics, University of Cincinnati) and Ols Lefe (Department of Classics, University of Cincinnati)**

[52] *Politics and Material Culture Change: A Study of the Burial Customs of Modern Albania and Their Change from the Communist to the Post-Communist Era.*  
Albania is a country that has undergone radical socio-political change during the last 60 years. It went from a strict Marxist-Leninist regime, which imposed almost complete social, political, and economic isolation upon its population, to a fledgling, liberal democracy, which has again opened

its borders to the rest of the world. In this paper, we will demonstrate how these societal transformations affected the material record and effected change, especially visible in the burial customs of modern Albanian population. The data we are focusing on derive from two cemeteries in South-Central Albania.

**Gosden, Chris (Pitt Rivers Museum Research Centre)**

[78] *Material Culture and Agency*

Human actions are shaped and constrained by the material culture that people make and use. Consequently, I contend not that objects have agency, but that an understanding of human agency is only possible once the material settings of life are taken into account. Material culture not only enables human action; our appreciation of the material things through our senses and the actions of our bodies provides people with a sense of the possible and the socially acceptable. I illustrate my argument by an example of the rapid changes taking place between the late Iron Age and Romano-British periods in Britain.

**Gossett, Gary [7]** *see Bates, Brian*

**Gough, Stan [33]** *see Galm, Jerry*

**Gould, Drusilla [31]** *see Dittmann, Jack*

**Gould, Rae (Nipmuc Nation) and Elaine Thomas (Mohegan Tribe)**

[177] *Reclaiming Our Past – A New Role for Native Americans in the Archaeology of Southern New England*

Native American archaeologists and certified SCUBA divers Elaine Thomas (Mohegan) and Rae Gould (Nipmuc) will share their interests and views on the role of Native people in Southern New England archaeology. Thomas and Gould offer the unique perspective of Natives who have trained and work in the field. They will suggest approaches for interpreting Native American archaeology and the role that tribal people should assume in an expanded dialogue between non-Native and Native archaeologists.

**Gould, Richard (Brown University)**

[16] *Practical Theory in Ethnoarchaeology and Recent Events*

Is archaeology simply the study of the human past? Recent events compel a view of our discipline that meets basic human, as well as scholarly, needs. As Team Leader for the only archaeologists performing forensic recoveries at the World Trade Center and The Station nightclub fire, I will show how ethnoarchaeological skills helped bring some order to these disaster scenes. Our team, Forensic Archaeology Recovery, applied its expertise to help these communities heal after traumatic experiences. Pragmatic approaches to archaeology and ethnoarchaeology are emerging as tools for resolving problems faced by survivors of mass-casualty disasters and understanding such disasters.

**Graesch, Anthony [74]** *see Arnold, Jeanne*

**Graesch, Anthony P. (UCLA)**

[63] *Stó:lō Leaders, Labor, and Economy in the early Historic Period: Household Archaeology at Welqámex, Greenwood Island*

This presentation highlights new research addressing Historic-Era (A.D. 1800-1900) multicultural interaction in the upper Fraser River Valley of southern British Columbia. Here, following the abatement of the Northern Pacific fur trade, Euro-Canadians constructed several large trading posts along key British Columbia rivers in order to exploit interior fur supplies. Using Stó:lō (Coast Salish) households as a lens onto change and continuity in traditional lifeways, this project examines the effects of sustained European-Stó:lō contact and interaction at Welqámex, a large Stó:lō community situated on Greenwood Island in the middle of the Fraser River opposite Fort Hope. Archaeological, ethnographic, historical, and oral historical data are considered.

**Graf, Kelly (University of Nevada Reno) and Ted Goebel (University of Nevada Reno)**

[11] *Upper Paleolithic Toolstone Procurement and Selection across Beringia*

Archaeologists have long recognized that at least two Upper Paleolithic complexes existed in Beringia during the latest Pleistocene, the non-microblade Nenana complex and the microblade-rich Denali complex in central Alaska. Although some have argued that these represent two different cultural groups, others contest that variability represents site activity or other behavioral

differences. Beyond typology, however, analyses have not been conducted to describe and explain this variability. Our paper explores toolstone procurement and selection as a measure of behavioral differences among these complexes of late Pleistocene Beringia, drawing upon data from Ushki in Kamchatka and Nenana and Denali sites in Alaska.

**Graf, Kelly [83]** see *Goebel, Ted*

**Graham, Elizabeth (University College London)**

[50] *Close Encounters*

Ritual, religion, and cosmology are essential components of ancient Maya and contemporary social life. To understand Maya ideology before and during the Spanish Conquest, and to gain insight into Precolumbian worldviews, we Mayanists, at one level, have to break the barrier of 'difference' and see our worldview as connected to the Precolumbian experience. If we fail to recognize this connection, or our role in history, then whether we view the impact of conquest via conversion (my research interest), hybridization, resistance or revitalization, the more articulate we become about our questions, the more distance will exist between us and the answer.

**Graham, Elizabeth [14]** *Discussant*; [146] *Discussant*; see *Howie, Linda*; [67] see *Powis, Terry*

**Grant, Vernelda J. (San Carlos Apache Tribe, Historic Preservation and Archaeology Department)**

[179] *Managing Heritage Resources Through Two Looking Glasses: The Use of Western Science and Traditional Western Apache Perspectives on Archaeology, History, and Legislation*

The Historic Preservation and Archaeology Department oversees the management of cultural and heritage resources on the San Carlos Apache Reservation located in southeastern Arizona. The Department's primary mission is to protect and conserve archaeological, historical, and traditional cultural places on and off the reservation through the practice of combining scientific research, cultural resources legislation, and traditional Western Apache teachings. The practice has been largely successful although some conflicts pertaining to funding, compliance, and cultural responsibilities exist. Through the use of science and traditional teachings the Historic Preservation and Archaeology Department continues an optimistic journey by building upon its successes.

**Graves, Michael [54]** see *Ladefoged, Thagn*

**Graves, William (University of Iowa) and Scott Van Keuren (Natural History Museum of Los Angeles County)**

[153] *What Feast? The Social Context of Food Presentation and Consumption in the Late Prehispanic Southwest*

Feasting in the American Southwest has received considerable attention from archaeologists, especially those interested in linking evidence of feasting practices to the rise of inequality, ritual control and power, or other elements of sociopolitical organization in prehispanic Pueblo society. In this presentation, we examine the feasibility of using feasting practices as an indicator of political practice in the past and offer some alternate ideas concerning changes in the scale of food preparation and consumption and the intent of food presentation evident in the late prehispanic period. We illustrate our discussion with examples of decorated serving bowls from the Pueblo Southwest.

**Gravina, Brad (Cambridge University) and Alexandre Steenhuyse (University of Pennsylvania)**

[23] *Analysis of recently excavated lithic assemblages from Asinipodian layers 6a and 6b of the Middle Paleolithic site of Pech de l'Azé IV (Dordogne, France)*

During the 2003 field season at the site of Pech de l'Azé IV (France), an analysis of recently excavated lithic assemblages from the layers 6a and 6b was conducted. Through refitting, particular aspects of the taphonomic integrity of these two levels were investigated. The resulting refits contributed to a new understanding of their internal organization. The secondary goal of the project was to collect new data to further document the technological originality of the Asinipodian industry found in layers 6a and 6b, which is characterized by the systematic production of very small flakes.

**Gray, Deborah W. [173]** see *Schneider, Joan S.*

**Gray, Nadine (University of British Columbia)**

[174] *From the Formative to the Post-Classic: Ceramics as an Archaeological Indicator of*

*Mesoamerican Feasting*

As ceramics are the fossilized remains of human activity, the activities conducted within archaeological contexts (building, courtyards, houses, temples) directly relates to social groups (ritual, administrative, elite, or non-elite) behaviours in these places. By understanding the ceramic variability and patterning of ceramic assemblages from these contexts, we can begin to explore the range of economic, political, and social activities in which social groups engaged. One of these activities was feasting. I will discuss how ceramics can be used to highlight feasting behaviour by presenting Mesoamerican case studies spanning from the Early Formative to the Post-Classic Periods.

**Gray, Nadine [95]** see *MacDougall, J. Paige*

**Grayson, Donald K. (University of Washington) and Carol J. Frey (University of Washington)***[55] Measuring Ungulate Body Part Representation in Archaeological Contexts*

Using archaeological faunas from South Africa (Elandsfontein), Iran (Kobeh Cave), and France (Rond du Barry), we document that NISP-based ungulate body-part analyses can replicate the results of such analyses based on MNE, MAU, and single-element MNI values, and that there are strong probabilistic reasons to expect that the results of these different approaches will normally be consistent with one another. Statistical analysis can identify cases in which the results obtained from these measurement units will not coincide, allowing researchers to consider the relative advantages and disadvantages of each in any given context.

**Greaves, Russell (University of Texas at San Antonio)***[16] Ethnoarchaeology beyond the material plain*

Ethnoarchaeology offers critical anthropological insights into human culture. Much current ethnoarchaeology focuses narrowly on technological manufacture and use, with minimal impact beyond archaeological research. Ethnoarchaeology provides opportunities to situate material culture studies and archaeological site formation within broader perspectives to address human cultural strategies. The vast archaeological record has an immense time depth and geographic distribution of behaviors representing a much greater range of human cultural adaptations than can be studied ethnographically. Creative ethnoarchaeology links modern human behaviors and material residues to significantly expand the analytic potential of the archaeological record and augment anthropological knowledge of cultural variability.

**Greber, N'omi B. (Cleveland Museum of Natural History) [180]** *Discussant*

**Greek, Maria [2]** see *Manske, Kelly*

**Green, Debra (University of Illinois at Chicago)***[75] Over the Cliff and into the Gully: Landscape Change and Late Archaic Bison Hunting Strategies*

Research at the Certain site in western Oklahoma provides evidence that Late Archaic hunters utilized two different geomorphic areas to trap and kill bison over a 500-year period. The site is in a canyon that is currently flushed of sediments exposing a 25 m high sandstone cliff with two bone deposits at the base of this cliff. Bone deposits are also observed in the multiple side gullies in the northern portion of the canyon. As a result, landscape evolution is a viable environmental factor when studying the mobility and subsistence patterns of hunter-gatherers.

**Green, William [37]** see *Rodell, Roland L.*

**Greenlee, Diana M. (University of Washington)***[86] Isotopic Evidence for Dietary Change Associated with the Spread of Maize Farming in the Ohio Valley*

Stable carbon isotope analysis of collagen derived from archaeological human skeletal remains is a useful way to track dietary change associated with the appearance and spread of maize-dominated subsistence systems. Here, I consider the stable carbon isotope record of the middle and upper Ohio River valleys. With more than 450 individuals represented, the Ohio Valley isotopic record is well-suited for examining the timing, tempo and structure of dietary change associated with the spread of maize farming in the region.

**Greer, John [75]** see *Greer, Mavis*

**Greer, Mavis (Greer Services) and John Greer (Greer Services)**

[75] *Rock Art of the Powder River Basin, Wyoming and Montana*

Rock art sites have been recorded infrequently in the Powder River Basin of Wyoming and Montana compared with surrounding areas. Basin rock art is dominated by petroglyphs. Sites in Montana are dominated by panels that were made post-horse but apparently prior to white contact, while sites in the Wyoming part of the Basin are dominated by bow and arrow panels with V-necked figures indicating a date late in the Late Prehistoric Period but prior to the Protohistoric. Shield figures of different styles and contexts are common throughout the region and provide comparative information regarding age, function, and cultural variation.

**Gremlion, Kristen (Ohio State University)**

[108] *Historical aspects of early plant cultivation in the uplands of eastern North America*

Limited availability of open habitats placed constraints on the distribution of weedy plant populations in upland areas of eastern North America prior to 3000 RCYBP. On the Cumberland Plateau of eastern Kentucky, these constraints were lifted coeval with the initial cultivation of non-native floodplain-adapted species originating in the major river valleys farther east. Only after their introduction were locally indigenous weedy plants incorporated into farming systems. Explaining this pattern requires attention to social interaction and cultural transmission of information as well as ecological dynamics.

**Greubel, Rand A. [139]** see *Firor, Jim*

**Grier, Colin (University of British Columbia)**

[153] *Scales of Subsistence Production on the Prehistoric Northwest Coast*

The issue of scale is central to investigating food production, preparation and consumption among complex prehistoric Northwest Coast hunter-fishers. Large, multifamily households have been viewed as central organizational nodes in subsistence pathways, and their development has been linked to increasing elite control of the flow of foodstuffs from acquisition through consumption. However, is it possible to archaeologically distinguish individual family, household and suprahousehold production and consumption in specific subsistence realms? This issue is addressed with zooarchaeological and artifact data derived from house excavations on the southern British Columbia coast of Canada.

**Grieve, Tanya (Idaho State University), Richard Holmer (Idaho State University) and Clayton Marler (Idaho National Engineering and Environmental Laboratory)**

[31] *Analyzing Land Use Changes Over Time Using GIS and Projectile Point Typology*

The Idaho National Engineering and Environmental Laboratory, located in the northeastern margin of the Snake River Plain, offers a complex landscape and resource base that has been used by foragers and collectors for the past eleven thousand years. Using a refined projectile point typological analysis combined with Geographic Information Systems technology, we will investigate changing land use patterns in the context of a multivariate predictive model originally developed by Plager and Holmer. Results show a clustering of sites, which differ spatially over time. These clusters appear to correlate with extinct resource-rich islands.

**Griffin, Jennifer (Tulane University)**

[181] *Excavation of a Medium-sized Circle at the Los Guachimontones Site*

The site of Los Guachimontones is the largest and most architecturally complex site containing the distinctive circular architectural of the Teuchitian Tradition. My work at the site has focussed on Circle 3, the third largest circle at the site. Excavation in 2003 of the central alter and one platform revealed information about the construction and history of use of this circle during the Classic period and later reoccupation of the site. Investigations of this circle allow us an unusual opportunity to study a medium-sized architectural circle in association with adjacent monumental circles.

**Griffin, P (University of Hawaii) [167]** *Discussant*

**Griffin, Percival Bion (University of Hawaii) and Bertell D. Davis (Naga Research Group)**

[167] *East Cambodia Archaeological Survey: Preliminary Results from the First Field Season*

During the 2002-2003 field season, the East Cambodia Archaeological survey team located, mapped, and conducted preliminary analysis of Neolithic, Iron Age, and Pre-Angkorian sites along the Mekong River from Stung Treng to Kampong Cham. In addition, the project placed a strong emphasis on training Cambodian archaeologists to assume senior researcher positions.

The project also initiated the systematic inventory of archaeological resources in eastern Cambodia.

**Griffith, Cameron (Indiana University), Jennifer Birch (Trent University) and Simone Philpot (Trent University)**

[95] *The Caves of the Minanha Periphery and the Upper Macal Valley*

During the 2003 field season, the Social Archaeology Research Program (SARP) invited members of the Western Belize Regional Cave Project (WBRCP) to visit caves in the vicinity of the ancient Maya site of Minanha. The subterranean sites investigated by SARP, specifically Actun Chan, Actun Sukuun, Actun Isabella, and Actun Lubuul, as well as others under investigation by the WBRCP, comprise a significant component of the ritual landscape of Minanha. This paper discusses similarities and differences in periods of utilization and artifact assemblages between Minanha and surrounding cave sites in the Macal Valley.

**Griffith, Cameron** [116] see *Helmke, Christophe*; [116] see *Woodfill, Brent*; [143] see *Ishihara, Reiko*

**Griffith, Cameron (Indiana University), Lauren Lippiello (Florida State University), and Reiko Ishihara (University of California, Riverside), Holley Moyes**

[116] *From Dawn 'til Dusk: Sunset. History of the BVAR/WBRCP archaeological investigations in the Macal River Valley.*

In 1998 the members of the BVAR Western Belize Regional Cave Project followed the path of the Jaguar God of the Underworld from the eastern edge of our research region, the Roaring Creek Valley, to the western edge, the Macal River Valley. From the time of that auspicious pursuit the ongoing investigations in this area have illuminated many different aspects of ancient Maya cave utilization. This paper presents a history of the speleoarchaeological investigations, the research objectives, and the more absorbing findings made to date.

**Griffitts, Janet (University of Arizona)**

[79] *Stability and Change in Tool Use Along the Middle Missouri*

Large mammal bone was a readily available raw material on the northern Great Plains of North America, and many Middle Missouri sites show a heavy reliance on bone technology. The uses of some Middle Missouri bone tools are known through ethnographic documentation, but the functions of other tools are less clear. This study employs high power optical microwear analysis to determine the uses of bone tools. Patterns of tool use, technological change and stability, and raw material choice are identified from several Late Prehistoric, Protohistoric, and Historic sites on the Northern Plains.

**Griggs, Catherine (Eckerd College)**

[10] *The Artful Life of Bob Humphrey*

This presentation will focus on the personal world of Robert L. Humphrey, imbued with the Art of humor. It will feature a series of drawings from a trip with students, produced for his own pleasure in capturing the experience in both its gravity and humor. The visual presentation will show a selection of Humphrey's works created for friends, colleagues, and students. The author will create a context for his professional works in the field of cartooning, and present a portrait of the legacy of the irrepressible wit and humor expressed in Bob Humphrey's life and art.

**Grimm, Linda (Oberlin College) and Todd Koetje (Western Washington University)**

[11] *Raw Material Economy and Technological Organization at Solvieux*

Comparison of patterns in lithic raw material economy and technological organization in three Upper Paleolithic industries at Solvieux (Isle Valley, France) demonstrate substantial variability. Beauronnian, Upper Perigordian and Early Magdalenian (Badegoulian) assemblages spanning the period ca. 32-16 K show distinctive characteristics that suggest changes in landscape use across the last glacial maximum. The Beauronnian, in particular, stands apart both from later industries at Solvieux and contemporaneous ones in the region.

**Grimstead, Deanna** [115] see *Bayham, Frank*

**Groleau, Amy** [153] see *Isbell, William H.*

**Grossman-Bailey, Ilene (Richard Grubb & Associates)**

[114] *From Labrador to New Jersey: Ernest William Hawkes (1883-1957) Peripatetic (New Jersey?) Archaeologist*

E. W. Hawkes is best known in New Jersey as the co-author (with Ralph Linton) of "A Pre-Lenape Site in New Jersey (1916)." His other work included the physical anthropology of the aboriginal people of Labrador and Alaska, archaeology at mounds in Milwaukee, work for the Canadian Department of Mines and in Texas and California. His unpublished work in New Jersey included excavations of sites from the Delaware River to Ocean County. In this paper I explore aspects of Hawkes' work and biography to look at the still influential milieu of early twentieth century archaeology in New Jersey and beyond.

**Grove, David (University of Florida) [60] Discussant**

**Grove, David (Univ. of Florida) and Sandra Cruz (CNCPC-INAH, Mexico)**

[166] *The Olmec-style paintings Oxtotitlan Cave thirty-five years later.*

The Olmec-style paintings of Oxtotitlan cave, Guerrero, were first studied in 1968. Dating to c. 700 B.C. they represent some of the earliest and most elaborate painted art known in Middle Formative period Mesoamerica, and provide important data on the iconography of that time period. Unfortunately, tourist activities and vandalism over the past three decades have severely damaged some of the paintings. This presentation revisits Oxtotitlan by re-examining the paintings using modern digital technologies and reviewing the damages caused by tourists. It concludes with a discussion of the new conservation efforts beginning at Oxtotitlan.

**Gudino, Alejandra [184] see Lippi, Ronald**

**Gulderson, Tom [113] see Rowe, Marvin**

**Gullapalli, Praveena (University of Pennsylvania)**

[107] *Issues of Centralization: Smithing and Smelting in North India during the First Millennium BC*

Possible links between socio-political change and technological change in North India have been emphasized in research on the adoption of iron during the first millennium BC. Concentrating on larger, centrally located sites has left open the nature of developments elsewhere and at smaller sites. Also, understanding metal production as a single event rather than a series of events concentrates attention on fewer sites. Data from a variety of excavated and surveyed sites in North India argue that various aspects of metal production can be seen as more or less centralized, with ramifications for the links between social and technological change.

**Gullason, Lynda (Carleton University)**

[87] *Inuit Qarmat and the 'Qarmatization' of Thule Winter Houses*

A specialized house form, the qarmaq, is underrepresented in the archaeological literature of the arctic regions, which has traditionally focused on the impressive remains of Thule winter houses in cultural reconstructions. This paper presents ethnographic and archaeological evidence from southeast Baffin Island, Nunavut, for the development of this architecturally distinctive dwelling type, which is generally considered to represent a transition-season (fall or spring) occupation. A unique variant, the 'qarmatized' winter house (abandoned Thule semi-subterranean structures that have been subsequently remodeled and reused as qarmat), is also discussed.

**Gumerman IV, George (Northern Arizona University)**

[153] *Big Hearths and Big Pots: Moche Feasting on the North Coast of Peru*

Archaeological data from the Moche occupation at El Brujo on the North Coast of Peru indicate that funerary feasts were an important component of ritual life. An institutional kitchen containing several massive hearths and many large urns, some over 85 cm in diameter, was located on a funerary platform. The scale of these cooking and storage features indicates food preparation beyond the household. A comparison with data from other Moche sites suggests that rather than political aggrandizement or large-scale reciprocity, feasting among the Moche represents small-scale affairs that were ritual events often concerned with funerary practices.

**Gunn, Joel (New South Assoc) and Lawrence Abbott (New South Assoc)**

[127] *Fractals End-on-End: Self-organizing Systems and Human-Environment Interactions*

Many disciplines have explored fractal properties of living and geologic systems. We suggest that these self-similar systems can be joined as self-organizing or dissipative systems. Our immediate concern is rivers and lithic reduction sequences. In this model, a stream concentrates nutrients

from a wider landscape into a wetland. Wetlands attract humans. The stream energy is converted through the intermediary of lithic reduction to energy for human use. This dissipative trail of energy expenditure joins the river system to the flow of lithic reduction yielding a self-organizing explanation for river and human action. The idea is tested on two sites.

**Gutierrez, Gerardo (CIESAS)**

[21] *Defensive Gardens: Ancient Gardens and the Art of Fortification Building.*

This presentation analyzes anthropologically the use of gardens as defensive elements in ancient fortifications. I study here the use of a variety of plants, trees and shrubs, deliberately arranged to reinforce walls, terraces and other earthworks associated to defensive systems. This will be a comparative study on the particular use of gardens in fortresses, strongholds and cities in Mesoamerica and the Old World.

**Gutierrez, Gerardo [166]** see Vera Rivera, Alfredo

**Gutierrez, Oscar [93]** see Kaplan, Jonathan

**Gyucha, Attila (Békés County Museum), Gábor Bácsmegyi (Nógrad County Museum) and Ottó Fógas (József Attila University, Szeged)**

[123] *An Early Copper Age House from Vésztő-Bikeri*

A rectangular structure was excavated during the 2003 season at Vésztő-Bikeri. The structure initially had been identified by geophysical prospection and was surrounded by wall trenches. Unlike the other domestic structures on the settlement, this structure does not appear to have been burned. This is the first systematically excavated house from the period. As such, it provides important information for understanding the nature of household organization during the transition to the Copper Age in the region.

**Gyucha, Attila [123]** see Parkinson, William

**Haas, Jonathan (The Field Museum) [132]** *Discussant*

**Habicht-Mauche, Judith (UCSC)**

[20] *The Origins of Glaze Painted Pottery in the Central Rio Grande*

New evidence suggests that local copies of Western-style glaze painted pottery were being produced at sites near Albuquerque as early as A.D. 1290. These Western-style types represent an early, transitional phase in the local development of the Rio Grande Glaze Ware tradition. Stylistic and technological similarities between these transitional Rio Grande types and contemporaneous Zuni Glaze Ware types indicate the presence of strong ties between these two regions at the turn of the fourteenth century. The implications of these connections to social and demographic developments in the central Rio Grande Valley during the Early Classic Period are discussed.

**Habu, Junko (University of California at Berkeley) and Clare Fawcett (St. Francis Xavier University)**

[105] *Settlement Studies and Marxist Theories in Japanese Archaeology: Direct and Indirect Influences of Gordon Childe*

A question in Bruce Trigger's work on the history of archaeological theory and practice is how various archaeological traditions use concepts in similar and different ways. Settlement analysis and Marxist theory are concepts that Trigger studied in his analyses of the work of V. Gordon Childe. This paper will: (1) describe how Japanese archaeologists have used Childe's work to develop settlement analysis and Marxist theory; (2) analyse variations in the use of these concepts in Japan and elsewhere; and (3) explain why these variations exist by examining the sociopolitical context of Japanese archaeology and its relationship to archaeologies outside Japan.

**Habu, Junko [131]** see Fawcett, Clare; [182] see Hall, Mark E.

**Haenrick, E. [108]** see Vrydaghs, Luc

**Haeusler, Werner [2]** see Gebhard, Rupert

**Hageman, Jon (Northeastern Illinois University)**

[160] *It's Good to Be the King: Distinction and Power among Late Classic Maya Elites*

During the Classic period (A.D. 250-900), Maya nobles created and maintained unequal power relations vis-à-vis Maya commoners through social practices particular to their status. Though

Maya commoners appear to have largely followed principles of patrilineal descent and succession, Maya royalty more commonly traced descent and succession ambilineally. Nobles impersonated and became gods through ritual performance. Written records were created by and for the elite. Drawing on Bourdieu and Giddens, I argue that these were among the social

practices that set the nobility apart from the majority of Classic Maya society while helping maintain their privileged status within their society.

**Hagopian, Janet (SWCA Environmental Consultants), Margaret Beck (Statistical Research, Inc.) and Kelley Hays-Gilpin (Northern Arizona University)**

[140] *Sourcing Ceramics from the Fence Lake Data Recovery Project*

One research goal for the SRP Fence Lake Data Recovery Project ceramic analysis is to examine local and regional trade networks based on ceramic wares and compositional analysis. SWCA and SRI performed oxidation and ICPS analyses of sherds and clay samples to investigate which clay sources were used for these wares, whether these clays were available within the project area, and whether these sources changed over time. We also compare the ICPS results with those from other projects to identify possible production areas. Results indicate that most wares were produced locally or in the general region.

**Hajic, Edwin (Quaternary Studies Center, Illinois State Museum), Michael Kolb (Stratamorph Geoexploration LLC) and Michael Hargrave (ERDC/CERL)**

[15] *Geoarchaeology of Cahokia Mounds World Heritage Site and Related Regional Settlement System*

Geoarchaeological and geomorphic investigations of parts of Cahokia, other related sites, the Mississippi Valley, and adjacent uplands, have been conducted by many researchers through the years. Investigations include mound stratigraphy, structure, function and context; geophysical surveys of plaza areas and other tracts; landscape and site evolution; and, paleoenvironmental reconstruction. An evolving model of the late Holocene history and processes of Mississippi River landscape evolution has enhanced the interpretation of many aspects of Cahokia archaeology.

**Hall, Mark E. (Niigata Prefectural Museum of History) and Junko Habu (University of California, Berkeley)**

[182] *Jomon pottery production, craft specialization and social complexity*

The Jomon culture of Japan provides an excellent opportunity to test various theories on the relationship between craft specialization and social inequality. The rich Jomon data base allows us to identify the timings of changes in pottery production as well as changes in other aspects of Jomon society. Previous studies indicate that these changes were not necessarily unilinear nor throughout the archipelago. Using evidence from chemical analyses, this paper examines the production and circulation of Jomon pottery from the Middle and Late Jomon periods. The results are discussed in the context of long-term changes in Jomon subsistence, settlement and society.

**Hall, Robert (University of Illinois at Chicago) [180] *Discussant***

**Hall, Robert (University of Illinois at Chicago)**

[19] *A Theoretical Framework for Interpreting some Prehistoric Parallels and Exchanges between North and Middle America*

Indians of the prehistoric Southeast have visibly interacted with Mesoamerica since at least 1000 B.C. Some of these interactions are late and traceable to their sources by circumstantial evidence. Other cultural parallels are older and date to a shared cultural background. Among the late introductions would be world renewal drama linked to green corn ceremonialism. Among the parallels with older roots would be world renewal drama linked to mourning. Knowledge of inter-areal contacts and parallels can contribute to a theoretical structure for interpreting cultural developments within the study areas.

**Haller, Mikael (University of Pittsburgh)**

[81] *The emergence and development of chiefly societies of the Río Parita Valley, Panama*  
Ethnohistoric accounts of Panamanian chiefdoms and spectacular archaeological finds have exerted influence over specialists' interpretations within Panama and other areas. Despite archaeological work addressing important issues there is still relatively little information of the development of social complexity. Using Panamanian chiefdoms as models for archaeological reconstruction and for comparative studies requires a better understanding of their emergence and development prior to contact. Survey data from the Río Parita is used in determining the

relative importance of influential factors to the rise of chiefdoms in this region and is then used in evaluating current models for chiefly development in Panama.

**Haller, Mikael J.** [22] *see Drennan, Robert D.*

**Halliday, Alex N.** [13] *see Muller, Wolfgang*

**Hallmark, C. Thomas** [15] *see Hayashida, Frances*

**Halperin, Rhoda (University of Cincinnati)**

[22] *The Political Economy of the Early Mesoamerican State: An Economic Ethnographer's View* Building on work published by Mesoamerican archeologists in *Research in Economic Anthropology (REA)*, a research annual edited by Barry L. Isaac, this paper analyzes patterns in the structure and development of the political economy of the archaic state in Mesoamerica. Since, much of the literature deals with trade in the Formative and early Classic periods, some of the papers published in Polanyi, Arensberg and Pearson's seminal volume, *Trade and Market in the Early Empires* will provide theoretical frames consistent with those developed by Isaac in *REA*.

**Halsey, John (Michigan Historical Center)**

[41] *Who Controls The Past When Its Under Water?*

Although ownership of submerged cultural resources remains a contentious issue, an equally thorny issue is who exerts day to day control over what happens to and on shipwrecks regardless of ownership claims. These extra legal activities can often make actual ownership virtually irrelevant.

**Halstead, Paul** [174] *see Kotsakis, Konstantinos*

**Hamilakis, Yannis (University of Southampton)**

[78] *Archaeologies of the Senses*

A sensory archaeology is theoretically and methodologically-empirically possible. It constitutes an alternative to positivist, cognitive, textualist, and narrowly conceived phenomenological perspectives. Instead of concentrating on an isolated sensory modality, I argue for a multi-sensory framework that goes beyond the present-day western sensorium; its starting point is the synaesthetic and kinesthetic character of context-specific, human experience; the reflexively conceived human body, its most important methodological tool; and the excavation of our own sensory stratigraphy, a prerequisite. "Minoan" Crete will serve as a case-study, showing how the archaeology of power and the archaeology of the senses can be integrated.

**Hamilton, Marcus (University of New Mexico), Briggs Buchanan (University of New Mexico) and David Kilby (University of New Mexico)**

[162] *A Neutral Model of Technological Variation in the North American Late Pleistocene*

Variation in late Pleistocene lithic technologies at the macroecological scale suggests that there is both technological continuity and differences between regional Early Paleoindian assemblages. In this paper we present a neutral model of technological variation that provides a null position for studies of cultural evolutionary processes by establishing selection-free conditions. We suggest that the random processes of cultural transmission (drift and innovation) explain the regional variation of certain technological traits. These differences are evident as statistical relationships between morphological traits, ecological conditions and regional technological organization including the distribution of raw materials.

**Hamilton, Marcus** [162] *see Kilby, David*

**Hamilton, Nathan (University of Southern Maine) and Stephen Pollock (University of Southern Maine)**

[100] *Petrology of Early and Middle Ceramic Period Vessels from Southwestern Maine*

Early and Middle Ceramic period "Vinette I" (3050-2150 B.P.) and Dentate Impressed (2150-1650 B.P.) ceramic remains from coastal and interior situated archaeological sites in southwestern Maine form the basis for assessing inter- and intra-site patterns of raw material selection and manufacture techniques of these vessels. The detailed petrology analysis of individual vessels was conducted with prepared thin sections and X-ray diffraction studies. This technical study focuses on clay and mineral composition and identification of local sources for raw material. This technical study will also examine an aspect of the coastal and interior technological dichotomy which has been established on the basis of perishable fiber industries.

**Hamilton, Scott (Lakehead University)**[18] *Archaeological Frontiers: Aboriginal Research Initiatives in Northern Ontario*

Archaeological research in Subarctic Ontario is notable for its shallow time depth, limited field reconnaissance, and challenging depositional and logistical conditions. These issues contribute to perpetuation of conventional wisdom about the apparent simplicity of the region's cultural history. These challenges are deepened by significant retrenchment by the provincial agency responsible for cultural resource management throughout northern Ontario. Some Aboriginal communities have taken an increasingly active role in the documentation, interpretation and exploitation of cultural heritage. This is intended to codify 'traditional knowledge' and historic land-use patterns, facilitate economic development, and contribute to a more comprehensive sense of Aboriginal history.

Hamilton, Scott [187] see Nicholson, Bev

**Hammatt, Hallett (Cultural Surveys Hawaii, Inc.)**[121] *Integrating Historic Preservation and Ordnance Clearance: The Island of Kaho'olawe, Hawaii*

The largest and most complex ordnance clearance project in the world has taken place over the past five years on the 45 square mile island of Kaho'olawe, a military target range for 50 years following the onset of World War II. The intrusive activities associated with ordnance clearance pose great risk to the nearly 3,000 historic properties. Protection of these properties has been accomplished by a complex sequence of procedures, many foreign to general archaeological practices, but completely blended into the strictly regulated ordnance clearance activities. This project is a model for integrating site protection into future ordnance clearance operations.

**Hammerstedt, Scott (Pennsylvania State University)**[101] *Community Patterns and Mound Construction at Annis Village, A Mississippian Mound Center in Western Kentucky*

Community layout and mound construction are commonly used to make inferences about the nature of Mississippian social organization. I examine the construction of the Annis Village, a Mississippian mound center in western Kentucky, as understood through new fieldwork (2002-03) and WPA collections (1939-40). The site underwent at least three expansions, as indicated by the construction of sequential palisades and enlargement of the earth mound. It is hypothesized that these construction episodes and variation in architecture reflect local changes in social organization.

**Hancock, John E. (University of Cincinnati)**[180] *The Earthworks Hermeneutically Considered*

Hermeneutic phenomenology has had significant impact in the field of architectural theory and history and has helped me, as a non-archaeologist, to develop effective interpretive approaches toward the prehistoric landscapes of the Ohio Valley region. These ideas enable us to overcome the traditional dichotomies between 'objective/subjective' or 'science/humanities' as well as the more ontologically fundamental 'them/us' in dealing with ancient societies. Specific insights from Heidegger and Gadamer will be introduced, along with illustrations of how these interpretive issues are concretized in the production of our multimedia education materials entitled 'EarthWorks: Virtual Explorations of the Ancient Ohio Valley.'

**Hanks, Bryan (University of Pittsburgh)**[47] *Animal Style and the Art of Warfare*

The development of Animal Style art and animal symbolism of the Early Iron Age of the Eurasian steppes will be explored. The emergence of specific patterns of animal imagery will be investigated with regard to changing frameworks of social identity and the creation of a warrior ethos among early nomadic societies. By examining the agency of Animal Style within the practice of warfare it will be possible to evaluate the efficacy of artistic patterns beyond the mere aesthetic. Examples will focus on funerary patterns, animal sacrifice, tattooing and other bodily adornment, and animal imagery on military accoutrements.

**Hansell, Patricia (Temple University) and Anthony Ranere (Temple University)**[3] *Using GIS Applications to Model Population Dynamics in the Neotropics*

In this paper we apply Geographic Information Systems techniques to probabilistically collected archaeological survey data and purposively collected environmental data from Central Pacific Panama. Techniques include using spatial statistics, such as logistic regression, and determining

site catchments using the GRID function in ArcGIS. Our immediate goals are to (1) outline the density and distribution of 600 + archaeological sites and their relationship(s) to environmental and other spatial factors, and (2) identify changes (shifts) in these relationships through time. Our ultimate goal is to provide a framework for analyzing and interpreting archaeological/ environmental data from Neotropical contexts in general.

**Hansen-Speer, Karla (Washington University, St. Louis)**

[115] *The Role of Plants in the Marana Community*

Agriculture in the Sonoran Desert required ingenuity and flexibility and was a crucial aspect of Hohokam social organization. The Marana Mound site (A.D. 1150-1250) housed a large, sedentary population situated centrally within its community. Unlike other parts of the community, the Marana Mound site was not located near prime irrigated land. This paper explores the patterning of plants across the Marana community, focusing on how subsistence varied according to location, and if the inhabitants had differential access to resources. Plant remains from compounds at the Mound site as well as other sites in the Marana community are evaluated.

**Hard, Robert J. (U. of Texas at San Antonio), John R. Roney (Bureau of Land Management), Karen Adams (Crow Canyon), Art MacWilliams (University of Calgary) and William Merrill (Smithsonian Institution)**

[136] *Early Agriculture in Chihuahua, Mexico*

Previous work in Northern Chihuahua revealed a pattern of early agricultural (ca. 1200 BC), fortified hilltop occupations that farmed maize to a substantial degree. We have now begun to search for evidence of early agricultural settlements in southern Chihuahua, both in the Sierra Tarahumara and along drainages in the lowlands. We discuss the significance of these findings with regard to the transmission of maize into northwestern Mexico and the American Southwest.

**Hard, Robert J. [66] see MacWilliams, A. C.**

**Hardy, Bruce (Grand Valley State University)**

[53] *Residue Analysis and Stone Tool Function at the Upper Paleolithic Site of Vale de Obidos, Portugal*

A sample of minimally-handled, unwashed stone artifacts (n=202) from the Upper Paleolithic site of Vale de Obidos were subjected to microscopic residue analysis. Non-artifactual samples (unmodified stones), sediment samples, and wind-borne particles were collected to test for modern contamination. Artifacts were examined with reflected light microscopy (100-500 magnification) for the presence of use-related residues. Residues observed include plant tissue, starch grains, phytoliths, ochre, wood, hair and feathers, suggesting a complex pattern of tool use on a variety of materials. Because macroscopic organic preservation is poor at Vale de Obidos, residue analysis provides evidence of behaviors that are otherwise invisible.

**Hardy, Meredith (Florida State University)**

[101] *Soils from the Wynnehaven Site: Evidence for a Woodland Habitation from Soil Chemistry*

In May 2003, soil cores were taken at the Wynnehaven site (8OK239), a marine-oriented habitation dating from the Middle Woodland period located in northwest Florida on the Gulf of Mexico. Soil cores were taken with a Geoprobe @ 540 RT/D direct push coring system, owned by the Department of Anthropology, Florida State University. Soil chemical analyses, including pH, trace element and total phosphate, were conducted on samples taken systematically from the soil cores and on point samples extracted from exposed excavation unit profiles. These studies aid in understanding the impacts of past human activity on the physical landscape.

**Hardy, Meredith [123] see Lee, Elizabeth**

**Hare, Timothy (Morehead State University), Marilyn A Masson (SUNY - Albany) and Carlos Peraza (Centro INAH - Yucatan)**

[67] *A New Look at the Structure of the Postclassic Maya City of Mayapán*

A complex network of walls and residential structures define the urban structure at Mayapán. Our recent survey of houselots and walls expands on previous maps of Mayapán and reveals variability in the organization of settlement both within and outside Mayapán's city wall. This paper examines the different functions of these walls, including variation in public and private space, residential property delineation, and settlement density. In addition, we outline the nature of movement through the city, via pedestrian walkways, and the value of using property walls for identifying co-residential groups at Mayapán.

**Hargrave, Michael (ERDC/CERL), Douglas Jackson (ITARP), Michael Farkas (ITARP) and**

**Rinita Dalan (MSUM)**

[30] *Geophysical Investigations of a Fortified Late Prehistoric Settlement Near Chicago*

One of the components at Hoxie Farm site, Cook County, Illinois, is a 14-15th century fortified village. Despite impacts by highway construction in the 1950's, much of the village remains well preserved. Recent excavations by ITARP in the narrow ROW of highway expansion revealed numerous small houses, storage pits, a palisade, and a series of defensive ditches. Geophysical survey and small diameter soil coring were conducted to better document overall community plan. Methodological issues addressed in this poster include possible biases in electrical resistance survey results, interpretation of ground truthing data, and use of a new magnetic susceptibility down-hole instrument.

**Hargrave, Michael [15]** see *Hajic, Edwin*

**Harlacker, Leslie (Indiana University)**

[2] *Skill in the Oldowan: An Experimental Approach*

The successful production of Oldowan artifacts is often assumed to be influenced by a short list of factors: raw material properties; knowledge of stone fracture mechanics; physiological aptitude/know-how. Experimental tests of this assumption have generally involved assemblage replication and technique clarification studies with small numbers of knappers. The present study more closely examines the relative contributions of these factors using artifacts produced on controlled raw materials by 48 knappers of widely varied skill and experience. Technological attribute differences among these knappers will enable more accurate relative assessment of the aforementioned factors in determining knapping success at the dawn of technology.

**Harmand, Sophia [122]** see *Delagnes, Anne*

**Harmon, Marcel (University of New Mexico)**

[62] *Phylogenetics and the "Game of Life and Death" within Northern Mexico*

Evolutionary interpretations of phylogenetic analyses provide a powerful means of tracing cultural transmission and reconstructing intellectual traditions in the archaeological record. In this paper, I will present the results of a phylogenetic analysis of ballcourt characteristics within the Casas Grandes Region of Northern Mexico. Interpreting the regional transmission of ballcourt characteristics within a multi-level selection theory framework has provided an indication of the degree of political, ideological, and economic centralization within the region centered on the primary site of Paquime.

**Harmon, Marcel J. [62]** see *VanPool, Todd L.*

**Harper, Kevin [185]** see *Schroeder, John*

**Harris, Cory (University of Arizona)**

[115] *Compound Spatial Redefinition at the Marana Mound Site*

Recent research at the Marana Mound site illustrates the social dynamics of the early Classic period in the Tucson Basin. Remodeling and reconstruction documented for adobe residential rooms is paralleled by reuse and reorganization of compound layout and space as well. This paper examines the social and other organizational implications of renovation and change in the use of extramural space of one Marana compound.

**Harris, Jack [24]** see *Norton, Christopher J.*

**Harris, John W. K. (Rutgers University) and Joanne Tactikos (Rutgers University)**

[42] *Stone Age Visiting Cards: Refining Models through Experimentation*

Ecological factors may determine the nature, distribution, and abundance of subsistence resources, but available lithic technology limits the extent that those resources might have been procured by hominids. Identifying the limitations of technology helps to understand the scope of hominid resource exploitation. Oldowan tool utility has been hypothesized and experimentally tested, but not extensively enough to reflect the full range of Oldowan artifacts seen in the archaeological record. This paper reports on comprehensive feasibility experiments carried out at Olduvai Gorge, in order to assess the relative utility of Oldowan tools during Middle/Upper Bed I and Lowermost bed II times.

**Harris, John W. K. [11]** see *Braun, David*

**Harris, Lucille (University of Montana)**

[57] *Implications of Subhousepit 3 Data for Subsistence and Settlement System Fluctuations in the Mid- Fraser Region, British Columbia*

This study investigates the role played by SHP3 in the overall subsistence and settlement system associated with the Keatley Creek winter pithouse village. Data is drawn from lithic, faunal, and botanical sources and a comparison is made between SHP3 and subsequent housepit floors in order to examine long term temporal fluctuations in resource utilization and mobility patterns across the transition from dispersed to aggregated wintering conditions.

**Harris, Matt [178]** see Baker, Joe

**Harris, Matt D. [159]** see Siegel, Peter E.

**Harris, Trevor (West Virginia University), Jesse Rouse (West Virginia University) and Susan Bergeron (West Virginia University)**

[170] *Principles and applications of Lidar and laser scanning technologies in archaeology*

Airborne and ground-based laser scanning systems are non-intrusive systems that utilize laser pulses to obtain 3D point measurements. These technologies are becoming increasingly available for use at a variety of spatial scales. Lidar (Light Detection and Ranging) airborne sensors combine inertial navigation, GPS, and laser technology to capture highly accurate point information from which terrain and vegetation surfaces can be interpolated. At a finer scale, side-looking ground-based systems can record artifacts, structures, and small landscape features to millimeter accuracy. This paper outlines the principles of laser scanning technology and explores the utility of Lidar in archaeology and landscape analysis.

**Harris, Trevor M. (West Virginia University)**

[103] *GIS and Society perspectives on GIScience in archaeology*

Over the past decade GIS has diffused rapidly into archaeology and its powerful spatial analytical and mapping capability has found ready use in archaeological applications. During the past decade, however, there has been an ongoing, critical, and substantive debate on epistemological and ontological issues associated with GIS and GIScience, and how people, space and environment are represented by the technology. This GIS and Society, or Critical GIS, discourse has largely occurred within the discipline of Geography and has spawned a growing literature. This paper reviews the central elements of the discourse as they apply to the application of GIS in archaeology.

**Harrison-Buck, Eleanor J. (Boston University)**

[146] *Epiclassic Circular Shrine Structures in the Sibun: Evidence of a Northern Interaction in the Eastern Maya Periphery*

Sibun valley settlements have yielded a rich assemblage of traits, including circular architecture and northern-style ceramics that are signatures of the Epiclassic Horizon (AD 750-1000) and strong evidence of a northern interaction. Epiclassic traits appear strictly associated with elite ritual contexts and may represent a prestige-goods economy tied to new political and economic arrangements stemming from Chichén Itzá in northern Yucatán. A cognitive-processual approach for interpreting artifact distribution patterns is presented. The ideological significance of cave and marine specimens, found associated with round structures, is discussed as part of a northern-derived ritual practice, redefined within the sacred landscape of the southern Maya Lowlands.

**Harrower, Michael (Ohio State University) and Margaret Morris (Ohio State University)**

[123] *Hungary from Space: Satellite Remote Sensing and GIS Analysis of Early Copper Age Settlement Patterns on the Great Hungarian Plain*

Settlement pattern changes during the Late Neolithic-Early Copper Age reflect substantive adjustments among a complex host interconnected environmental and social factors. This paper outlines investigations that apply satellite remote sensing and Geographic Information System technologies, including ASTER imagery and GIS-based hydrological modeling, to illuminate factors responsible for the location and distribution of settlement sites. Although subsequent landscape impacts have dramatically transformed ecology and hydrology, advancing GIS technologies offer unique means for understanding site location choices and identifying both local and regional-scale patterning.

**Harry, Karen (University of Nevada, Las Vegas), Paul Fish (University of Arizona), Suzanne Fish (University of Arizona), Christopher H. Descantes (Missouri University, Research**

**Reactor Facility) and Robert J. Speakman (Missouri University Research Reactor Facility)**

[115] *The Organization of Ceramic Production and Exchange in the Marana Community*  
Compositional analyses conducted on plain and decorated ceramics are used to evaluate the economic organization of ceramic production and exchange in the Marana Community. Ceramics from residential units at the Marana Mound site are compared internally and with assemblages from other sites to evaluate the degree to which ceramic production and distribution was centralized. The data indicate that the Marana community residents participated in a variety of production and distribution systems. Various mechanisms of exchange are explored.

**Harry, Karen (UNLV) and Allen L. Johnson (UNLV)**

[74] *Measuring Ceramic Porosity - Nondestructive Methods*

Because porosity affects performance attributes in vessels, its measurement has become an important component of ceramic technological studies. To measure ceramic porosity, archaeologists have borrowed well-established methods from the material sciences. However, these methods can have drawbacks for archaeological applications, including: the potential to damage archaeological residues contained within the sherd, the need for expensive equipment, and/or the use of hazardous materials. In this poster we compare conventional methods with new techniques we have developed for measuring porosity, based on the infusion of liquid nitrogen into the sherd. We demonstrate several advantages over traditional techniques.

Harry, Karen G. [66] see Dalton, Jodi L.

**Hart, John P. (New York State Museum)**

[111] *Adopting Maize: Are We Asking the Right Questions?*

The spread of maize across the larger portion of the Americas and the reasons behind its adoption in varying environmental and cultural settings are important topics in research on prehistoric agriculture in the hemisphere. Researchers typically turn to economic, environmental, and/or ceremonial/religious explanations. After decades of research, however, there is little reason to believe that we have gained any real sense of the processes and "reasons" involved in the spread and adoption of maize. It is time that the questions being asked are critically examined and new questions advanced. The latter must include references to evolutionary theory and biological fact.

**Hart, John P. (New York State Museum) and Ronald F. Williamson (Archaeological Services Inc.)**

[1] *The Many Paths to Sedentism: The Contexts of Change in the Northeast*

Framed in the first half of the twentieth century, initially in the Direct Historical Approach with little appreciation of time depth, our understandings of the adoption of cultigens and the evolution of sedentism have tended to obscure inter- and intra-regional variation. It is becoming increasingly evident that the development of sedentism was not on a singular path, but many paths, with communities adapting to their own environments and developing new economic strategies at different times. We provide a summary of recent theoretical advances and empirical evidence that are altering our view of the processes by which subsistence and settlement patterns evolved over the last millennium of pre-contact history in southern Ontario and New York.

**Hartnett, Alexandra (University of Chicago)**

[160] *Manifesting Difference: the Making and Marking of an Elite Status Group in Post-Medieval Galway, Ireland*

The rise of the merchant elite in Galway, Ireland, was marked by a deliberate alteration of sumptuary laws, consumption patterns, and the accompanying material culture. This group, linked by kinship, marked itself as descendants of thirteenth-century colonial Anglo-Normans and restricted entry to its ranks by maintaining a sense of difference from the surrounding Gaelic population through cultural, political, and economic means. Here, the construction and representation of status is linked with wider changes in the political economy in the wake of the dissolution of the feudal system and the rise of pre-capitalist mercantile economies.

Hartshorn, Tony [54] see Chadwick, Oliver

**Hasaki, Eleni (University of Arizona)**

[126] *Ethnoarchaeological analysis of use of space in pottery workshops at Moknine, Tunisia.*  
An ethnoarchaeological analysis of the plans of forty workshops from a traditional potters'

community at Moknine, in Tunisia, examines the proportional allocation of space to different stages of ceramic production, from forming objects to fuel and pottery storage. The observations focus on estimations of average space necessary for the operation of each stage, single or multi-purpose use of each area, percentages of covered vs. open areas, areas containing fixed or archaeologically-recognizable features, and correlations of workshop area with size of workforce and with vessels produced. Such numerical estimations can ultimately assist in the optimum survey or excavation of ancient workshops.

**Hasenstab, Robert (Univ. Illinois/Chicago)**

[103] *"X, Y, Z, and T": Getting a Handle on T, the Fourth Dimension of GIS.*

Archaeological GIS has traditionally focused on identifying data patterns in two-dimensional space (x,y). Occasionally the third dimension, z for elevation, is considered--when analyzing stratigraphy or terrain. Rarely, however, is the fourth dimension, t for time, addressed. To date there is a general lack of methods and software for handling "t". Yet in order to track changes in spatial patterns of past human behavior, i.e., culture process, it is necessary to analyze the time dimension. This paper will review some existing methods of analyzing time in conjunction with space, and will suggest directions for further methodological development.

**Haskin, Larry [8] see Glascock, Michael**

**Hassan, Fekri (University College London)**

[36] *Public and Domestic Architecture in Egypt*

Domestic and public architecture in urban and rural Egypt are examined within a sociopolitical context as elements in the dynamics of domination, legitimation, and encounters. Architecture is also examined as a proxy of changing cultural attitudes and transcultural interactions.

**Hassig, Ross [175] see Alt, Susan M.**

**Hastorf, Christine (University of California, Berkeley) [161] Discussant; [174] Discussant**

**Hastorf, Christine (University of California-Berkeley)**

[96] *Building the Community Museum of Chiripa, Bolivia, Down the Road from Tiwanaku*

Five years ago the Taraco Archaeological Project, the community of Chiripa and the National Institute of Archaeology constructed a local museum to present the Formative Culture of Chiripa, the type site of early settled life in the Titicaca Basin. The three institutions shared in the construction of the building. Various desires were enacted by this construction. The community instigated the museum to mark the heritage within the region. This was in part responding to the long-term trend of centralizing artifacts from regional sites. The National Institute of Archaeology wanted to promote tourism. The archaeologists wanted to curate their artifacts. Issues surrounding Chiripa artifacts held in the Tiwanaku museum are still ongoing.

**Hatfield, Virginia (University of Kansas) and Georges Pearson (University of Kansas)**

[99] *Origins of Early Holocene Blade Production in Alaska's Aleutian Islands*

This presentation examines the technologies of early lithic industries from the Aleutian Islands (9000-7000 14Cyr.B.P.) and compares them with similar technologies on the mainland. Special attention is given to how blades and microblades have been defined and analyzed in the past. Our comparison focuses on the Anangula Blade and Russian Spruce site assemblages dating to 8000 14Cyr.B.P. Differences and similarities in lithic assemblages are juxtaposed to local economies and availability and quality of insular lithic raw materials. Our study joins others in the field of genetics which seek to understand the origins of the first Aleutians.

**Haun, Susan (University of Pennsylvania)**

[184] *Comparison of Biological and Socio-Cultural Variation Present in the Late Horizon Cemetery Site of Puruchuco Huaquerones, Peru*

Many scholars accept the ethnohistoric evidence of Inka-mandated retention of ethnic identity, including the wearing of traditional head ornamentation. Such acceptance exists despite a dearth of studies incorporating archaeological research with analyses of material evidence of ethnicity. Ongoing multi-disciplinary research at the Central Coast site of Puruchuco-Huaquerones provides an opportunity to address this issue. Human skeletal characteristics (metric and non-metric) from a large sample (N=172) are analyzed to determine if the range of morphological variation in the cemetery population supports the presence of a multiethnic community, as suggested by the variation displayed by associated cultural remains recovered from the site.

**Hauser, Mark (DePaul University)**[91] *Yabbas and the archaeology of black markets in eighteenth-century Jamaica*

Yabbas, plantation-period, handbuilt pottery, are ubiquitous elements recovered from domestic contexts associated with rural enslaved laborers and urban households in eighteenth century Jamaica. Many have argued that analogous assemblages are best understood as evidence of African cosmology and syncretism. The documentary and archaeological records from eighteenth-century Jamaica show that this pottery is best understood within a local context with multiple traditions informing the form and function of the pottery. Using this evidence I argue that the distribution of the pottery reveals the nature and scale of informal economic activities on the part of the enslaved Jamaicans.

**Hawkes, Kristen (University of Utah) [62] Discussant****Hawkey, Diane [90] see Spielmann, Katherine****Hawkins, Alicia [170] see Banning, E. B.****Haws, Jonathan (University of Wisconsin-Madison)**[94] *The 'Tardiglacial paradigm' and the role of shellfish in prehistoric subsistence during the Upper Paleolithic of Portugal*

This paper uses the Late Pleistocene archaeological record of Portugal to critically evaluate the 'Tardiglacial paradigm' which suggests aquatic resources only began to play a prominent role in human subsistence at the Pleistocene-Holocene transition. The increased reliance on shellfish is part of a long-term trend towards dietary diversification widely known as the 'Broad Spectrum Revolution.' Yet, the archaeological record of coastal adaptations is only present in areas where postglacial sea level rise did not destroy earlier sites. The Late Pleistocene archaeological record in Portugal has been severely impacted but shows sufficient evidence to question the 'Tardiglacial paradigm.'

**Haws, Jonathan [122] see Bicho, Nuno****Haws, Jonathan [53] see Aguiar, Joao Carlos****Hayashida, Frances (Pennsylvania State University), Lee Nordt (Baylor University) and C. Thomas Hallmark (Texas A&M)**[15] *The Proyecto Ynalche: Prehispanic Agriculture on the North Coast of Peru*

Large-scale irrigation agriculture supported civilizations on the desert north coast of Peru. The Proyecto Ynalche is an interdisciplinary project examining the 10th-16th century Racarumi canal system and its associated fields and settlements to understand the ecology, technology, and organization of prehispanic north coastal agriculture. In this paper, we report on our geoarchaeological studies to date that include analyses of soil fertility and water management from excavations in fields and canals. We conclude with observations on the limitations and potential of reconstructing prehispanic agricultural practices in the area and the role of geoarchaeology.

**Hayashida, Frances [76] Discussant****Hayden, Brian (Simon Fraser University)**[174] *Feasting Among Friends: The Case of Contemporary Industrial Society*

Studies of traditional feasts have provided insights and generated theories concerning the importance of feasts, their role in sociopolitics of simple communities, and the motives behind hosting them. What can these insights reveal about feasting behavior in the Industrial societies of today?--that is, in our own culture? Among our most prominent types of feasts are Thanksgiving and Christmas dinners, birthday parties, marriage receptions, funeral receptions, barbecues and dinner parties, business parties, conference parties, romantic dinners, parties, and moving/painting parties. The benefits in our society of this enduring form of human behavior include solidarity, work, promotion, and alliance formation.

**Hayden, Brian [133] Discussant****Hayes, M. Geoffrey [62] see Coltrain, Joan Brenner****Hayes, Robert [74] see Schurr, Mark**

**Hayes, Sue (Sonoma State University)**

[116] *What's the Dirt on the Belize River Valley?*

As more Belize River Valley Maya sites are discovered and investigated, it has become clear that the area was home to a substantial population over a long period, from the Early Preclassic through Contact. To date, however, the demographic profile has not been fully developed; the social and economic dynamics of the Maya period are still under discussion. An EPIC simulation of agricultural productivity and sustainability based on Fedick's reclassification of the Birchall and Jenkin soil map of the Belize River Valley augments the increasing information on settlement patterns and land use during the Maya period.

**Haynes, Gary (University of Nevada, Reno)**

[162] *Clovis Megafauna-Hunting: Opportunistic, Not Always Optimal, and a Better Explanation for Extinction*

Clovis-era megafaunal fossils are not abundant, yet in spite of the scarcity, human hunting of some megafaunal taxa did leave a decipherable record, indicating that Clovis-era people preferably (and rationally) hunted large mammals. This paper evaluates possible reasons for a scarcity of megafaunal killsites and also attempts to estimate megafauna population levels and distributions. There were probably less than 900,000 mammoths and mastodons in North America and Mexico during the Clovis era, existing in fragmented populations; overall their extinction risk was moderate to serious.

**Haynes, Gary [42]** see *Klimowicz, Janis*

**Haynes, Jr., C. Vance [162]** see *Huckell, Bruce B.*

**Hays-Gilpin, Kelley (NAU)**

[45] *The archaeology of women's ritual business*

Do men take care of spiritual business while women's responsibilities end in the profane domestic world? The old saw no longer cuts. Archaeologists are discovering the ethnography of 'women's business' in Australia, rediscovering 19th century ethnography of Pueblo women's sodalities, finding evidence for women's puberty rites in rock art in California and southern Africa, and identifying the bodies and activities of 'other-gender' ritual practitioners the world over. This presentation reviews recent advances in the archaeology of gendered divisions of ritual labor.

**Hays-Gilpin, Kelley [140]** see *Hagopian, Janet*

**Healy, Paul (Trent University) [116]** *Discussant*; [165] *Discussant*

**Heckenberger, Michael (University of Florida)**

[159] *The Plaza as Panopticon: Enclosures, Surveillance, and the Birth of Discipline in Ancient America.*

This paper discusses enclosures, most notably central circular plazas, as containers of power. It considers transformations in the nature of sociality and political relations, specifically control of rituals and social space linked to social reproduction and the symbolic construction of persons, as a critical step in the development of the type of disciplinary power characteristic of ancient American chiefdoms and states. The paper discusses long-term cultural trajectories in several parts of the Americas, including Amazonia, coastal Peru, Mesoamerica, and the Southeast.

**Hedden, Mark H.**

[176] *Where do Peterborough elements in petroglyphs at Embden, Maine fit?*

Certain Central Algonkian shamanic motifs also appear in prehistoric petroglyphs in Maine, at an interior site in Embden or in Machias Bay. Recognizable subjects include canoe-based figures, genitalia, disembodied heads with eyes and no mouth, a winged anthropomorph with arrow head among others. The interior site is associated with maize/bean horticulture. The coastal sites remained focused on land and sea hunting and gathering. A review of sources suggests that these signs developed after ca. 1000 AD, and that their selective distribution as petroglyphs was specific to local lifeways.

**Hegmon, Michelle (Arizona State University) [16]** *Discussant*

**Hegmon, Michelle (Arizona State University)**

[78] *Structure and Agency in Mimbres Pottery Designs*

Agency is not a theory in itself, but is best conceptualized in terms of its recursive relationship with structure, as an actor's ability to do something (regardless of intentions) and thereby to reproduce or transform structure. Two examples from the US Southwest illustrate. This perspective is used to develop a method by which the structure and agency of Mimbres pottery designs (ca. 900-1150, southwest NM) can be conceptualized. Analysis of a corpus of designs with good chronological resolution facilitates consideration of when/how/in what contexts artists reproduced the structure and contributed to stylistic homogeneity when they contributed to structural change.

**Heikkinen, Deanna (CSU Bakersfield), Mark Sutton (CSU Bakersfield) and Robert Yohe (CSU Bakersfield)**

[113] *The Effect of Screen Size in the Recovery of Lithic Technologies*

Screens are used to recover small materials from archaeological deposits and the use of 1/4-in screen is common. It is known that the recovery of faunal materials using 1/4-in screen is poor, with the resulting interpretations being suspect. This study examines the effect of screen size on the recovery of lithic debitage and on the interpretation of lithic technologies. The debitage of known samples were passed through 1/4, 1/8, and 1/16-in screens to determine what was retained in each mesh and how interpretation may be affected. Entire aspects of lithic technologies can be lost if screen size is too large.

**Heinzel, Chad (Minot State University), Michael Kolb (Northern Illinois University) and Jay Stravers (Northern Illinois University)**

[2] *Geoarchaeological Investigations of the Chuddia River Valley, Western Sicily*

Integrating geological and archaeological methodologies has greatly benefited excavations within western Sicily's Salemi Region. This work seeks to investigate the primary environmental factors associated with the development of an indigenous society from the Late Pleistocene to the spread of the Roman Empire. Understanding the environmental factors associated with landscape development in any geologic setting is a critical step towards identifying natural versus human induced landscape modifications. Study area landforms include fluvial and alluvial fan developments. These geomorphic features contain important cultural and paleoenvironmental indicators including diagnostic ceramics (Neolithic to Roman), equine skeletal fragments, and terrestrial snail shells.

**Helmke, Christophe (University College London), Megan Bassendale (University College London) and Cameron Griffith (Indiana University)**

[116] *From Dusk 'til Dawn: Sunrise. History of the BVAR/WBRCP archaeological investigations in the Roaring Creek Valley.*

Despite early investigations in the 1960s and significant discoveries made by speleologists in the 1980s, until 1996 the Roaring Creek Valley of Western Belize had witnessed little archaeological research. Indeed, little was known about the ancient Maya who inhabited this area, the settlement patterns, human usage of caves, or funerary practices. The ongoing investigations of the WBRCP and the BVAR project (1996-present) have been instrumental in addressing these lacunae. This paper presents a historical review of the work conducted, the research objectives, and the more salient discoveries made to date.

**Helmke, Christophe** [116] *see Forbes, Jonathan*

**Helms, Mary (University of North Carolina Greensboro)** [137] *Discussant*

**Hemmings, C Andrew (FLMNH, University of Florida)**

[162] *Clovis Point Manufacture and Morphology: Subsistence Technology Reflecting Culture?*

The range of variation included under the term 'Clovis Point' is still poorly understood more than 60 years after it first appeared in the archaeological literature. A case is made for the possibility of co-traditions during Clovis times based on discrete point forms. Parallel sided and excurvate sided (or waisted) Clovis points overlap geographically, chronologically and seemingly functionally. Further, Gainey-Bull Book points may represent another distinct adaptation, although they may be temporally isolated. The observed differences in the archaeological record are compiled and used to speculate regarding their potential cultural causes.

**Hemmings, C. Andrew** [138] *see Doran, Glen*

**Henderson, A. Gwynn (Kentucky Archaeological Survey) and David Pollack (Kentucky**

**Heritage Council)**[159] *Fort Ancient Circular Village Organization*

Fort Ancient societies of the middle Ohio Valley constructed circular communities during most of (circa A.D. 1200-1600) the Late Prehistoric period. The basic village plan consisted of concentric rings of ritual (graves), habitation (structures), and trash disposal (trash pits and midden deposits) activity areas around the central plaza. A low earthen mound and/or stockade also were constructed at some villages. Variation in the internal organization of these communities has been documented in the Fort Ancient culture area and maybe related to temporal, geographical, ethnic, and/or historic factors.

Henderson, A. Gwynn [101] *see Munson, Cheryl Ann*Henderson, Kimberly [185] *see Nisengard, Jennifer*

**Henderson, Matthew (Grant MacEwan College/ Universidad de San Francisco de Quito), Heather Doherty (Grant MacEwan College/ Universidad de San Francisco de Quito), Jennifer Bilou (Grant MacEwan College/ Universidad de San Francisco de Quito), Brett Freeman (Grant MacEwan College/ Universidad de San Francisco de Quito) and Jan Olsen (Grant MacEwan College)**

[4] *Manteno: Occupation in the Julcuy River Valley*

Recent research in the Julcuy River Valley is offering information to look at fundamental cultural activities of the Manteno peoples of Ecuador (850-1500 A.D.). During our first field season we concentrated on the organization of dwelling structures. Notwithstanding numerous low mounds that were found during pedestrian survey, close to 15 house foundations were easily visible on the surface. We mapped these foundations to identify house orientation, size, and the beginnings of community layout. We further excavated middens near 3 of these houses to gain an initial idea of what the household members were using and discarding.

**Henderson, Zoe (National Museum, Bloemfontein, South Africa)**[36] *Moving Forward in Middle Stone Age Behavioural Studies: the Sunnyside Site near Clarens (South Africa)*

Sue Kent had been excavating at the Sunnyside site near Clarens, South Africa, for the last four years before her death. The site was destroyed by dam building in August 2003. Before it was destroyed the author re-opened the site to examine sections and the context of the artefacts at the site. The paper will present the findings of the investigation, as well as of a preliminary examination of the artefacts. The site will also be placed in the context of investigations of other sites in the time range and area.

**Hendon, Julia A. (Gettysburg College)**[144] *Mesoamerican Textile Production as Embodied Knowledge*

Textile production in Mesoamerica, as a process and set of relationships, involves such apparently anomalous features as its gendered nature, the domestic setting of training and manufacture, and the creation of something with multiple uses, crosscutting such standard analytical categories as prestige or subsistence goods. An alternative approach would view textile production as a form of knowledge, transmitted across generations, within families, and embodied in the textile itself, creating opportunities for evaluation through which groups distinguish themselves from others. I explore these issues using data on textile production from three areas of Honduras, the Copan, Cuyumapa, and Lower Ulua valleys.

**Hendrickson, Lauren (Dartmouth), Deborah Nichols (Dartmouth) and Debra Martin (Hampshire)**[102] *Isolated Human Remains of Northern Black Mesa*

Between 1967 and 1983, the Black Mesa Archaeological Project excavated over 180 prehistoric sites within a 250 km<sup>2</sup> area of northern Black Mesa, Arizona. In addition to formal burials, over 1,000 isolated human bones were recovered from early Pueblo sites (AD 825-1150). The bones occurred in various contexts and include males and females and all age groups. Some show evidence of burning or heat damage, but most do not. We present results of analyses of the remains and their archaeological contexts and discuss the implications of our findings.

**Heredia, Verence (Purdue University)**[84] *Classic-Postclassic Transformation in Mixteca Alta Centers*

The political, economic and social organization of complex societies in Mesoamerica underwent

significant transformations between the Classic and Postclassic periods. It has been proposed, however, a significant degree of cultural continuity in the Mixteca Alta between these time periods. In this paper, I will assess the validity of the continuity hypothesis analyzing the distribution of pottery types (e.g. costly vessels) at two secondary centers of the Mixteca Alta. Uniformity in the distribution of pottery through time will support the cultural continuity hypothesis, suggesting that the political landscape of the Classic period may be compared to that of the Postclassic.

**Herhahn, Cynthia (NPS - Bandelier National Monument) [77] *Discussant***

**Herhahn, Cynthia (NPS), Rory Gauthier (NPS) and Bradley Vierra (Los Alamos National Laboratory)**

[20] *Architectural Experimentation and Aggregation: Coalition Period "Plaza Pueblos" on the Pajarito*

From A.D. 1270-1315 throughout the northern Southwest, plaza-oriented pueblos appear, representing a dramatic change in settlement layout. This pattern occurs on the Pajarito Plateau, where "plaza pueblos" spatially aggregate and integrate previously dispersed populations. Population aggregation continued, making expansion of architecturally closed plaza pueblos to include immigrants difficult, and architectural remains show several unusual, short-lived experiments to enlarge the closed pueblos. By A.D. 1315, plaza pueblos were abandoned and larger, multiple-plaza pueblos were constructed. We argue that examining Coalition Period plaza pueblos as a distinct phenomenon contributes to the understanding of the development of larger Classic Period plaza-oriented pueblos.

**Hernandez, Alicia Mabel [86] *see Gill, Adolfo Fabian***

**Hernandez, Pilar [143] *see Fash, Barbara W.***

**Hernandez Eepinoza, Patricia Olga (INAH/ENAH) and Lourdes Marquez Morfin (INAH/ENAH)**

[67] *Demographic change at Chacmool, Quintana Roo, Mexico, during Early and Late Postclassic* Paleodemography deals with reconstruction of demographic profiles of ancient populations, and their results must be analyzed according with sociopolitical conditions and economic framework to identify demographic changes that modified its dynamics as population. In this paper we analyze the demographic change that took place in the prehispanic Maya population of Chacmool, Quintana Roo, during the Postclassic period, based in the paleodemographic analysis of an osteological sample from this archaeological site.

**Hernandez Espinoza, Patricia Olga [67] *see Marquez Morfin, Lourdes***

**Hernandez Trujque, Jose Antonio [27] *see Folan, William J.***

**Herr, Sarah (Desert Archaeology, Inc.)**

[48] *Apache at Plymouth Landing*

Arizona Department of Transportation sponsored excavations on Tonto National Forest land uncovered Plymouth Landing, a seventeenth century Apache or Yavapai settlement. This well-preserved site provides the opportunity to reconsider the protohistoric landscape of the sub-Mogollon Rim region of central Arizona. The site provides a focal point from which to review the survey methods used to identify these sites, and the economic and social interpretations of archaeologists, tribal consultants, and ethnohistorians.

**Herrejon Villicana, Jorge (Proyecto Arqueologico Teuchitlan)**

[181] *La complejidad de los grupos sociales de la Tradicion Teuchitlan vista mediante la exploracion de la zona habitacional La Joyita en el sitio arqueologico Guachimonton.*

Durante la temporada de campo del año 2003 se excavaron 7 estructuras del conjunto habitacional La Joyita. La detallada exploracion de esos vestigios revelo diferencias importantes entre ellos mismos en cuanto a tecnica constructiva, forma, funcion y materiales hallados en ellas. Dichas diferencias permiten proponer algunas inferencias en cuanto a la complejidad social del grupo humano que construyo este conjunto. Ademas, el hallazgo de una tumba permite enlazar la informacion obtenida de las habitaciones con aquella del circulo 6 del conjunto ceremonial principal, sugiriendo entonces una relacion directa de las personas que habitaron el conjunto con aquellas que vivian dentro de el.

**Herrera, Juan Pablo (Proyecto Chocolá), Juan Antonio Valdés (Proyecto Chocolá) and Jonathan Kaplan (University of New Mexico)**

[93] *Mapping Strategies and Methodologies at Chocolá, in Guatemala's Boca Costa: Speculations about Ancient City Design at a Very Large Site in the Southern Maya Preclassic*  
Survey and mapping at Chocolá was performed with the aid of advanced GPS technology and GIS software. The first season of the Proyecto Arqueológico Chocolá (PACH) gathered data on major architecture within a roughly 4 x 2 km<sup>2</sup> area and assisted in determining likely architectonics. The procedures also permitted the creation of a preliminary map that allows us to study and understand the ancient city design and the location of the likely building complexes distributed throughout the surveyed area. Mapping strategies devised by PACH should be of significant value at other major Mesoamerican sites.

**Hesse, Brian [5]** see *Peck, Shannon M.*

**Hewitson, Chris (University of Birmingham), James Doyle (Vanderbilt University) and Judith Valle (Universidad de San Carlos, Guatemala)**

[186] *Radical Transitions in Late and Terminal Classic Group III, Holmul, Guatemala*  
Located at the heart of the ceremonial center of the site of Holmul in the Northeastern Peten, Group III is composed of an elite compound containing adjoining temple and palace complexes. These two platforms are crucial to the study of the continual elite occupation of Holmul from its beginning in the Early Classic to its abandonment towards the end of the Terminal Classic. Understanding the multiple transitions and phasing of the Group III complex has brought to light radical shifts of focus in ceremonial and administrative purposes throughout the occupational period of the two courts.

**Heyman, Marjorie [20]** see *Rautman, Alison*

**Hildebrand, John A [138]** see *Driver, Jeana L.*

**Hill, Brett (Center for Desert Archaeology)**

[39] *Land Use and an Archaeological Perspective on Socio-Natural Studies in the Wadi Al-Hasa, West Central Jordan*

Concern over human impact on the environment has grown in recent years among both archaeologists and the broader community of environmental scientists. In many studies, however, issues of equifinality related to concurrent change among multiple causal factors have been problematic. The present analyses of long-term land use in the Wadi al-Hasa, west-central Jordan, demonstrate repeated cultural response by agropastoralists to a degraded landscape throughout the Holocene. I argue that an archaeological approach incorporating a long term perspective and evidence of human behavior can help to address problems of equifinality in environmental research.

**Hill, Brett [66]** see *Doelle, William*

**Hill, Christopher (Boise State University) and Kenneth Karsmizki (Columbia Gorge Discovery Center)**

[187] *Late Quaternary Stratigraphy, Geomorphology and Radiocarbon Chronology in the Fort Mandan Region, North Dakota: Landscape Context Linked to the 1804 Winter Camp of Lewis and Clark*

Geomorphic features and stratigraphic sequences can be related to the physical landscapes documented by the Lewis and Clark Expedition. In 1804 they built a fort near Hidatsa and Mandan villages, on a terrace of the Missouri River composed of interbedded fluvial silts and sands. The aggradational sequence contains charcoal, burned areas in primary context, and bone fragments deposited on and within late Holocene landscapes. A radiocarbon age of about 190 B.P. (Beta-156171) for burned material within one of these silts implies that about 70 cm of sediment has been deposited since the Lewis and Clark Expedition.

**Hill, Erica (University of Alaska)**

[25] *Chavín Sculpture and the Body Transformed*

In contrast to the representational art of highland preceramic sites and the Initial period façade of Cerro Sechín, the anthropomorphic imagery of Chavín introduces a high degree of abstraction and fundamentally alters the human form. This paper examines the human element in Chavín art and relates changes in the perception of the human body to Early Horizon social organization and

ideology using sculpture and ceramics.

**Hill, Jeremy (The British Museum)**

[160] *Are We Any Closer to Understanding How Iron Age Societies in Britain Worked?*

How Prehistoric Societies in Europe were organized has been the subject of research since the 1960s. However, for Pre-Roman Iron Age Britain (c. 800 BCE to 50 CE) we appear to be no closer characterizing these middle ranking types of social organization. This is partly due to recent British Post-Processual archaeology's lack of interest in these questions, partly to the problems of working in a proto-historic period and partly to the nature of the archaeology. However, this paper suggests new ways of thinking about and through questions of rank, power and status can help move this debate forward.

**Hill, Matthew E., Jr. (University of Arizona) and Jason M. La Belle (Southern Methodist University)**

[75] *Examining Spatial and Temporal Differences in Site Composition and Organization at Paleoindian Sites Throughout the Great Plains*

Recent Plains Paleoindian studies have increasingly focused on regional scale patterning of lithic tool kit organization, resource procurement strategies, and mobility patterns. Although these types of studies have been extremely useful in advancing our understanding of early hunter-gather adaptive strategies, they usually focus on just a single class of artifacts from a discrete time period. This study attempts to integrate information from a number of artifact classes (faunal remains, lithic assemblages, site organization) from well-dated contexts in order to examine synchronic and diachronic variability in group mobility, subsistence, and organization at regional and macro-regional scales.

**Hill, Matthew G. (Iowa State University) and David Rapson (University of Wyoming)**

[187] *Assessing Trends in Diet Breadth across the Pleistocene-Holocene Transition on the Northwestern Great Plains*

It is often suggested that changes in hunter-gatherer diet and subsistence behavior at the Pleistocene/Holocene transition on the Northwestern Great Plains roughly parallel those occurring elsewhere in the world, with the obvious exception of domestication. Significant increases in diet breadth, use of food storage, and development of more complex extractive technologies are commonly cited. However, critical evaluation of extant regional archaeofaunal evidence does not support notions of increasing diet breadth during this period. Although increases in diet breadth do occur later in time, the initial trajectory of subsistence change is geared toward more intensively exploiting a single focal prey species (bison), as opposed to exploiting a greater diversity of species.

**Hill, Robert (Cultural Surveys Hawaii, Inc.)**

[121] *Airplane Crash Sites as Archaeology*

Archaeological survey of Kaho'olawe has documented ranching and military era sites. These sites contain metal debris and cannot be left undisturbed, since detection of ordnance is impeded by the presence of any nearby metal objects. Fifteen Aircraft crash sites are being recovered and archived. Most of the crashes occurred during World War II, but the earliest crash occurred in 1925. The spatial context of the debris is well preserved and the physical evidence documents the dynamic forces of the crashes. Archaeological Interpretations have proven remarkably accurate in confirming and supplementing the official crash records of the Armed Forces.

**Hine, David [100] see Schulenberg, Janet**

**Hirshman, Amy J. (Michigan State University)**

[60] *Ceramic Production Organization: the Perspective from Urichu, Michoacan, Mexico*

Commonplace within theories regarding the emergence of social complexity is the expectation of task specialization. Often, this specialization is tested using craft specialization, notably ceramic specialization, as a proxy for specialization within the changing social context. Recent research tested this expectation by considering the dimension of production intensity within the sherd assemblage from the Classic and Late Postclassic site of Urichu, Michoacan, Mexico. This analysis concluded that the organization of ceramic production was not reorganized in response to larger social and political factors as the Tarascan state emerged.

**Hirth, Kenneth (Penn State University) and Peter van Rossum (Penn State University)**

[21] *Reconstructing Chinampas in the Valley of Mexico Lake System*

This paper attempts to reconstruct areas of chinampa agriculture in the Valley of Mexico at the time of Spanish conquest. The paper is methodological in focus and attempts to use a Digital Elevation Model (DEM) to identify shallow areas in the Valley of Mexico lake system that may have been areas of chinampas agriculture. The DEM is then compared to ethnohistoric and historic information on chinampas agriculture to evaluate the accuracy of the reconstruction.

**Hoag, Elizabeth (SUNY Albany) and Kathleen von Jena**

[37] *The Archaeological Contributions and Legacy of Daniel J. Cruson: For the Sheer Love of Knowledge*

For over 30 years Daniel J. Cruson has been quietly and steadily making significant contributions to the field of archaeology. He is an unconventional scholar; choosing to teach in the public school system rather than a university post, and has inspired dozens of individuals to pursue archaeology as a career. He has also conducted research of the highest caliber and has shown exemplary service to the field through involvement in local and state archaeological societies. Although his recognition is limited, he has in his own way helped to advance the field, and we would like to highlight those accomplishments here.

**Hobbs, Joseph (University of Missouri)**

[158] *Ritual Uses of Caves in West Malaysia*

This is the golden age of cave ritual in Peninsular Malaysia. There is a boom in the construction and reconstruction of Hindu and Buddhist cave temples. These are venues for a variety of rituals, including pilgrimages, votive offerings and thanksgiving offerings. The rituals fulfill spiritual and practical needs of individuals and play an increasing role in the assertion of ethnic and religious identities. Caves without temples are frequently used for "black" and "white" magic, and a few have become Buddhist hermitages. These sites are becoming rare as the religious communities seek new temple space, and as the quarrying industry grows.

**Hockett, Bryan (BLM- Elko)**

[94] *The Nutritional Ecology of Small Fauna: Theoretical and Methodological Issues*

Small fauna may inform on a number of important issues in archaeology, including site formation processes, paleoenvironments, land-use patterns, mobility patterns, subsistence practices, and demography. In Americanist archaeology, optimal foraging theory has dominated explanations of diachronic changes in the use of small animals. Nutritional ecology is another paradigm to explain changes in prehistoric subsistence practices and demographic patterns. The relationships between demographic trends and subsistence practices, including the diachronic use of small fauna, are better explained through the lens of the nutritional ecology model.

**Hockett, Bryan [122] see Bicho, Nuno**

**Hodder, Ian (Stanford University)**

[105] *On the Edge and in the Middle: the Impact of Bruce Trigger on the Development of Archaeological Thought*

It might seem that in many ways Bruce Trigger's interests were initially on the edges of the main currents of archaeological thought. On the edge of the United States, he seemed to offer a sane voice on the sidelines, responding to the excesses of the New Archaeology. His commitment to history and to the social construction of knowledge, from another perspective put his work central to the longer-term interests of the discipline. That centrality became clearer as his work influenced many of the post-processual developments in the discipline.

**Hodder, Ian (Stanford University) [131] Discussant**

**Hodgetts, Lisa (University of Manitoba)**

[26] *Food on the Frontier: Seventeenth Century English Colonial Diet at Ferryland, Newfoundland*

The first permanent English settlers arrived in Newfoundland during the early decades of the seventeenth century. They brought with them a suite of domestic animals from England, and exploited a wide range of local mammals, birds and fish. Several lines of evidence suggest that the English colony at Ferryland underwent considerable change over course of the seventeenth century, developing from a fledgling plantation into a relatively wealthy central place. Despite these changes, faunal evidence from the site indicates strong continuity throughout the century in the form of a relatively opportunistic subsistence regime designed to cope with periodic food shortages.

**Hodgins, Greg (University of Arizona) and Arleyn Simon (Arizona State - ARI)**

[173] *Between a Rock and a Hard Place: Radiocarbon Dating of Mortars, Plasters And Fired Carbonates*

For dating structures, mortar has an unquestionable appeal. In the best circumstance, the wet mortar is carbon-free at the time the joint is constructed. The hardening reaction fixes atmospheric <sup>14</sup>C in the mortar and from this the date of construction can be deduced. In less than ideal circumstances, either the wet mortar or aggregate mixed with it are contaminated with geologic or biogenic carbonate. Dating these materials requires separation of the mortar-derived carbonate from the pre-existing carbonate contaminants. We are investigating mortar and pseudo-mortar (burned plaster and fired ceramics containing carbonate temper) dating in a variety of contexts.

**Hodgins, Greg [173]** see Donahue, Douglas

**Hoekman, Hanneke (College of Wooster)**

[5] *Residue Analysis of Ceramics from Roman and Early Byzantine Contexts at Pella, Jordan*  
This project involves extraction and analysis of residues from pottery sherds to examine some economic features at Pella of the Decapolis from Roman to Early Byzantine times. Sherds are soaked in dichloromethane and methanol to extract the residues, which are analyzed using gas chromatography and mass spectroscopy. Certain samples receive further analysis using in-depth extraction and digestion methods. Initial work reveals the presence of licorice, dill, and kohlrabi. The results inform us about diet and trade in this important city that was part of a complex commercial network at the western terminus of Asian caravan routes.

**Hoffman, Curtiss (Bridgewater State College)**

[188] *Unpacking the Semiotics of the Sacred at the Middleboro Little League Site*  
More than half of the 5800 artifacts excavated at the Late Archaic Middleboro Little League site in southeastern Massachusetts appear to be of a non-utilitarian nature: paintstones, quartz crystals (including Herkimer diamonds), pecked and polished pebbles, pendants, and other items. This report will explore their significance within the context of indigenous systems of thought, with emphasis on the role of color in Native belief systems. It will be suggested that one function of the site was as a locus for preparing and caching objects for future use in sacred ceremonies.

**Hogue, S. Homes (Mississippi State University)**

[56] *An Investigation of Dietary Change in East-Central Mississippi*  
Isotope and dental microwear analyses (DMA) are used to examine changes in plant food diet among prehistoric and protohistoric populations in east-central Mississippi. One important question addressed is whether there is a decreased dependency on maize agriculture and a return to naturally available foods during the latter period. Several of the skeletal series recovered are from sites where no paleobotanical remains were recovered. This study demonstrates the importance of integrating different methods when assessing dietary change, especially when paleobotanical information is not available.

**Hohmann, Bobbi (Fernbank Museum of Natural History)**

[67] *Formative Maya Shell Ornament Production at Pacbitun, Belize*  
Shell objects have served many functions in stateless societies around the world, including their use as utilitarian implements, currency or medium of exchange, and personal adornment. From the Formative to Postclassic periods, shell was used as a form of personal adornment among the Lowland Maya. This paper will report on the Middle Formative (900-300 B.C.) shell ornament industry from the site of Pacbitun, located in the Belize Valley of west-central Belize. Shell ornament production, distribution and consumption will be discussed and ideas regarding the relationship between this early industry and the development of sociopolitical complexity will be evaluated.

**Hohmann, John W. [114]** see Davis, Margaret "Peg"

**Holck, Per [112]** see Erlandson, Jon M.; [112] see Eng, Jacqueline T.; [112] see Walker, Phillip L.; [112] see Schwarcz, Henry; [112] see Prizer, Kaethin

**Holdaway, Simon (University of Auckland) and Patricia Fanning (University of Auckland)**

[172] *Developing a Landscape History as Part of a Survey Strategy*  
Intuitively, site survey seems easy; one finds sites by walking across the landscape. In Australia, geomorphic changes since the late 19th ensure surface visibility; therefore site identification should be easy. However our research shows that good artifact exposure alone is not sufficient.

Successful survey requires a good understanding of geomorphological context. Here we present a multistage survey strategy where the erosional and depositional history of key locations is used as a basis for stratifying artifact survey. We demonstrate that understanding landscape history is a key to understanding the context of the archaeological record preserved in surface artifact scatters.

**Holeman, Abigail (University of Virginia)**

[115] *Polishing Stones and Their Story: Ceramic Production at the Marana Mound Site*

The study of craft production is one avenue to understanding economic aspects of the Hohokam Classic period (A.D. 1150 to 1450). The spatial distribution of production tools offers a line of direct evidence for measuring specialization in production. Using distributions of polishing stones, anvils, and other indications of pottery production, I examine specialization at the Marana Mound site in the Northern Tucson Basin. Along with spatial distributions, use wear analysis of polishing pebbles is used as a method of determining variation in production within the site. A detailed, intrasite study of direct production evidence helps to clarify the organization of production and its relationship to continuity and change in the Classic period.

**Holliday, Vance T. [187]** see Johnson, Eileen G.

**Hollinger, R. Eric (Smithsonian Institution) and Steve Ousley (Smithsonian Institution)**

[141] *Northern Arctic Prehistory I: Birnirk Archaeology and the Thule Migration*

The origin and spread of Thule populations and culture have long been important areas of research for Arctic anthropologists. A reexamination of archaeological sites in the area of Point Barrow, Alaska, combined with a review of previous research and models refines our understanding of the Thule migration. The combined evidence supports a Birnirk source for some of the Greenlandic and eastern Canadian Thule groups and inspires new questions about migrations in the North American Arctic.

**Hollinger, R. Eric [141]** see Ousley, Steve

**Holly (Jr), Donald (University of Rhode Island)**

[18] *Essential and Strategic: Hunter-Gatherer Adaptations in the Subarctic*

In a recent publication Morrison (2002) argues that foraging in tropical forest environments is a strategic rather than essential adaptation. Not necessary for survival there, foraging was strategically aimed at procuring wild food and raw material resources that could be traded for desired goods. In contrast, foraging in the Subarctic was essential for survival. Yet, like tropical foraging, it was also strategic. Not simply determined by the natural environment, subarctic foraging strategies were crafted in response to, and to transform, the social environment. Changes in settlement and subsistence patterns in Newfoundland pre/history are used to support this position.

**Holmer, Richard [31]** see Plager, Sharon; [31] see Grieve, Tanya

**Holmes, Charles [141]** see Crass, Barbara

**Holst, Irene (Smithsonian Tropical Research Institute), Dolores Piperno (Smithsonian Institution), Deborah Pearsall (University of Missouri, Columbia), Jose Iriarte (University of Kentucky) and John Jones (Washington State University, Pullman)**

[136] *A Summary of the Phytolith Evidence for Maize Dispersals into southern Central America and northern South America During the Late Pre-ceramic and Early Ceramic Periods (7000 B.P. - 5000 B.P.)*

During the past 25 years, phytolith analysis has been used to trace maize's movements south of Mexico into the tropical forest of Central and South America. Procedures have been developed to identify maize leaf and cob phytoliths, and they have been formalized and verified through statistical analyses and blind tests, and compared with independent phytolith studies of other regional flora that use similar methodological approaches. Empirical data have been retrieved from a series of archaeological and lacustrine deposits, artifactual materials such as plant grinding stones, and human dental remains. In this paper, we summarize this evidence.

**Holst, Irene [136]** see Piperno, Dolores [136] see Pohl, Mary

**Homburg, Jeffrey A. [115]** see Howell, R. Emerson; [15] see Onken, Jill

**Honeychurch, William (University of Michigan), Joshua Wright (Harvard University) and Chunag Amartuvshin (Mongolian Institute of Archaeology)**

[172] *The Egiin Gol Survey: A stepped approach to spatial data*

One of the problems of archaeological survey is how to define the boundaries of a survey area relative to a research problem. The Egiin Gol survey used a system of multi-tiered survey resolutions over increasing areas to capture the large scale spatial patterning of mobile groups as well as recovering detailed site distributions in core areas where several different methods were used to locate sites in grasslands, an environment with poor surface visibility. The success of this project challenged the existing models of site location, nature and distribution in the steppe and continues to provide fertile ground for research.

**Hood, Darden [170]** see Lowenstein, Jerry

**Hood, Larkin (University of Washington)**

[101] *Testing Models of Hunter-Gatherer Ceramic Production and Use in the American Southeast*

Previous explanations of prehistoric ceramic vessel production and use are commonly associated with intensive food production and/or storage. More recently, arguments have been made that associate ceramic technology with prestige displays and social competition. The research presented here questions the appropriateness of applying previous models to explain ceramic vessels produced and used in socially egalitarian hunter-gatherer societies. Ceramic vessels used by prehistoric hunter-fisher-gatherers of the upper Texas coastal plain have been analyzed in order to test the suitability of previously existing models. These data are used to explore alternatives to traditional assumptions concerning ceramic production and use.

**Hoog, Philip (Northern Arizona University)**

[102] *The Role of Archaeology in White Mountain Apache Tribal Sovereignty*

The goal of this project is to improve understanding between the White Mountain Apache Indian Tribe and the work of archaeologists. A focus of the Tribe's Heritage Resource Preservation program utilizes archaeological data to assist in the establishment of tribal sovereignty. Meant for public display on the reservation, this poster includes descriptions of archaeologists' work and the Heritage Resource Preservation program, benefits of archaeology, and the future of archaeology.

**Hooper, Shaun [176]** see Tacon, Paul S.C.

**Hopkins, Maren (University of Arizona)**

[115] *Spindle Whorls and Thread Production at the Marana Mound Site*

Spindle whorls are extensively used in cotton and agave thread production at the Marana Mound site. These tools, occurring in a wide variety of three-dimensional and disk shapes and sizes, are used to evaluate thread size and types. Their abundance and ubiquity in houses and middens indicate textile production and specialization at this site. Intrasite distributional patterns are examined and comparisons are offered at a regional scale.

**Horn, Jonathan C. (Alpine Archaeological Consultants, Inc.)**

[139] *Historical Context for Linear Resources in Salt Lake County*

As alternative mitigation for the Kern River 2003 Expansion Project, a historical context for linear resources, roads, railroads, canals and ditches, pipelines and penstocks, and transmission lines, was prepared for Salt Lake County. The document provides guidelines for recordation, explains approaches for evaluating significance, identifies specific linear resources, and provides historical background for each. Known and potential linear resources were mapped from historical sources, such as General Land Office plats and county surveyor maps, and georeferenced into a GIS database. The database was turned over to the Utah SHPO office, where it will serve as an evolving tool for management.

**Horn, Jonathan C. (Alpine Archaeological Consultants, Inc.) and Jack E. Pfertsh (Alpine Archaeological Consultants, Inc.)**

[139] *Historical Archaeology at Hamblin and Wellington, Utah: Rural Mormon Communities*

Extensive data recovery was conducted at two rural Mormon communities – Hamblin and Wellington. Hamblin, on the north end of Mountain Meadows in southwestern Utah, was an enclave of Mormon ranchers and farmers from the 1860s through 1880s; each of the eight households represented at the site were investigated. Wellington was an aggregate of homesteads in the lower Sevier River Basin. Two temporally discrete loci were investigated: one

from the 1880s and one from the 1910s-1930s. Interpretation of recovered archaeological materials has focused not only on the everyday life of the residents, but considers period Mormon doctrine and changing government policies.

**Horn, Sally (University of Tennessee), Martin Arford (University of Tennessee), Duane Cozadd (University of Tennessee), Kevin Anchukaitis (University of Arizona), John Rodgers III (Mississippi State University) and Lisa Kennedy (Virginia Tech)**

[136] *Pollen Evidence of Pre-Columbian Maize Cultivation in Costa Rica*

Sediment cores from seventeen lakes and swamps below 1500 m elevation in Costa Rica contain preColumbian maize pollen. The paleoecological evidence complements and extends the archaeological record of maize cultivation. The oldest maize pollen grains we have found were deposited 5500 cal yr BP in Laguna Martinez on the northern Pacific slope; they may constitute the earliest botanical evidence of maize cultivation in Costa Rica. In some younger lakes on the Caribbean slope and in southern Pacific Costa Rica, maize pollen is present in the deepest sediments recovered, and extends through the European period with hardly a break.

**Horning, Audrey (College of William and Mary)**

[160] *Elite Strategies in the British Atlantic World: Architecture and Town Planning in Ulster and the Chesapeake*

While motivations for colonization in the New World and Ireland emphasized commodities, elites in both lands strove to maintain status not only through economic control, but via town planning. In the Chesapeake, elites engaged in economically-disastrous building efforts, while planters in Ulster endeavored but failed to erect social, economic, and physical boundaries between themselves, common settlers, and native Irish. Archaeology instead reveals substantial interaction amongst non-elites that is obscured in documents and denied in memory. Town-building efforts in both lands represent an effort on the part of colonial elites to emulate social strategies successfully employed within 17th century Britain.

**Horton, Elizabeth (Washington State University) and Christina Rieth (New York State Museum)**

[188] *Iroquoian Subsistence in Central New York: Recent Archaeological Data from the Bailey Site*

Recent excavations at the Bailey site in central New York uncovered evidence of prehistoric occupation dating to c. 1400-1550 A.D. Recent analysis of flotation samples, ceramic residues, faunal remains, and other archaeological evidence from subsurface features at the site document the diverse array of floral and faunal remains exploited by these Late Prehistoric groups. In this paper, we discuss the evidence for the use of specific resources at the site and relate this information to what is currently known about the subsistence strategies of Iroquoian groups in the Northeast.

**Horvath, Ildiko (McGill University)**

[2] *The Early Upper Palaeolithic in the Middle Prut Valley, Northeastern Romania: A Case for Behavioural Variability*

Lithic analysis of late Middle and early Upper Palaeolithic assemblages from the Middle Prut Valley, Romania, illustrates the complexity of the evolutionary processes involved in the transition from the Middle to the Upper Palaeolithic. The composition of the tool kit and the operational sequences involved in core reduction point to continuous evolution from the Levallois Mousterian to the Aurignacian at Ripiceni-Izvor and Mitoc Valea Izvorului. Dramatic change is, however, evident at Mitoc Malu Galben, illustrating that rupture and continuity are both integral to the changes that triggered acceleration in cultural development at the beginning of the Upper Palaeolithic.

**Horvathova, Bibiana [134] see Jordan, Peter**

**Horwitz, Liora [122] see Chazan, Michael**

**Houle, Jean-Luc (University of Pittsburg), Karine Tache (Simon Fraser University) and Francis Allard (University of Pittsburg)**

[174] *'Feasts of Burden': Interpreting Bronze Age Khirigsuurs of Central Mongolia*

Research in central Mongolia's Khanuy valley has helped reveal the ritual focus of the region's Bronze Age khirigsuurs, stone built monumental structures containing the remains of horses and

other sacrificed animals. Feasting has been recorded ethnohistorically among nomadic peoples of central Asia but its archaeological expression has received little attention to date. We propose an association between ritual activities at khirigsuurs and feasting. The control of feasts and their settings could have served as an important pathway to political and/or religious power during Mongolia's Bronze Age.

**Hovers, Erella (Inst. of Archaeology, The Hebrew University)**

[129] *A needle in a flake stack: reconstructing lithic reduction sequences in Levantine Mousterian cave sites*

Reconstructing chaînes opératoires may appear a futile effort in assemblages from Levantine Mousterian cave sites, which sometimes contain many thousands of artifacts and are not amenable to large-scale refitting efforts. Lithic reduction being a sequential process, quantitative techno-metric analysis allows tracking trends of change in artifact properties with progressive reduction. When checked against a model of Levallois reduction derived from experimental work, this analytical tool enables detection of deviations from the patterns predicted by that model and provides first approximations of the dynamics of Levallois reduction sequences. The point is illustrated by case studies from Qafzeh and Amud Caves.

**Howell, R. Emerson (University of Arizona) and Jeffrey A. Homburg (Statistical Research, Inc.)**

[115] *Adobe Construction and Labor Investment as Correlates of Intrasite Competition at the Marana Mound Site*

Variability in adobe architecture was investigated by comparing soil properties (calcium carbonate, bulk density, and penetrability) in adobe walls with on- and off-site areas where soil and caliche were obtained. We use these results to reconstruct labor investments requirements and assess intersite competition for building materials. Results indicate that little caliche was added to adobe at this Classic period Hohokam settlement. These results are similar to those found at sites flanking the Picacho Mountains, but they contrast sharply with Casa Grande, Pueblo Grande and Mesa Grande in the Phoenix Basin, where significant quantities of caliche were added to the adobe.

**Howie, Linda (University of Sheffield), Peter Day (University of Sheffield) and Elizabeth Graham (University College London)**

[3] *Late Classic Maya Paste Recipes at Altun Ha, Belize and the Meaning of Paste Variability*  
Classic period Maya pottery has a long history of physico-chemical analysis, with most sampling strategies reliant on the Type:Variety classificatory system. This standardized typology has produced a trend towards the analysis of specific typological groups over time and space, rather than a contextual examination of the range of ceramics comprising individual assemblages. Analysis of pottery from an extensive Late Classic deposit at Altun Ha, Belize, has shown that a 'whole assemblage' approach, integrating stylistic analysis with thin section petrography, reveals new information about the meaning of paste variability and the interrelationships between stylistic, compositional and functional variation within the assemblage.

**Hritz, Carrie (University of Chicago) and McGuire Gibson (University of Chicago)**

[54] *Southern Mesopotamian Landscape as input for a model on ancient Mesopotamian Society*  
This paper contrasts the archaeological landscape and economic structure of irrigated southern Mesopotamia with the rain-fed north. The landscape of the alluvial plain of southern Mesopotamia is fundamental to an understanding of the settlement history and demography of Mesopotamia. Here we outline a landscape model for southern Mesopotamia emphasizing key structural elements of the landscape such as canal systems which play an important role in the shaping of both transportation systems and settlement history. Landscape mapping has been accomplished by the use of satellite imagery (Corona, ASTER, & Spot) and archaeological survey to provide the basis for the next stage of settlement simulation.

**Hruby, Zachary (University of California, Riverside)**

[143] *The Implications of Ritualized Production in Defining Ritual Space: A Case Study of Lithic Production from Piedras Negras, Guatemala*

Maya lithic production areas have traditionally been interpreted as economic elements of these ancient societies. This paper explores the religious importance of Maya chipped stone and how it might be possible to locate production locales of religious significance based on debitage content. The idea that most types of lithic production activities were ritualized and carried out in religiously significant locales is proposed. Furthermore, ritualized space may have been more defined by the

actions taking place, and the nature and use of the goods produced there, than the actual structure or area in which those social and material elements were transformed.

**Huang, Jennifer (Arizona State University) and Connie Stone (Bureau of Land Management)**

[48] *The Art of Defense: Rock Art of Baby Canyon Pueblo, Agua Fria National Monument*  
A partnership between the Bureau of Land Management and the Deer Valley Rock Art Center in Phoenix, Arizona has been created to document and research select rock art sites in the Agua Fria National Monument. This paper presents results of work done on the rock art of Baby Canyon Pueblo, a defensive habitation site in this little-researched but pivotal area. The presence of rock art at such a defensive site could yield clues as to how life was lived on constant guard, but may also provide more information on conventional domesticity. Could these petroglyphs be the iconography of survival?

**Hubbard, Kaylan A. [31]** see *Newlander, Khori S.*

**Huber, Edgar [140]** see *Van West, Carla*

**Huber, Edgar K. (Statistical Research, Inc.), Karen Adams (Crow Canyon Archaeological Center), Lisa Huckell (University of New Mexico), Heather Miljour (Statistical Research, Inc.) and William Deaver (Statistical Research, Inc.)**

[140] *Early Maize from West-Central New Mexico*  
Excavation of a portion of site LA 137258 for the Fence Lake Project in 2002 encountered numerous features, many containing maize macrobotanical remains. Five maize samples were submitted for AMS dating and yielded a calibrated radiocarbon date range of 2130 BC to 1750 BC with most samples at the early end of this range (2130 to 1941 BC). This paper first describes the maize remains, their archaeological context, and the radiocarbon results. We then discuss the implications of these results for understanding the nature and timing of early maize introduction on the Colorado Plateau.

**Huckell, Bruce B. (University of New Mexico) and C. Vance Haynes, Jr. (University of Arizona)**

[162] *Clovis Lithic Technological Organization in the San Pedro Valley, Southeastern Arizona*  
Since 1951, five Clovis sites have been excavated in the San Pedro Valley, providing important insights into lithic technological organization and mobility. The Murray Springs site is particularly informative, producing over 14,000 pieces of debitage and 60 tools. Other site assemblages range from single specimens up to 25 tools. We describe the five assemblages and offer a reconstruction of Clovis technological organization. Comparison of projectile point assemblages suggests that a limited suite of raw material sources was exploited. Clovis use of the valley was likely short-lived and may have involved consistent patterns of annual movement by a single social group.

**Huckell, Lisa [140]** see *Huber, Edgar K.*

**Huckell, Lisa W. (Maxwell Museum/UNM)**

[111] *Early Maize in the Southwest: What Does It Look Like and What Can It Tell Us?*  
The recovery of well-preserved maize macrofossils from a growing number of Southwestern Late Archaic/Early Agricultural period sites provides the opportunity to compile morphometric databases for the characterization and comparison of populations as old as 3700 BP. Modern racial names with their attendant baggage are set aside in favor of morphometric profiles that are compared spatially and temporally to assess similarities and differences. The results are used to address issues that include the rapidity of maize dissemination and the emergence of variation resulting from local selective pressures. Morphometric data are also used to address the lingering issue of early maize productivity.

**Huckerby, Cheryl L. (Dept of the Army, Fort Hood)**

[9] *Living with the past: The legacy of a 100% survey strategy*  
What do you do when you have 220,000 acres of property expected to have archaeological sites competing with major land use activities that can destroy those sites? You survey to identify those sites as soon as possible. But what is the best way to accomplish such a survey? What variables

need consideration? There are many survey approaches but what makes one better than others? What other factors need consideration i.e., funding, rate at which damage occurs, etc.? This paper examines the results of one survey approach implemented at an Army training facility where tanks train on the landscape all year.

**Huckleberry, Gary [33]** see *Fadem, Cynthia*; [72] see *Duff, Andrew*

**Hudler, Dale [101]** see *Schultz, T. Clay*

**Hudson, Erin (Georgia State University)**

[102] *Agricultural Potential of the Forestdale Valley, AZ: A GIS Analysis*

Agricultural potential can be an important control on the location of Ancestral Puebloan communities. GIS analyses of slope and aspect help to define areas of arable land in the Forestdale Valley. The distribution of arable land and of creeks and springs were then compared to site locations spanning three time periods. The results indicate that there is an increased concentration of sites near arable lands and water resources over time and thus, that these resources played an important factor in where people chose to live within Forestdale Valley.

**Hudson, Jean (Univ. Wisconsin - Milwaukee)**

[163] *Ethnographic Models for Ecological and Social Aspects of Coastal Fishing in Peru*

Coastal fishing is a special case in the archaeological modeling of forager complexity. Recent ethnographic fieldwork in a modern Peruvian reedboat fishing community provides case study examples of energetic costs and benefits, and ecological and social dynamics. Data was collected on the construction of reed boats, the cultivation of reed fields, techniques for fishing and crabbing from reed boats, techniques for fishing from the shore, types and quantities of fish caught by various techniques, division of labor within the extended family, and community events connected with fishing traditions.

**Hudson, Mark (Sapporo Gakuin University)**

[182] *Postmarital Residence and Social Complexity in Jomon Japan*

In the 1970's, Hideji Harunari used patterns of ritual tooth ablation and body ornaments to reconstruct geographical and chronological variations in postmarital residence in Jomon Japan. Following a critical review of Harunari's research, this paper uses his results to test possible links between postmarital residence and male provisioning, sedentism, population density, and warfare in Jomon society.

**Huffinan, Eugenia [17]** see *Knudsen, Garrett*

**Hughes, Michelle [123]** see *Giblin, Julia*

**Hughes, Richard E. [8]** see *Steffen, Anastasia*

**Hughes, Susan S. (University of Durham), Andrew Millard (University of Durham), Carolyn Chenery (NERC Isotopic Geosciences Laboratory, British Geological Survey) and Jane Evans (NERC Isotopic Geosciences Laboratory, British Geological Survey)**

[13] *Understanding the 5th century Anglo-Saxon invasion of England with O and Sr isotopic ratios*

The 5th century Anglo-Saxon invasion of England is one of the most misunderstood periods in English history owing to scant historical documentation. It is traditionally believed that waves of war-like Germans destroyed the local Romano-British population. Oxygen and strontium isotope ratios of human tooth enamel are ideal tools to study this event because they provide information on immigration and place of origin. These ratios were analyzed from the earliest individuals at two Anglo-Saxon cemeteries, Berinsfield in the upper Thames Valley, and Eastbourne on the southern Sussex coast. The results demonstrate that this event was more complex than originally believed.

**Hull-Walski, Deborah [155]** see *Snyder, Lynn*

**Humphrey, Bruce [89]** see *Illingworth, Jeff*

**Humphrey, Emma (University of Toronto)**

[5] *To Aggregate or To Disperse: A Preliminary Taphonomic Analysis of a Middle Epipalaeolithic Site in Wadi-Ziqlab, Northern Jordan*

A preliminary taphonomic and zooarchaeological analysis was carried out on the faunal remains from Wadi Ziqlab 148, a Geometric Kebaran settlement in Northern Jordan. The limited excavation of a step trench contained a thick deposit of faunal material. The preliminary analysis indicates that twelve mammal species are represented, as well as various bird and tortoise species. Cervid and antilopinae genera appear to have been preferred. Bone fracturing, burned bone, and cut marks indicate human activity. The importance of bird and tortoise species is still in question, as is whether this site represents a long-term aggregation site.

**Hunsaker, Lori (University of Utah)**

[62] *Exploring Application of Evolutionary Theory to Paleoethnobotanical Methods using Geophyte Data from the Intermountain West*

The Man the Hunter symposium highlighted the value of plant resources in foraging economies. Despite this, hunter-gatherer archaeological models and investigations have continued to highlight hunting and hunting related technology. Paleoethnobotanical methods have progressed rapidly over the past decade, but remain expensive and labor intensive. Evolutionary models can be used to effectively narrow expectations and direct paleoethnobotanical investigations. Geophyte data from the Intermountain West will be used to illustrate the value of combining paleoethnobotanical methods with predictions grounded in evolutionary theory. Testable hypotheses will be presented and social and political implications will be discussed.

**Hunt, Terry (University of Hawaii) and Carl Lipo (California State University Long Beach)**

[124] *Documenting the Ancient Statue Roads of Easter Island*

The hundreds of massive statues (moai) transported over the rugged terrain of Easter Island offer a dramatic case for the evolution of cultural elaboration. Yet many dimensions of a model for such elaboration remain to be tested. In this paper we describe the field documentation and preliminary analysis of the island's statue roads. We overlay linear features with about 700 statues and 87 topknots island-wide and report on the detailed field documentation of the ancient roads. Our field research reveals 1) the previously unknown extent of prehistoric roads; 2) historic roads; and 3) their modern destruction

**Hunt, Terry [124]** see *Lipo, Carl*

**Huntington, Fred [185]** see *Roth, Barbara*

**Huntley, Deborah [72]** see *Eckert, Suzanne*

**Hurst, Stance (University of Oklahoma)**

[125] *Cultural Differentiation and the Formation of Social Boundaries During the Late Paleoindian Period on the Southern Plains*

During the Early Holocene Period 10,000-8,000 RCYBP on the Southern Plains of North America, foragers manufactured a diversity of projectile point styles. The following study examines how the environment, population density, and social boundaries effected cultural transmission. Data used in addressing these variables include projectile point attributes, and survey and excavation data gathered from southwestern Oklahoma. Results from the study demonstrate the causes of social boundaries formation between hunter and gatherer groups. How Us vs. Them developed is pertinent to comprehending the chaos of multiple identities that exist today in the modern global community

**Hurst, Winston [66]** see *Cameron, Catherine*

**Hutt, Sherry (Cultural Property Consulting)**

[40] *New Venues for Teaching Cultural Property Law & Ethics in University Graduate Programs*

The topic is by nature interdisciplinary. This paper will identify how the subject fits into a number of existing programs, including a brief survey of current developments in teaching cultural property law and ethics in a growing array of programs, offer some insight from personal experience in teaching in various graduate programs, and finally suggest a best practices model for the future of teaching Cultural Property Law & Ethics.

**Iannone, Gyles (Trent University) [116]** *Discussant*

**Iannone, Gyles (Trent University)**

[95] *Situating Minanha*

This paper provides an introduction to the symposium by situating Minanha spatially, temporally,

and sociopolitically. In particular, data derived from the first five seasons of excavations is marshaled to examine Minanha's development and demise, and to explore its changing relationships with other polities in the region, such as Naranjo and Caracol.

**Iannone, Gyles [95]** see *Webb, Elizabeth*

**Ibarra Morales, Emilio [118]** see *McClung de Tapia, Emily*

**Ikawa-Smith, Fumiko (McGill University) [24]** *Discussant*

**Ikawa-Smith, Fumiko (McGill University)**

[58] *Introduction: 'The Scandal', the aftermath, and regaining legitimacy: Problems facing the Japanese Palaeolithic studies*

Now that it is clear that manufacturing of archaeological evidence at numerous 'Early and Middle Palaeolithic' sites by an amateur archaeologist, Shinichi Fujimura, began as early as the mid-1970s, and the fraudulent claims continued to be accepted by professional archaeologists for so long, the new research results tend to be received with much skepticism by the general public in Japan, on the one hand, and the international scholarly community, on the other. In this introductory paper to the Symposium, 'the scandal' and its aftermath will be discussed in the social context of the practice of archaeology in Japan.

**Ilan, David [45]** see *Rowan, Yorke*

**Illingworth, Jeff (Mercyhurst Archaeological Institute), Bruce Humphrey (Mercyhurst Archaeological Institute) and Dan Sosna (Florida State University)**

[89] *Conservation of Archaeological Materials via Parylene Conformal Coating*

Gas-phase conservation of archaeological materials via parylene conformal coating has been in practice for nearly two decades. Research conducted by the Canadian Conservation Institute and Specialty Coating Systems as well as extensive practical application of this material at the Mercyhurst Archaeological Institute (MAI) has shown that parylene, while not a "fix-all," is a very useful and valid means of protecting organic and inorganic archaeological materials. This paper will outline the general properties of parylene, the pros and cons of its uses, and, finally, will present several parylene-based preservation case-studies conducted by MAI.

**Illingworth, Jeffrey [123]** see *Sosna, Daniel*; [2] see *Manske, Kelly*

**Ittis, Hugh (University of Wisconsin-Madison)**

[86] *Domestication of Zea: First For Sugar, Then for Grain? A Novel Idea with Vast Implications*

Assumptions that maize ancestral *Balsas Teosinte* was first domesticated for grain need re-examination because *teosinte* grains, imprisoned in hard cupulate fruit cases, are inedible. Abundant, easily harvested, stored, and indestructible, why are CFC's unknown from older archeology? How could the key *teosinte* mutation *Tga 1* opening CFC's making grains accessible, been discovered--one so rare that George Beedle inspecting 4 million CFC's, could not find even one? Must we not assume a face-to-face discovery by sharp-eyed horticulturists among plants already semidomesticated: for surgery pith (alcohol?), green crisp ears, bean trellises: a maizeid "Eve" with caked grains, by selfing and backcrossing to semi-wild neighbors escaping this narrow "domestication bottleneck" 7,000 years ago?

**Indrisano, Gregory G. (University of Pittsburgh)**

[172] *Survey Methodologies and Subsistence Strategies in South Central Inner Mongolia, PRC*

There is little consensus about the processes that contribute to mixed, agropastoral, subsistence adaptations or the survey methodologies necessary to gather relevant data. The settlement pattern study conducted in South Central Inner Mongolia, PRC, hopes to make a substantive contribution to these theoretical and methodological debates by employing a methodology that allows for the large scale coverage necessary to posit change in societal complexity, while maintaining the survey intensity essential to locate ephemeral occupations. In addition, this project hopes to make use of collection diversity as a proxy for activity diversity, which has stringent collection methodology requirements as well.

**Inomata, Takeshi (University of Arizona)**

[133] *Mobile Commoners and the Limits of Elite Power in Classic Maya Society*

An important concern of dominant groups in Classic Maya society, driven by intense inter-elite competition, was to mobilize non-elite labor for tribute, construction, and war. Elite used the mass

spectacle of dynastic ceremonies as their primary strategy for attracting large commoner populations and for legitimizing their dominance. The main weapon of non-elites was their mobility, which allowed them to change their political affiliations with relative ease. This process of negotiation encouraged a rapid population growth, quickly leading to the size that neither elite nor non-elite strategies could deal with effectively.

**Inomata, Takeshi** [119] *see Eberl, Markus*; [132] *see Triadan, Daniela*

**Iovita, Radu P. (University of Pennsylvania), Harold L. Dibble (University of Pennsylvania), Utsav A. Schurmans (University of Pennsylvania) and Alexandre Steenhuyse (University of Pennsylvania)**

[98] *Modeling Cortex in Lithic Assemblages. An Experimental Approach*

In lithic analysis the question of the proper quantification and interpretation of cortex has been debated in the last few decades. Our experimental study, based on flintknapping experiments using several Palaeolithic technologies, focuses on the relationship between nodule surface area and volume and from there to the quantification of the number of cortical flakes in relation to nodule size and degree of core reduction. The results of this study are relevant to questions of on-site knapping v. importation/exportation of knapped pieces, which in turn addresses certain key issues in raw material economy and transport and group mobility.

**Iriarte, Jose (Smithsonian Tropical Research Institute)**

[159] *Circular Worlds: The Social Construction and Transformation of Early Formative Communities in Southeastern Uruguay*

This paper examines the social construction and transformation of early Formative circular-shaped mound complexes in southeastern Uruguay during the mid-holocene around 4,000 yr B.P. Archaeological site layouts, the role of public/plaza spaces, and the elaboration of differential mounded architecture are discussed. The circular villages of the ethnographically documented Gê and Arawak groups of Central Brazil and Amazonia are used as a point of departure to explore the social and political organization of these early formative societies.

**Iriarte, Jose** [136] *see Piperno, Dolores*; [136] *see Holst, Irene*; [136] *see Pohl, Mary*

**Irion, Jack (USDI-MMS)**

[177] *The Potential for Prehistoric Archaeology in the Gulf of Mexico Outer Continental Shelf*

The Minerals Management Service of the US Dept. of the Interior is responsible for overseeing permitting of offshore mineral extraction from Federal waters on the Outer Continental Shelf and Slope. As part of its responsibilities under the NHPA of 1966, MMS requires operators to conduct surveys of leases deemed to have archaeological sensitivity. Potential sites include historic shipwrecks and prehistoric sites dating from the Late Pleistocene/Early Holocene when sea levels were 45 meters lower than today. Consequently, the Gulf of Mexico among the most thoroughly surveyed bodies of water on Earth. This paper presents data supporting the conclusion that prehistoric sites survive intact on the OCS and synthesizes MMS research efforts to verify this conclusion.

**Isaac, Andrew (UMIST), Mark Muldoon (UMIST), Keri Brown (UMIST) and Terry Brown (UMIST)**

[2] *DNA Analysis of Italian Emmer Wheats: Implications for the Origins of Agriculture in Italy*

Radiocarbon dating evidence shows that agriculture first appeared in the Southern Italian Neolithic and then spread west and north. The genetic analysis of Italian emmer wheats should contain a record of this event. Five microsatellite loci were typed for 52 accessions of Italian emmer wheat landraces. Two unrelated groups were identified. Biogeographical analysis of Group 1 wheats (n=43) indicates that their founding population is located in Northern Puglia. This location coincides with the earliest radiocarbon dates for Neolithic agriculture (6100-5900BC). The lack of Mesolithic evidence in this region may help support the case for the introduction of agriculture by colonization.

**Isaacson, John** [185] *see Nisengard, Jennifer*

**Isaza, Ilean (Boston University)**

[81] *The ancestors of Parita: settlement survey of the Lower La Villa Valley, Azuero Peninsula, Panama*

The legendary chiefdoms of Panama have loomed large in anthropological theories of political power within small-scale polities. Despite pronounced anthropological interest in the early historical accounts of Spanish chroniclers, the physical on-the-ground reality of the Panamanian

chiefdoms has not been well established. A settlement survey within the territory of Parita, a historically known chief, documented twenty-nine sites on the terraces of natural hills adjacent to the La Villa riverbanks and abandoned meanders. In the presentation, I will show the new data from La Villa Valley and provide discussions regarding the antiquity and settlement developments of the ancestral chieftains of Parita.

**Isbell, William H. (State University of New York at Binghamton) and Amy Groleau (State University of New York at Binghamton)**

[153] *The Venerated Woman: Inferences from Mortuary Behavior*

At Conchopata we excavated a residential complex with an adult woman and infants buried in the central room. A "tocco" connected the woman's grave, through a wall, to the outer room. She must have been a woman of importance, venerated in death. Significantly, the rooms were closed by smashing ceramics and discarding other items across the floors. Were these the domestic tools with which the dead woman had carried out her tasks? If so, what do they tell us about the expectations of women in an early Andean city, and requirements to prepare food for public events?

**Ishihara, Reiko (UC Riverside) and Cameron Griffith (Indiana University)**

[143] *Construction of Sacred Spaces in Stela Cave, Cayo District, Belize*

Over the past two decades, archaeological, ethnographic, and iconographic studies have provided evidence for the sacred nature and ritual use of caves in the Maya area. However, research focusing on the use of space within individual caves has been limited. Intensive investigations of Stela Cave in 2003 by the Western Belize Regional Cave Project have enabled us to closely examine the demarcation and differential use of particular spaces within a single cave site. This paper presents examples of how certain spaces were demarcated and used at Stela Cave in an attempt to more comprehensively explore ancient Maya cave utilization.

**Ishihara, Reiko [116] see Griffith, Cameron**

**Ivas, Alice (University of Alabama)**

[127] *From Points to Cannon Balls: The search for an Apalachee village site on Mobile Bay*  
Site 1Ba221, situated on a bluff overlooking the Mobile-Tensaw delta in Alabama's Blakeley State Park, is a multi-component site with occupancy spanning the Early Woodland period to the American Civil War. A recent, intensive archaeological survey has more clearly defined the numerous occupations at 1Ba221. A ceramic analysis has permitted the various prehistoric components to be distinguished from a complex sequence of eighteenth-century occupancies by the Native American Apalachees and Euroamerican settlers who used local Native American ceramics. From the Apalachee component, few French trade goods have been recovered, which has implications for understanding early historic contact in the region.

**Jackson, Douglas [30] see Hargrave, Michael**

**Jackson, H. Edwin [64] see Scott, Susan L.**

**Jackson, Sarah (Harvard University)**

[27] *A material perspective on ancient Maya non-royal elites: beyond the textual evidence*

The non-royal, or courtly, elite of ancient Maya society are known from the hieroglyphic texts; studies of the textual evidence suggest that these elites played important roles in quotidian and cosmological realms in Maya polities. This paper, however, focuses specifically on information derived from material evidence. Case studies of elite compounds at Piedras Negras and Cancuen elucidate: patterns of material markers of eliteness; identification and comparative views of elite activities; outlines of elite ranking based on material culture. Preliminary findings suggest intriguing differences between glyphic and material representations of hierarchy, prompting an examination of the significance of 'elite' material culture.

**Jacobson, Jodi A. (University of Tennessee)**

[75] *Human Ecological Strategies at a Protohistoric Site in Western Kansas: Analysis of Deer Bones from Scott County Pueblo (14SC1)*

Methods for differentiating between mule deer (*Odocoileus hemionus*) and white-tailed deer (*Odocoileus virginianus*) using morphometrics developed for postcranial appendicular skeletal remains are applied to faunal material from a protohistoric site in western Kansas. Prior analysis of the material has been conducted, but information regarding deer utilization has been unknown due to an inability to differentiate between the two widely available *Odocoileus* species. With this

additional data, human ecological strategies at the Scott County Pueblo (14SC1) site are investigated.

**Jacobson-Tepfer, Esther (University of Oregon)**

[82] *A Search for Reality: determining Cultural Patterns and Values through early nomadic North Asian Rock Art*

Academic understandings of economic patterns and belief systems among the Early Nomads of late Bronze Age North Asia have hitherto been based on mortuary contexts, Indo-Iranian mythic traditions, and ethnographic sources. Most recently, revitalized theories of prehistoric shamanism have been applied to petroglyphic imagery from this period and region with far reaching results. This discussion uses petroglyphic imagery from the Altay Mountains of Russia and Mongolia to challenge these interpretative strategies and proposes alternate approaches more appropriate to the self-representation of the late Bronze Age Early Nomads of North Asia.

**Jacoby, Robert (Louis Berger Group)**

[114] *Tales of a Grave Undertaking: The Intersection of Law, Tradition, and Archaeology at a Potter's Field*

Anticipated impacts from Turnpike construction activities have led to the recent disinterment of approximately 4,000 individuals from the Hudson County Potter's Field in Secaucus, New Jersey, the largest such effort in North America. Though deemed ineligible for listing in the National Register, the New Jersey Turnpike Authority turned to archaeologists to lead the disinterment effort assuring that a sufficient level of research was undertaken at this unique historical site. In this paper, I will discuss methodological and judicial concerns of the disinterment plan, results of osteological research, and findings pertaining to the search for personal histories of the dead.

**Jacomet, Stefanie [108] see Martinoli, Daniele**

**James, Steven R. (California State University at Fullerton)**

[69] *Marine Mammal Hunting and Fishing patterns on San Nicolas Island: Preliminary results from a 2500-year old campsite*

Archaeofaunal results are presented from a 2500-year old campsite in the Central Plateau of San Nicolas Island. Data indicate that large quantities of fish and a smaller number of sea mammals were transported to this campsite. Most of the fish were brought to this site as complete individuals, where they were butchered, cooked, consumed, and discarded. Marine mammals include sea otter and pinnipeds; small portions of whale bone are also represented. Hunting and fishing patterns are examined with regard to prehistoric local and regional overexploitation and resource depression in the late Holocene.

**Janetski, Joel (Brigham Young University)**

[138] *A Clovis-Age Blade and Biface Production Assemblage from the Gault Site*

BYU excavations at Gault exposed a Clovis biface and blade production area. Formal tools were rare, although end scrapers, edge-modified blades and flakes were present. Both primary and secondary reduction activity occurred here, although worn tools suggest the area was used in diverse ways. The stone tools and debitage add to the growing body of data relevant to Clovis chipped stone tool production and use. These data combined with those from sites such as Wilson Leonard (Collins 1998), demonstrate that tool production debris provided raw material for expedient tools and were an integral part of the Clovis tool kit.

**Janik, Liliana (Dept of Archaeology, University of Cambridge)**

[134] *Why does Difference Matter? Visual cognition, the creation of person-hood and the categorisation of food among prehistoric fisher-gatherer-hunters of Northern Europe*

The interpretation of prehistoric fisher-gatherer-hunters faces a challenge represented by the nature of the archaeological material and the interpretatory framework we use. I propose the necessity of incorporating diversity and cultural choice as important topics in current research. Addressing these themes will allow us to interpret past communities as independent entities with their own unique cultural and historical trajectories. To illustrate this I shall present a variety of examples from Northern and Northeastern Europe ranging from the cognition of vision in the rock art, the creation of person-hood on the basis of cemeteries, and the cultural categorisation of food.

**Janny, Frédéric (University of Paris X) and Dustin Keeler (University at Buffalo)**[98] *Lithic Refitting and GIS at the Upper Paleolithic Site of Verberie*

The purpose of this paper is to show how GIS and traditional technological studies of flint knapping are complementary in illustrating the way of life of prehistoric communities. This paper is based on the data of the Upper Paleolithic site of Verberie, located in the Paris Basin. Refitting and spatial analyses of different moments in the operating chain will contribute to the interpretation of what happened in this reindeer hunting site 12000 years ago.

**Janusek, John (Vanderbilt University) [153] Discussant; [71] Discussant****Janz, Lisa (University of Arizona)**[6] *Dust Storms and Camels' Tails: Binford in the Gobi*

Although archaeology has progressed remarkably during the past century, there remains a glaring gap in analytical research on Central Asia in English language publications. Although the Late Palaeolithic Gobi Desert site of Bayan Dzak, discovered in the late 1920s, is unusual for its wealth of in situ materials, no systematic interpretative analysis of these remains has been published. By analysing those materials along with more recently excavated sites in the region in accordance with Binford's models or collector-forager systems, there appears to be a noticeable shift in inter-assemblage variability, which reflects changing adaptive strategies in response to climate change.

**Jarvenpa, Robert (University at Albany) and Hetty Jo Brumbach (University at Albany)**[36] *The Sexual Division of Labor Revisited: Thoughts on Ethnoarchaeology and Gender*

In gauging the impact of Susan Kent's scholarship, we examine how a controlled, ethnoarchaeological comparison of gender and subsistence in Circumpolar societies may be used to reassess a bedrock concept of anthropology: the sexual division of labor. Much discourse on this topic is marred by an exclusionary tone. That is, the sexual division of labor is often presented as a list of things which women cannot do, should not do, or are prohibited from doing by men. Rather than accentuating the negative and proscriptive, comparative ethnoarchaeology suggests that positive contributions of labor specialization by both women and men merit reexamination.

**Jean-Philippe, Rigaud (Universite de Bordeaux)**[152] *What is Up With the Gravettian*

Recent discoveries of parietal art have revived interest in the Gravettian, one of the most important traditions in the Early Upper Paleolithic of Europe. The richness of the recently discovered art, and its spread from the Mediterranean to the north European plain, and from the Atlantic to the Urals, implies adaptations to environment and regions during the last glacial maximum that need to be newly addressed. This paper will summarize the data and provide new interpretations of the adaptive spread of this tradition, and its links to the spread of new types of parietal art.

**Jefferies, Richard (University of Kentucky)**[159] *Late Woodland Circular Communities of the Southern Appalachian Highlands*

Since the 1960s, archaeologists working in the New, Clinch, Holston, Roanoke, and James river valleys of southwestern Virginia have documented approximately twenty large, circular Late Woodland communities. Assigned to the Intermontane Culture (A.D. 1200-1600), these sites share a number of cultural characteristics including a predominance of limestone-tempered ceramics, exterior palisades, circular to oval habitation structures arranged around a circular central plaza, and a subsistence strategy combining hunting and gathering with maize-based agriculture. This paper synthesizes existing data on the origin, structure, and organization of these communities, investigates their variability, and examines their relationships with contemporary southern Appalachian Late Prehistoric societies.

**Jennings, Justin (UC-Santa Barbara)**[96] *Rafters and Ruins: Preserving the "Open" Museums of the Cotahuasi Valley, Peru*

In many remote areas of Latin America, there is little money or demand to build museums to preserve the local historical and archaeological heritage. Sites in these regions, nonetheless, can be thought of as 'open' museums that are occasionally visited by adventure tourists. These open museums are experienced in different ways than both highly regulated sites like Machu Picchu and Teotihuacan and more conventional museums. This paper is a case study of how a group of rafters and their guides explored and came to understand the ruins along an isolated stretch of

the Cotahuasi Valley in Peru.

**Jennings, Sarah (CU Denver / Metcalf Archaeological Consultants)**

[181] *New Interpretations of the Circular Architectural Complexes in the Teuchitlan Tradition*

West Mexican ceramic models have often been a useful tool for understanding the function of the circular architectural complexes of the Teuchitlan Tradition. In 2003, the Tequila Valley Regional Archaeological Project conducted extensive excavations near the village of Navajas in Jalisco to test for evidence of the performance of pole rituals and other ceremonial activities as seen in these ceramic models. This paper will discuss two circular complexes investigated during this project, detailing similarities and differences between the architecture of these two circles while relating them to previous knowledge and providing new interpretations.

**Jeppson, Patrice L. (Benjamin Franklin Tercentenary Consortium)**

[26] *Not a replacement, but a valuable successor: A new story from Franklin's mansion in colonial Philadelphia*

As Benjamin Franklin's 300th Birthday approaches (2006), the Tercentenary Consortium is re-evaluating the historical archaeology of Franklin Court for several needs: an exhibition, a Frankliniana database, a web page, and educational outreach. This paper highlights what is being learned as archaeological studies from the 1950's, 1960's, and 1970's are re-examined in light of Franklin Court's historiography and historicity. New potentials for public archaeology emerge just as Franklin the man is being reassessed for a new age. This study demonstrates how historical sights/sites of the past can be re-assimilated/re-presented over time in terms that speak to society's needs in the present.

**Jeske, Robert [36]** see *Kuznar, Lawrence*; [156] see *Foley Winkler, Kathleen M.*

**Jiao, Tianlong [149]** see *Rolett, Barry*

**Jimenez, Joseph (Cultural Surveys Hawaii, Inc.)**

[121] *Pre-Contact Coastal Settlement Patterns on Kaho'olawe Island*

The pre-contact settlement pattern on Kaho'olawe consists of permanent coastal habitation complexes primarily located at gulches, with temporary and/or special purpose sites situated in the eastern uplands. Examination of the spatial arrangement of the structures within the coastal gulch settlement complexes reveals a pattern in the placement of religious structures and shrines on the right-hand side of the gulches. This pattern is demonstrated to be consistent throughout Kaho'olawe and can be found on other Hawaiian Islands. It is suggested that this arrangement of 'settlement space' is a manifestation of the Hawaiian cultural values associated with the 'right' and the 'left'.

**Jimenez Garcia, Esperanza Elizabeth (I.N.A.H.)**

[166] *Nuevas interpretaciones del Codice Azoyu I*

El codice Azoyu I es un documento colonial que refleja la situación socio-política que prevalecía en el siglo XVI y que vivió la clase gobernante cuando entonces controlaba la región de la Montaña de Guerrero. La elaboración de este documento ofrecía testimonios de su historia sujetos. El estudio del Azoyu I fue cotejado con otros documentos coloniales, de tal forma que su interpretación integral comprende las tres secciones que lo componen.

**Jochim, Michael (University of California Santa Barbara)**

[61] *Regional Perspectives on Early Mesolithic Land Use in Southwestern Germany*

Regional survey is an indispensable tool for investigating prehistoric hunter-gatherer land use and mobility, but surface surveys pose serious problems to interpretation, particularly when combined with excavation data. Using survey data from southwestern Germany, some of these problems will be discussed, attempts to mitigate their effects will be demonstrated, and the patterns of land use and settlement organization in the Early Mesolithic will be explored at different scales.

**Johansen, Shirley (Simon Fraser University)**

[174] *Dining, dancing and demonstrating secrecy publicly.*

Secret societies are a perplexing mixture of public actions managing surface appearances and the hidden actions of conducting important transactions of self-interest within the society. If prehistoric secret societies, as hegemonic organizations, are to enjoy power and privilege, members must demonstrate their secrecy publicly. Evidence presented supports the view that members must capitalize on certain institutions in the larger community to make themselves felt

as an extraordinary force. Public displays, in the form of feasts, serve to demonstrate the aggrandizing individual's secret power, announce and legitimize a man's political career, and add to the possibility of continued and further success.

Johnson, Allen L. [74] *see Karen Harry*

**Johnson, Amber (Truman State University)**

[28] *When Hunter-Gatherers Do Not Become Agriculturalists*

Around the world, archaeological sequences document a regular pattern of 1) decreasing mobility and 2) increasing intensification, often accompanied by a shift from wild to domesticated food sources. The places which exhibit this pattern have received considerable attention by scholars interested in the origins of agriculture and sedentary villages. This paper seeks to explain the relatively unstudied pattern of long-term stability in sequences which do not document such change. If a good theory tells us both when something will happen and when it will not, the archaeological records of places which never adopted agriculture demand our attention.

**Johnson, C. David (Washington State University) and Timothy A. Kohler (Washington State)**

[39] *Modeling household response to fuel wood availability: using long-term data to help solve current problems.*

Agent-based modeling of long-term production and human use of fuel woods in the American Southwest informs on household responses to fuel availability over multiple generations. Data of this nature can be applied in current household situations relating to the natural distributions and availability of fuel woods to present-day households in lesser developed countries. The methods and techniques used in this research can be adapted to contribute substantial input to development programs. This paper discusses the results of archaeological research and the potential for application to present-day, small-scale, subsistence farming households.

Johnson, C. David [72] *see Glowacki, Donna*

**Johnson, Eileen G. (Museum of Texas Tech University), Luc Litwinionek (American Museum of Natural History) and Vance T. Holliday (Departments of Anthropology & Geosciences, University of Arizona)**

[187] *An Early Archaic Camp at the San Jon site, Quay County, New Mexico*

The San Jon site is located at the northwestern edge of the Llano Estacado, in eastern New Mexico. Initial excavations by Frank H.H. Roberts in 1940s revealed multiple occupations from Folsom to late Ceramic times. Work by Roberts and Judson indicated that the area was once a lake basin with fill episodes of varying age. Results of renewed investigations in the last ten years now indicate a Holocene cultural sequence through Historic times within well-stratified deposits. Excavations have focused on an Early Archaic camp dating to ca. 8,000 yr BP. Stone retooling appears the major activity, with emphasis on locally available quartzites.

**Johnson, James (UW-Milwaukee)**

[52] *All Broken Up Inside: Ceramics, Tumuli and Performance in Iron Age Germany*

Ceramics and burial mounds in early Iron Age Germany (600-450BC) are closely linked. Pottery can reflect the presence of high status elites within tumuli, may help to date burials in relation to one another, can suggest inter-regional trade and exchange and in some cases appears to represent a form of ancestor veneration. Building upon recently documented evidence for curation and ancestor veneration as well as ceramic importation/exportation patterns, performance theory is used in this paper to examine early Iron Age ceramic distribution and tumulus construction as part of an interdependent process of information dissemination and elite legitimation.

**Johnson, Jay K. (University of Mississippi), John W. O'Hear (Mississippi State University) and Robbie Ethridge (University of Mississippi)**

[64] *The Chickasaws: Evolving Strategies in a Changing World*

The eighteenth century Southeast was a complex place in terms of politics and economy. A careful examination of the archaeological and ethnohistorical data allows us to document the way in which the Chickasaw dealt with rapidly shifting centers of power. In particular, the archaeology provides a rather fine grained measure change during the first half of the century.

**Johnson, Jay K. [64]** see *O'Hear, John W.*

**Johnson, Jennifer [26]** see *Agarwal, Sabrina*

**Johnson, Jessica (National Museum of the American Indian, Smithsonian Institution) and Richard Liebhart (University of North Carolina)**

[130] *Interpretation and Preservation of the "Midas" Tomb*

The "Midas" tomb in Central Anatolia was excavated under the auspices of the University of Pennsylvania's Gordion Project in 1957. Since then the tomb has been developed as a tourist destination for local and foreign visitors to Central Anatolia. The tumulus mound, currently standing almost 53 meters high, contains a wooden tomb chamber over 2700 years old. It is considered to be the oldest standing wooden building in the world. In recent years archaeologists and conservators have worked on a series of projects to improve the documentation and interpretation of the tomb construction, build an improved support structure, and define the current environmental parameters affecting the long-term preservation of the chamber. This paper will outline those projects and describe how the collaborative relationship between archaeology and conservation has improved on both the documentation and the preservation of the tomb.

**Johnson, Matthew (Dept of Archaeology, University of Durham)**

[131] *'Making a Home': Archaeologies of the English Medieval Village*

This paper discusses how we might evaluate different narratives of the English landscape. Although such archaeology is usually presented in an atheoretical and particularistic manner, it is of course, embedded in a discourse of Englishness; so British colonial archaeology on the one hand and the Hoskins and OGS Crawford tradition of local empirical studies fit like lock and key, even if they rarely explicitly cross-reference each other. I will look at how recent postcolonial views of landscape might help us critically evaluate different traditions with respect to a particular archaeological problem—the creation of the English medieval village.

**Johnson, William [183]** see *Campbell, Joshua*

**Jolie, Edward (University of Nevada, Reno) and Ruth Burgett (University of Nevada, Reno)**

[83] *Finely Coiled and Decorated Basketry from Western Nevada*

In the 1960s a cache of coiled baskets and an assortment of other fragmentary perishable artifacts were recovered from Charlie Brown Cave in western Nevada. The 19 coiled baskets are complete and all exhibit remarkable decoration, with some employing feathers in their designs. The baskets have been radiocarbon assayed to about 1300 B. P. and are ascribable to the Lovelock archaeological period (4,000–1,000 BP). This paper discusses the results of recent detailed technological attribute and design element analyses and considers them within the context of what is currently known about finely woven coiled basketry from western Nevada.

**Jones, Emily Lena (University of Washington)**

[94] *Prey Choice, Mass Collecting, and the Wild European Rabbit*

Recent archaeological studies have suggested that mass collecting situations may cause the body-size proxy commonly used by archaeologists to be violated. The use of technologies that allow people to take small prey items en masse can boost the return rates of those items because large numbers can be taken at once. Thus, identification of situations in which mass collecting may have occurred are critical to successful prey choice-based studies. This paper explores how historic mass collecting of the European rabbit (*Oryctolagus cuniculus*) affected its return rate, and how such mass collecting can be identified in the archaeological record.

**Jones, Geoff [125]** see *Ollendorf, Amy L.*

**Jones, George T. (Hamilton College), Rebecca A. Kessler (University of Washington) and Charlotte Beck (Hamilton College)**

[62] *Technological Organization, Transport Costs, and Performance Characteristics. Selectionist Archaeology or Evolutionary Ecology?*

Anthropologists long ago concluded that stone tool using behavior is a significant component of human fitness and adaptive success. It also seems reasonable that differential retention of lithic technological organization is a product of selective factors. Such an hypothesis can be tested through performance criteria, developed within both behavioral archaeology and evolutionary

ecology. Previously we examined if bifacial tool technology is consistent with an optimality model assessing transport costs as a significant factor in technologic performance. Here we extend this argument by examining the dominant component of most lithic assemblages, debitage, for comparison with patterns expressed by the biface component.

**Jones, George T. [162]** see Beck, Charlotte; [31] see Newlander, Khori S.

**Jones, Heather (University of Wyoming) and W. Jack Rink (McMaster University)**

[23] *New Dates from Pech I and IV*

Electron spin resonance (ESR) and uranium-series dating of mammalian tooth enamel has been utilized at Pech de l'Azé I and IV. Pech I samples were chosen in 1999 from an archived collection. Field radiation measurements were collected and assimilated with the ESR sample analysis. In 2001, tooth samples and radiation dosimetry data at Pech IV were collected during excavation. The resulting ages help to constrain the timing of human occupation at both sites and the Neanderthal child burial at Pech I. The results and implications of using ESR and uranium-series dating methodology will be discussed.

**Jones, Jennifer (University of Minnesota, Duluth)**

[5] *Living Landscapes: Craft Production in a Southern Levantine Early Urban Society*

Craft production intrinsically connected ancient people with their landscapes. The 2003 season of the University of Minnesota-Duluth Early Urbanism Project (UMD-EUP) investigated the location of craft production for several crafts at the fortified Early Bronze Age city of el-Lejjun in south-central Jordan. We mapped architecture within the settlement, executed plan and profile drawings of nearby menhirs, and counted ceramic, chipped stone, and ground stone artifacts and production debris along surface transects. Chipped stone artifacts currently provide the best evidence for location of craft production at el-Lejjun based on the surface material.

**Jones, John [136]** see Pohl, Mary; [136] see Holst, Irene

**Jones, John G. (Washington State University)**

[146] *Postclassic Settlement and Agriculture in the Sibun Drainage in Belize: The Pollen Evidence*

The quest for ancient pollen-bearing sediment samples in the Sibun drainage continues with an energetic oxbow coring operation and a detailed examination of the surfaces of grinding stones collected in cave contexts. Well-preserved fossil pollen has been recovered from a number of ancient oxbow lakes, and has provided insights into past human activities, including information on site occupation, abandonment and reforestation. Evidence of prehistoric agricultural activities can also be seen in the cores. In addition, pollen from the surfaces of ancient grinding stones recovered in cave contexts, reveals a startling array of potentially important economic plants.

**Jones, John G. [146]** see Bullard, Thomas F.

**Jordan, James (Antioch New England Graduate School)**

[17] *A change in the weather: Arctic climate and landscape circa AD 900 – 1400*

Recent tree-ring based climate reconstructions for the period from roughly AD 900 to 1400 demonstrate that Northern Hemisphere mean annual temperatures reached the equivalent of those measured during the 20th century yet were more variable during the period than previously accepted (Esper et al., 2002). This paper summarizes research on Arctic paleoclimate dynamics during the "Medieval Warm Period" and presents regional proxy data that support a pronounced warming trend during these centuries. These data suggest that widespread changes in productivity and geomorphic process rates, especially along coasts, co-occurred with the profound socio-political transitions of the period.

**Jordan, Kurt (Cornell University)**

[63] *Eighteenth Century Seneca Iroquois Women's and Men's Labor: The Effects of Economic Innovation at the Townley-Read Site*

Archaeological and documentary research indicates that significant economic innovation took place at the historic-period Seneca Iroquois Townley-Read site (circa A.D. 1715-1754). These innovations included construction of dispersed settlements with houses located 60-80m apart near floodplain soil and water sources, and participation as direct producers in the deerskin trade. Using archaeological and documentary evidence, ecological reconstructions, and ethnographically-derived models of the Iroquois sexual division of labor, this paper assesses the specific effects of these adjustments on gendered social actors by contrasting labor patterns at Townley-Read with those used at preceding nucleated Iroquois settlements involved in the beaver trade.

**Jordan, Peter (University College London)**[45] *An ethnoarchaeology of religion: Landscape and meaning in NW Siberia*

Archaeologists should be more ambitious in analyzing religion: reconstructing beliefs and symbolism pushes our theories to the limit and forces us beyond facile distinctions between ritual and practical behavior to more holistic reconstructions. The challenge is to improve our methodologies and understanding of symbolic behavior in small-scale non-Western societies. Focussing on the inhabitation of cultural landscapes and the creation and symbolic deposition of artifacts, I explore how ethnographic work among Siberian hunting and reindeer herding groups can equip archaeologists with a sophisticated range of interpretive models that make an archaeology of religion a viable and urgent research agenda.

**Jordan, Peter (University College London) and Bibiana Horvathova [134] *Ethno-Archaeologies of Circumpolar Worldviews***

How did past hunter-fisher-gatherers think about themselves and understand the world? In this paper we argue that ethnographic studies of artefact use and deposition amongst present day communities in Siberia have much to offer archaeologists interested in past world views. In particular, an ethnoarchaeological focus on the processes by which cultural landscapes are produced and inhabited equips us with a sophisticated range of interpretive frameworks which open out our understandings of past hunter gatherer world views.

**Joyce, Arthur [3] see Levine, Marc; [3] see Thieme, Mary S.; [84] see Mueller, Raymond**

**Joyce, Arthur A. (University of Colorado at Boulder)**[160] *Moral Authority and the Social Negotiation of Noble Status in Ancient Oaxaca*

The power of Mesoamerican nobles was not a form of absolute domination, but was socially negotiated with members of other status groups. The power of nobles was based on a form of moral authority where elites were obligated to carry out important ceremonies on behalf of their followers. Using data from Classic Period Oaxaca, I argue that nobles increasingly violated their moral responsibilities by appropriating public ceremonial spaces and excluding commoners from ritual celebrations of state and noble authority. The disengagement of commoners from elite sponsored ritual performances may have contributed to the collapse of Classic Period polities.

**Joyce, Arthur A. [160] see Barber, Sarah; [153] Discussant**

**Joyce, Rosemary (University of California-Berkeley)**[131] *Critical histories of archaeological practice: Latin American and North American interpretations in a Honduran context*

Augusto Oyuela-Caycedo proposed that Latin American archaeology follows a sequence of development from Proto-State to State, and rarely National, practice. Modern Honduran archaeology conforms to his definition of State archaeology, where international participants dominate but are legislatively controlled, while national archaeologists begin to emerge as participants in research. This structural situation provides conditions for divergent interpretations of research by global and local archaeologists working together to meet regulatory mandates. This situation is illustrated by discussion of three cases in which the meaning of archaeological sites is discursively negotiated by collaborators who work from completely different understandings of what constitutes significance.

**Joyce, Rosemary (UC-Berkeley) [76] Discussant; [78] Discussant**

**Juli, Harold (Connecticut College)**[89] *Educational Perspectives on the Illegal Antiquities Trade*

This paper considers illegal antiquities education, describing two approaches I have used to teach undergraduates and as a testing ground for future applications. After reviewing trends in archaeological education, I summarize an illegal antiquities theme used in an introductory course, and then describe a second teaching method called archaeological ethics scenarios. These are hypothetical, issue-based situations, constructed to encourage student decision-making and ethical thinking after exposure to the controversies in this field. I analyze the efficacy of both approaches and address issues in illegal antiquities education.

**Julig, Patrick (Laurentian University) and Darrel Long (Laurentian University)**[88] *Cross-border Collaboration in the Sourcing of Quartzite Artifacts in the Upper Great Lakes Region*

The sourcing of artifacts to study prehistoric exchange and interaction systems in the Great Lakes

region is complicated by modern national borders. Many quarry sites and sources are often in jurisdictions away from artifact recoveries, leading to difficulties in matching artifacts to geological sources. This paper reviews successful collaboration in quartzite (quartz-arenites) sourcing in Ontario and upper Great Lakes states, and reports on low-cost and minimally destructive methodologies for artifact collections analysis.

**Jull, Timothy [173]** *see Donahue, Douglas*

**Junker, Laura (University of Illinois at Chicago)**

[153] *Feasting in the Household and Political Economy of Early Southeast Asian Complex Societies*

Southeast Asian kingdoms and chiefdoms of the late first millennium to early second millennium A.D. emphasized a network strategy in consolidating political relationships, with ritual feasting and shared consumption a significant context in which alliances were negotiated and maintained. While there is significant historical evidence for the social contexts and structure of commensal events, only limited archaeological work has been done and it has been largely focused on ceramic serving assemblages. Other archaeological approaches, emphasizing food remains and the spatial contexts for feasting, are examined in this paper.

**Kabata, Shigeru [118]** *see Parry, William*

**Kadish, Lesley (University of Texas)**

[102] *Saintly Missions, Sacred Lands: a land-based perspective*

The history of early Mormon missionizing to the Hopi is marked by a struggle for control of territory and access to spiritual capital. My poster will plot 19th century Mormon settlements in Northern Arizona using GIS mapping to determine the pattern and density of settlements, and the pathways of Mormon encroachment into the Hopi mesas. The map will show how a strategic negotiation of space allowed Mormons greater access to key Hopi resources and trade routes, and thereby granted closer proximity to Hopi centers of spiritual power.

**Kadowaki, Seiji (University of Toronto)**

[97] *Use of Abandoned Buildings as Outdoor Activity Areas at Ayn Abu Nukhayla, southern Jordan*

The study of site-formation processes is essential to understand the relationship between space and past human behaviour. In the case of residential sites, such as Ayn Abū Nukhayla, the knowledge of architectural-life histories could provide valuable insights into the spatial organization of domestic houses. This paper aims to examine the life histories of residential buildings at Ayn Abū Nukhayla, a Neolithic site in southern Jordan. The architectural remains of the site have a so-called "beehive" structure consisting of a series of stone-walled curvilinear buildings abutting each other, apparently leaving no outdoor space. However, the examination of the depositional processes of house fills indicates that several abandoned buildings were used as open-air activity areas while other buildings were inhabited. The proposed existence of outdoor spaces at Ayn Abū Nukhayla has implications for its demography and the range of on-site activities.

**Kaiser, Timothy (Royal Ontario Museum) and Staso Forenbaier (Institute for Anthropological Research)**

[158] *Recognizing Ritual in the Dark: A Comparison of Two Caves in the Adriatic*

Only some of the caves used by prehistoric men and women were made to serve the special purposes we lump together with the term ritual. More prosaic activities and uses (shelter, concealment, water collection, etc) were more common than symbolically charged, ideologically motivated behavior. In this paper we contrast two neighboring caves in the Eastern Adriatic, Grapceva and Nakovana. The former was arguably a ritual center for many centuries, while the latter was undeniably a special place, but only briefly. We explore the reasons for this difference and the general archaeological problem of recognizing ritual activities within cave sites.

**Kamp, Kathryn (Grinnell College) and John Whittaker (Grinnell College)**

[72] *Wind and Walls: Understanding Architecture and Space Use at New Caves Pueblo*

Mapping and excavation at New Caves Pueblo, a large Elden and Turkey Hills Phase Sinagua site located on a cinder cone near Flagstaff Arizona, reveals a complex architectural layout that is a response to both social and environmental factors. Terrain, wind patterns, visibility, defensive considerations, community integration, and pre-existing social units all need to be considered in

interpreting both the location and form of architectural components. The relevance of space syntax for analysis is considered.

**Kandel, Andrew W. [55]** *see Conard, Nicholas J.*

**Kaner, Simon (Sainsbury Institute)**

[182] *The involution of complexity in Jomon Japan*

This paper addresses what happened at the end of the Middle Jomon in central Honshu (c. 2000-1500 BC), when an apparent sudden decline in site numbers is considered to mark a rapid fall from some of the highest population densities seen in the Jomon. Taking this "collapse" as a case study, and exploring the linkages between ecological changes and shifts in social relations as materialised in settlement dynamics and occupational histories, it is argued that the invocation of levelling mechanisms restricted the "evolution" of complex social relations and brought about instead the "involution" of complexity.

**Kang, Bong (Kyongju Univ.)**

[149] *Population as a Positive Ecological Factor: Ancient Korean Case*

Population has been one of the controversial research issues in both anthropology and archaeology. A great number of anthropologists and archeologists have emphasized the relationship between population pressure and warfare from the perspective of an adaptive strategy. Meanwhile, many scholars have pointed out positive aspects of population. According to the Samguk Sagi, the oldest Korean historical document compiled in the 12th century, ancient Korean people seem to have considered people as critical sources of labor forces. By utilizing the historical accounts, this paper will examine a positive role of population in the course of complex societies in ancient Korea.

**Kang, Bongwon [24]** *see Norton, Christopher J.*

**Kantner, John (Georgia State University)**

[44] *Strategies of Leadership, Authority, and Power in a Typical Chaco Anasazi Village*

Early in the AD 1000s, a modest structure emulative of the great houses of Chaco Canyon was built in the Blue J Community, located 70 km south of Chaco itself. Most of the building's design is reminiscent of a typical Puebloan house of this era, but key features; those most visible to visitors; copied architectural elements associated with the influential religious center. This paper considers how establishment of this building was likely a strategy by a faction of the community to tap into the influence of Chaco Canyon to establish decision-making authority and ideological power over the Blue J population.

**Kaplan, Jonathan (New Mexico), Juan Antonio Valdés (Proyecto Chicolá) and Oscar Gutierrez (Proyecto Chocola)**

[93] *A New Chapter in Maya Archaeology: Results from the First Season at Chicolá, a Major New Site in the Heart of the Seminal Southern Maya Preclassic*

Little known yet long believed to have been seminal, the "Southern Maya Zone" boasts the earliest Maya writing and Long Count dates, large urban centers, and sculptures of the "ruler-stela" cult. The first season of a multi-year project in the region's heart reveals an ancient site roughly 4 x 2 k2, mostly intact, with an urban design apparently similar to nearby Abaj Takalik. The project has recovered thousands of Early to Middle Preclassic ceramics and figurines, located many monuments, discovered an extensive water control system, and begun to understand the strategic significance of a hitherto uninvestigated great ancient Mesoamerican city.

**Kaplan, Jonathan [93]** *see Paredes, Federico; [93]* *see Herrera, Juan Pablo*

**Kappelman, Julia (University of Texas, Austin)**

[93] *The Economic Implications of Late Preclassic Pacific Slope Sculpture*

Certain narrative themes are consistently represented in the sculptural assemblage of the Pacific slope that give particular insight into patterns of elite communication during the Late Preclassic period. While the iconographic and mythological significance of these themes has been explored in detail, very seldom have they been considered as metaphors for economic interaction. This paper considers a series of recurring images from the Late Preclassic Pacific slope and adjacent areas in Mesoamerica as part of a system of elite exchange, in which myth and metaphor were invested with economic implications.

**Kardulias, P. Nick (College of Wooster) and Jonathan Vanderplough (University of Cincinnati)**

[52] *Stone Tools in the Aegean Bronze Age Economy: Lithics from the Eastern Korinthia Archaeological Survey, Greece*

The Eastern Korinthia Archaeological Survey (EKAS) has investigated the evolution of settlement systems in the northeastern Peloponnese over time. The project defines survey units on the basis of geomorphological features in order to trace human use of a fluid landscape that provided few sources of high-grade flakeable stone. The large quantity of imported obsidian at non-palatial Bronze Age sites suggests an economic system in which political centers chose not to control the production of lithics. The stone implements also reveal the presence of part-time specialization during the period when early states arose in the region.

**Kardulias, P. Nick [156] see Fuleki, Aaron**

**Karrow, Paul [188] see MacDonald, Robert**

**Karsmizki, Kenneth [187] see Hill, Christopher**

**Kashyap, Arunima (Michigan State University), Vasant Shinde (Deccan College Post Graduate and Research Institute, India) and Richard Yerkes (Ohio State University)**

[149] *A Pilot Microwear Analysis Of Sampled Microliths From The Mesolithic Site Of Bagor, Rajasthan, India*

The results of a microwear analysis of microlithic artifacts from the Mesolithic site of Bagor, Rajasthan, India will be reported here. This analysis represents one of the first microwear studies on the Mesolithic of India. The site of Bagor (5000 B.C.) is one of the largest Mesolithic sites in India. The most abundant cultural material, at the site is a very distinct microlith industry consisting of small tools made from chert and quartz. Thus far, around forty types of tools such as blades, points, crescents have been distinguished on the basis of their techno-morphology. A sample of chert artifacts were analyzed for microwear to understand the possible relationship between tool morphology and function. The microliths show traces of use wear for different materials, like meat, hide and plants. The results of this study will be discussed in relation to future research objectives.

**Kasper, Kimberly (University of Sheffield)**

[123] *A Spatial Analysis of Macrobotanical Remains at Vésztő-Bikeri*

Many archaeobotanical interpretations for the Late Neolithic/Early Copper Age transition present only environmental reconstructions when analyzing botanical material. The majority of scholars fail to include in their analyses knowledge about the spatial aspect of plant resources on a local and regional level. Unlike past archaeobotanical interpretations, this paper, which focuses on the macrobotanical remains from the Vésztő-Bikeri site, will illustrate how the spatial analysis of botanical material can aid in defining the subsistence and economic relationships on the local level in the Great Hungarian Plain.

**Katzenberg, Mary Anne (University of Calgary)**

[86] *Maize consumption in southern Ontario prehistory: Growers and traders*

Stable isotope approaches to identifying the introduction of maize into southern Ontario began with the work of Schwarcz and colleagues in the early 1980s. Various attempts to refine that work have continued over the last 25 years. Animal bones from a number of archaeological sites in the region have been analyzed in order to determine if other foods had a similar isotopic signature. Bone carbonate and collagen have been analyzed in order to detect small quantities of maize in the diet. It is possible that carbonate analysis, along with the analysis of artifacts associated with subsistence, can reveal maize as a trade item, prior to widespread cultivation, and maize as a trade item among Algonquians, who were known to trade with the Huron.

**Kaufmann, Kira (University of Wisconsin-Milwaukee)**

[156] *Moving Beyond Shape: Using Theory and Multidisciplinary Methods to Reinterpret the Effigy Mound Phenomena*

The emphasis of many explanations for effigy mounds has frequently centered on aspects of

mound shape. This paper focuses on spatial analysis to explain mound function in relation to Late Woodland period landscape utilization. Multidisciplinary data, including GIS and geophysical, helps to understand the construction of effigy mounds within multiple levels of function and meaning by scrutinizing repetitive patterns of human behavior, part of Late Woodland cultural development. By connecting cultural and cognitive aspects of Native American cosmology with physical manifestations on the landscape, this perspective examines effigy mounds from an ideological and physical perspective that is not mutually exclusive.

**Kawami, Trudy (Arthur M. Sackler Foundation) [47] *Discussant***

**Kay, Marvin (University of Arkansas)**

[38] *"Toto, I Have a Feeling We Are Not in Kansas Anymore"*

Archaeological evidence of tornadoes is expected in the Great Plains but is rarely, if ever, found. Tornado devastation of southwest Missouri on May 4, 2003, allows us to model tornado landscape impacts that might be observed archaeologically in grasslands, upland forests, and forest flood plain settings.

Kealhofer, Lisa [136] see *Holst, Irene*

**Kearns, Timothy (Western Cultural Resource Management)**

[48] *The Four Inch Cut: AT&T's NEXGEN/CORE Project Across the Southern Southwest*

A recent fiber optic project provided a linear sample of the archaeological record across the southern American Southwest. The project entailed survey, evaluation, and excavation of sites along a 920 mile right-of-way. The project corridor traversed diverse terrain from Blythe, California to Lamesa, Texas and impacted sites assigned to Cochise and Chihuahuan Archaic complexes, Patayan, Hohokam, Dragoon, Mogollon, Jornada, and Eastern Jornada formative complexes, and historic EuroAmericans. The survey documented 289 sites, exclusive of hundreds of historic roads and irrigation features. Approximately 200 sites were subsequently tested or excavated. The project is reviewed vis-à-vis planning, execution, expectations, and results.

**Keates, Susan G. (University of Oxford)**

[24] *Did Southern Siberia Play a Role in the Origin of Microblade Technology?*

The place of origin of microblade technology remains elusive. Clues as to where (and why) this technology developed might be represented in assemblages from the Mountainous Altai in southern Siberia, Russia. The open air site of Ust-Karakol 1 has yielded numerous lithic artefacts from a stratified and radiometrically dated sequence. Here, the earliest Upper Palaeolithic levels contain several microblades, with the earliest specimens dating to 35 ka. It has been argued that small flat-faced cores found at Ust-Karakol 1 are the precursors of wedge-shaped microcores.

**Keegan, Kristen N. [178] see *Bellantoni, Nicholas F.***

**Keegan, William F. [178] see *Bellantoni, Nicholas F.***

**Keegan, William (Florida Museum of Natural History)**

[91] *The Two Cultures of Paradise Park, Jamaica*

Recent archaeological investigations at two adjacent sites in southwestern Jamaica have highlighted the differences between the two cultural groups that occupied the island. Between 1998 and 2001 we conducted excavations an Ostionan site (circa AD 900) and a Meillacan site (circa AD 1450) on the property of Paradise Park, Westmoreland Parish. The two sites are separated by 250 meters, although they are situated along the same fossil sand dune. Excavations revealed that the people who occupied these sites had very distinct material cultures, including differences in pottery manufacture and decoration, lithic tool assemblages, and subsistence practices. This paper describes these differences and evaluates their meaning in terms of the prehistory of Jamaica.

**Keeler, Dustin [98] see *Janny, Frédéric***

**Keeley, Lawrence (University of Illinois At Chicago) [129] *Discussant*;**  
[152] *Discussant*

**Keene, Deborah [127] see *May, J. Alan*; [127] see *May, J. Alan***

**Keenlyside, David (Canadian Museum of Civilization) [88]** *Discussant*

**Kelley, Jane H. [105]** *see Williamson, Ronald F.*

**Kellner, Corina [147]** *see Yoshida, Bonnie*

**Kelly, Jennifer (University of South Florida), Robert Tykot (University of South Florida) and Jerald Milanich (Florida Museum of Natural History)**

[86] *The Importance of Maize in Florida through the Contact Period*

Stable isotope analysis of human skeletal remains has profoundly redefined our knowledge of the importance of maize to Native Americans in Florida. While ethnohistorical data are available for the Contact Period, paleoethnobotanical remains are rare for all periods. Isotopic data fill this gap for the pre-Contact period in several parts of Florida. We present results for sites representing diverse coastal, inland, and estuarine environments, and from several cultural periods. It appears that while in northern Florida maize may have been an important crop prior to European contact, chiefdom level societies developed in peninsular Florida with little or no maize agriculture.

**Kelly, John (Washington University)**

[159] *Principles of Late Woodland/Emergent Mississippian Community Organization in the Central Mississippi River Valley*

The archaeological delineation of Indian communities in the Central Mississippi Valley between the seventh and ninth centuries AD provides important insights into underlying principles of their organization. The social and ritual basis for understanding how these communities were structured lies in the rich ethnographic literature of the mid-continent. This paper examines and discusses the context for their configuration and the underlying dynamics of change between the Late Woodland and early Emergent Mississippian communities. Especially significant is the incorporation of central features linked to specific social groups during the early Emergent Mississippian that foreshadow the development of Mississippian society.

**Kelly, John [111]** *see Fritz, Gayle*

**Kelly, Kenneth (University of South Carolina)**

[12] *Arenas of Action: Trade as Power, Trade as Identity*

West Africa during the period of the Atlantic world was an area where trade and exchange played a significant role in the formation of identity, political complexity, and balances of power among a wide range of societies. These roles were exercised in relation to interactions at the local, regional, and global scale, with differing results in each case. This paper uses archaeological and historical data to explore two such contexts: that of the 17th and 18th century Hueda state, and that of its successor, 18th and 19th century Dahomey, both located on the same turf in coastal Benin, West Africa.

**Kemery, Michael (Washington State University) and Mark Collard (Washington State University)**

[62] *Causes of toolkit variation among hunter-gatherers*

Changes in subsistence-related material culture accompanied many events in prehistory, but the factors that caused those changes remain unclear. Here, we evaluate the significance of three factors previously hypothesized to affect the diversity and complexity of food-getting tools employed by hunter/gatherer populations: the nature of the resources exploited for food, risk of resource failure, and residential mobility. We do so by applying step-wise multiple regression analysis and path analysis to technological and ecological data for 20 populations. Our analyses suggest that risk of resource failure as well as aspects of residential mobility have significant impacts on toolkit structure.

**Kennedy, Greg (Ecole Polytechnique de Montreal) and Claude Chapdelaine (Université de Montréal)**

[51] *Neutron Activation Analysis of Moche Ceramics from the Moche Site and the Lower Santa Valley*

The expansion of the Moche State into the Santa Valley was carried out under the direction of rulers from the valleys of Moche and Chicama. They were using typical Moche ceramics and it is possible that they preferred vessels originating from their homeland. Selected vessels, mold fragments and figurines from several Santa Valley Moche sites were analyzed using neutron

activation and compared to an equivalent assemblage of ceramics from the capital city Huacas of Moche. The results are discussed in terms of their implications on ceramic production and distribution.

**Kennedy, Lisa [136]** see *Horn, Sally*

**Kennett, Douglas (University of Oregon), Hector Neff (CSU Long Beach), Barbara Voorhies (U.C., Santa Barbara), Andrew Roberts (University of Oregon) and Michael Glascock (University of Missouri)**

[93] *Evidence for Early Olmec Influences on the Soconusco Coast*

Olmec influences have long been recognized in the Soconusco Region based on sculpture and pottery styles, but no specific data have been produced to demonstrate unambiguous trade connections. Pottery from Los Cerritos, an Early Formative Period (3400-3100 BP) site located near the Acapetahua Estuary, resembles Cherla Phase materials from the Mazatán Region, but contains some stylistic elements that are characteristically Olmec. Geochemical analyses of a sample of pottery suggest multiple locations of local production and indicate that some pieces were imported from the vicinity of San Lorenzo, the most prominent Olmec center on the Gulf coast at the time.

**Kennett, Douglas [93]** see *Voorhies, Barbara*

**Kepecs, Susan (University of Wisconsin-Madison) and Sylviane Boucher (INAH, Centro Regional de Yucatan)**

[50] *Ek Chuah Meets the Holy Ghost: Maya Ideologies of Commerce on Both Sides of the Spanish Divide*

In this paper we examine the complex relationship between native ideology and economy in Maya society during the Late Postclassic and Spanish colonial periods. We use several empirical sources - prehispanic iconography, the native colonial-era Books of Chilam Balam, and diachronic archaeological information from long-term research in the Chikinchel region of northeast Yucatan - to show how this relationship changed through time. We argue that Late Postclassic elites spurred the thriving Mesoamerican world system by sanctioning commerce and production with trade-related iconography and rituals. When the Spaniards usurped the native world economy and bludgeoned native religion with Christianity, the formal manifestations of commerce-linked ideology faded, though not entirely - and exchange itself became an ideology of resistance in the Maya world.

**Kersel, Morag (University of Cambridge)**

[59] *If I don't, somebody else will, Collecting archaeological artifacts in the Near East.*

If I don't somebody else will, is often the self-justification collectors invoke in defense of their purchases of antiquities with questionable provenience. Misguided collectors believe they are protecting the item by making the acquisition. At any given moment, in the contemporary western world, around a quarter to a third of all adults are willing to identify themselves as collectors. Collectors have been identified as the real looters in the indiscriminate destruction of the global cultural heritage. This paper will examine how collecting by individuals and museums fuels the destruction of the Near Eastern archaeological heritage.

**Kessler, Rebecca A. [62]** see *Jones, George T.*

**Ketchum, Jean-Paul (Notre Dame)**

[30] *Ceramic Artifacts as Economic Indicators*

The objective of this project is to determine the mean value of the ceramic artifacts collected at three historic archaeological dig sites in the area of northwest Indiana and southwestern Michigan. A comparative study of the ceramic artifacts as economic indicators will contribute to the overall question concerning many of the diverse strategies Native American groups in this area employed to resist removal during the late 1820's and early 1830's. The ceramic artifacts subject to comparison come from the University of Notre Dame archaeological field school collection from the following sites: Pokagon village, Bennac village, and McCartney's cabin.

**Kilby, David (University of New Mexico), Briggs Buchanan (University of New Mexico) and Marcus Hamilton (University of New Mexico)**

[162] *Deconstructing Clovis: The Independence of Critical Issues.*

Debate over the antiquity of humans in North America has resulted in polemic positions known as Pre-Clovis and Clovis-first. Review of the debate reveals that the Clovis-first position often has

been generalized as a one-dimensional caricature used as both straw man and baseline. A deconstruction of this generalization indicates that it is composed of several independent issues often treated as interdependent. Specifically, we argue that issues of colonization routes, subsistence specialization, and landscape familiarity should be individually addressed outside the context of supporting or refuting a particular perspective on the peopling of the New World.

**Kilby, David [162]** *see* Hamilton, Marcus

**Killion, Thomas (Wayne State University)**

[89] *Repatriation Research and the Cave Valley Mummies of Chihuahua, Mexico: Consultation, Cultural Affiliation and the Limits of Archaeological Knowledge*

Casas Grandes era human remains from cliff dwellings in the Sierra de Madre of Chihuahua pose challenges to the repatriation process on many levels. These mummies, deposited with the Smithsonian Institution in 1911, were removed by an American mining engineer amid the turbulence of the Mexican Revolution. Eventually sold to the Heye Foundation in New York, the mummies returned to the Smithsonian and the National Museum of the American Indian in 1989. As the Indian Museum attempts to return these remains today archaeologists, bureaucrats and descendant communities engage the political, ethical and theoretical dilemmas of repatriation across international boundaries.

**Kim, Bumcheol (University of Pittsburgh)**

[154] *Monumentality, mobility and rice cultivation in the Bronze Age of Central-Western Korea*

This presentation discusses the relationship between monumentality, mobility and subsistence in the Bronze Age of Korea. Although dolmens in Korea are often thought to have been associated with the adoption of rice cultivation, new data suggests a more complex picture. The transition from the Early to Middle Bronze Age appears to witness a decline in both dolmen construction and mobility, the latter suggested by settlement evidence and the possible intensification of subsistence from swidden/dry rice to paddy-field/wet rice cultivation. Research into site location with reference to soil suitability for dry- and wet-rice cultivation provides further relevant data.

**Kim, Minkoo (UC Berkeley)**

[131] *Divided We Stand: Archaeologies in Korea after the Korean War*

This paper will investigate archaeological practices in South and North Korea using Bruce Trigger's framework of nationalist, colonialist, and imperialist archaeologies. During the 20th century, archaeology on the Korean Peninsula has been transformed from the pre-1945 colonialist archaeology practiced by Japanese scholars to the post-1945 nationalist archaeology of Korean scholars. Because of the Korean War (1950-1953) and the subsequent division of the Korean Peninsula into two nations, different archaeological practices have developed in the North and the South. The paper will examine similarities and differences in these North and South Korean archaeological traditions both of which can be called nationalistic.

**Kimball, Michael J. (University of Maine at Machias) and Sinead McCartan**

[61] *Action and Interaction in Ireland's Later Mesolithic*

Ireland's Early Mesolithic (ca. 9000-7500 BP) resembles contemporary Mesolithic adaptations found elsewhere in Europe. It consists of a soft-hammer, microlithic technology and a settlement system that includes a terrestrial component. However, during the Later Mesolithic (ca. 7500-5500 BP), this pattern changes to a hard-hammer, broad-blade technology and aquatically-oriented settlement pattern. We compare these two patterns and then focus on the Later Mesolithic. We review the evidence for contact, trade, and mobility within and beyond Ireland, paying particular attention to recent studies of raw material procurement and use, ecological variability, Later Mesolithic diet, and seasonality.

**Kind, Claus-Joachim (Landesdenkmalamt Baden-Wurtemberg)**

[61] *Transport of Raw Material in the Mesolithic of Southwest Germany*

Research on the Mesolithic sites of southwest Germany has produced four stratigraphies, ranging between 6,000 and 8,000 years BC calibrated. Several thousand lithic artifacts have been recovered. The raw material for the production of these artefacts comes from three different sources; one from local river gravels and two brought from 30 and 60 km distance. The frequencies of different materials, the links of the chaine opératoire as well as the spatial distribution of the objects were examined. The results of the analyses show a complex system on which the supply of raw material was based during the Mesolithic period.

**King, Adam [101]** *see Andrus, Fred*

**King, Julia (MD Archaeological Conservation Laboratory) [150]** *Discussant*

**King, Stacie M. (Indiana University)**

[144] *Spinning and Weaving in Early Post-Classic Coastal Oaxaca*

Excavations at the site of Río Viejo yielded evidence of intensive cotton-thread production during the Early Post-Classic (A.D. 800-1200). In this paper, I discuss the scale and intensity of spinning and weaving activities at Río Viejo and consider the relationship between women and textile production. Distinctive coastal spindle whorls may indicate production of unique thread compared to contemporaneous highland sites. Like other regions, spinning and weaving in coastal Oaxaca were household-based industries. Residents were likely involved in spinning and weaving for local use and for export to highland regions, but these socioeconomic activities were not necessarily linked to gender identities.

**King, Tom (National Preservation Institute) [139]** *Discussant*

**Kingsley, Robert G. [159]** *see Siegel, Peter E.*

**Kinkella, Andrew (UC Riverside)**

[69] *Stabbed and Shot in L.A.: Two Late Prehistoric Burials in Los Angeles, California*

In September of 2002, a Native American burial was accidentally uncovered in the Arroyo Seco Park area of South Pasadena. Our preliminary findings show that this was a young adult female who experienced a violent death (three projectile points were found embedded within the remains). The burial will be related a second one found in Pacific Palisades with a projectile point lodged in his spine. Issues of violence in the archaeological record of California will be explored, including possible explanations for the violent acts perpetrated upon these individuals.

**Kintigh, Keith W. [72]** *see Schachner, Gregson*

**Kirch, Patrick (U.C. Berkeley)**

[54] *Human Ecodynamics in the Hawaiian Ecosystem, from 1200-200 yr B. P.*

The Hawaii human ecodynamics project integrates archaeological, ecological, pedological, demographic, and paleobotanical approaches to address human – environment interactions in two dryland areas: Kahikinui, Maui, and Kohala, Hawaii. We attempt to evaluate: 1) the spatio-temporal nature of agricultural development, as linked to biogeochemical gradients; 2) patterns of demographic change, as linked to resource use and agricultural intensification; 3) the emergence of socio-cultural complexity, including formal control hierarchies and pronounced disparities in access to resources, and 4) the dynamic effects of a growing human population and evolving culture on its natural resource base, including soil fertility, upland forests, and other biotic resources.

**Klandrud, Sarah [72]** *see La Motta, Vincent*

**Klarich, Elizabeth (University of California, Santa Barbara) [77]** *Discussant*

**Klarich, Elizabeth (University of California-Santa Barbara)**

[153] *Hearths and Ollas from Mesoamerica to Mesopotamia: A Review of Food Preparation Research and an Andean Case Study*

This paper will begin with a brief review of recent theoretical and methodological approaches for determining the organization of food preparation in prehistoric societies. Secondly, the significance of scale, specifically the difference between household and suprahousehold levels of organization, will be discussed as it relates to models of hosting and feasting strategies within archaeological contexts. Lastly, a case study from the Late Formative Period center of Pukara (200 BC- AD 200), Lake Titicaca Basin of Peru, will be presented in order to highlight the challenges and potential for interpreting various artifact classes recovered from food preparation and consumption contexts.

**Klarich, Elizabeth [96]** *see Paredes Eyzaguirre, G. Rolando*

**Klassen, Michael A. [176]** *see Magne, Martin P.R.*

**Klassen, Michael A. (Klahanee Heritage Research)**

[176] *'Records of remarkable dreams': Iconographical analysis and the Similkameen pictographs*  
The pre-contact pictographs of the Similkameen region (British Columbia) present a challenge for interpretation. Although traditional and contemporary Aboriginal knowledge emphatically link the pictographs to the vision quest, little information is available on the meanings of specific images. Moreover, in the absence of direct ethnographic and historic evidence, credible anthropological interpretations have been elusive. Past interpretations have ranged from the purely descriptive to the largely speculative, or they have relied on classification, distribution and stylistic analysis at the expense of content. Iconographical analysis offers an alternative approach that bridges the traditional and anthropological perspectives on these images.

**Klaus, Haagen (The Ohio State University), Juan Martinez (Museo Bruning), Marco Fernandez (Museo Bruning) and Carlos Wester (Museo Bruning)**

[147] *The cemetery of El Arenal and the Warrior of Illimo: An integrated burial analysis of Middle Sicán sociopolitical organization*

We examine the sociopolitical implication of Middle Sicán (AD 900-100) burials excavated at Illimo on the North Coast of Peru, including a newly discovered tomb of a Sicán elite, dubbed The Warrior of Illimo. Our study integrates various lines of evidence including mortuary patterns, bioarchaeology, and biodistance analyses. We suggest that all of these relatively healthy and active individuals were biologically and ethnically Moche, indicating the continuation of Mochica peoples and traditions over 200 years after their political demise. Furthermore, the Warrior may have been a local lord incorporated into the lower echelons of the ethnically foreign Middle Sicán elites.

Klaus, Haagen [147] see *Farnum, Julie*

**Klein, Terry (SRI Foundation)**

[100] *Historic Preservation and the Archaeology of 19th-century farmsteads in the Northeast*  
In June 2003, the Council for Northeast Historical Archaeology (CNEHA) published a special journal on the archaeology of 19th-century farmstead sites in the Northeastern United States and the eastern Canadian provinces. The journal's articles present innovative approaches to investigating farmstead sites and determining their significance, and thus their worthiness of preservation under federal, state, and provincial laws. Many of the articles also discuss new ways to engage the public in the preservation and interpretation of these sites. This poster summarizes these innovative, and in some cases, controversial approaches to the archaeology of 19th-century farmsteads.

Kleinbach, Karl [183] see *Wenzel, Kristen E.*

**Kligmann, Debora (Universidad de Buenos Aires)**

[168] *pH, phosphorus and microartifacts: a powerful combination to discuss the characteristics of human occupation in arid environments*

Sediment analyses were carried out in a rockshelter located in the Argentine southern Puna to answer questions on site formation processes and discuss the characteristics of human occupation. Of all the attributes considered, pH, phosphorus and microartifacts are most useful and provided information about changes in site function and in occupation intensity, including abandonment. Examination of natural sediments from the study area is a necessary first step to identify modifications produced by human activity in the archaeological sediments analyzed.

**Klimowicz, Janis (University of Nevada, Reno) and Gary Haynes (University of Nevada, Reno)**

[42] *Actualistic Studies, Experiments, and Theories That Support First-Contact (Blitzkrieg) Extinctions.*

This paper discusses the kinds of actualistic studies needed to validate the evidence for first contact extinctions (FCE), the hypothesis that the first modern *Homo sapiens* in unoccupied landscapes rapidly caused megafaunal extinctions. Late Quaternary extinction histories in the New and Old World are not identical share some important characteristics that actualistic research helps explain. Besides chronostratigraphic overlap of the earliest people and the latest fauna, additional evidence for FCE include the presence of (1) dispersed, low-density early archaeological sites, many without signs of repeat visits; (2) processing/campsites containing extinct fauna; and (3) high-ranked prey in some sites and diverse food remains in others.

**Klippel, Walter (University of Tennessee) and Bonnie Price (University of Tennessee)**

[79] *Single-hole bone discs from Newfoundland to Antiqua in Historic Period contexts.*

Cores for cloth-covered buttons were frequently manufactured from mammal or reptile cortical bone at military installations throughout eastern North America and the Caribbean during the late eighteenth and early nineteenth centuries. Manufacturing debris from this highly visible activity at the British Brimstone Hill Fortress, St. Kitts, indicates sea turtle costal bones and cattle ribs were the elements of choice. However, cattle jaws and scapulae, caprine jaws and horse skulls were also used. The origin of manufacturing debris is assessed from Delta 13C content. The spatial distribution of single-hole bone disc manufacture is considered for the Caribbean and eastern North America.

**Klokler, Daniela [168]** see Gaspar, Maria Dulce

**Klokler, Daniela (University of Arizona) and Noah Thomas (University of Arizona)**

[115] *Ritual Use of Faunal Remains: An Example from the Marana Mound Site*

Excavations at the Marana Mound Site in Arizona identified an unusual room with walls constructed with a combination of adobe and small cobbles. This combination of structural elements is a unique architectural style at the Marana complex. Another unique characteristic of this room is the large assemblage of rodent mandibles placed on the floor surface before the abandonment of the house. Comparison with different household faunal assemblages from other Hohokam contexts and structures suggests the use of these remains as paraphernalia for ritual or ceremonial activities.

**Knapp, Tim (Binghamton University)**

[65] *Continuity, Stability, and Change in the Lower Chenango Valley: Evidence from the Stratified Broome Tech Site.*

Robert Funk's monumental synthesis of Upper Susquehanna Valley archaeology stressed the importance of multicomponent, well-stratified sites for exploring prehistoric continuity, stability, and change. In 1997 and 1998, the Public Archaeology Facility at Binghamton University conducted intensive excavations at Broome Tech, a deeply stratified site on the Chenango River, a Susquehanna tributary. The site is characterized by four distinct occupations: 2 Transitional, 1 Middle and 1 Late Woodland. Botanical and feature data from each component provide a unique opportunity to investigate stability and/or change in subsistence and land use at one location on the lower Chenango Valley between 1000 BC and AD 1300.

**Knapp, Timothy [65]** see Miroff, Laurie

**Knecht, Richard [99]** see Davis, Richard

**Knudsen, Garrett (University of Cambridge), Andrew Williamson (Idaho State University), Eugenia Huffinan (Idaho State University) and Herbert Maschner (Idaho State University)**

[17] *Household Organization and Technological Innovation on the North Pacific Rim across the Great AD 1150 Sociopolitical Shift*

Maschner has argued in a number of papers that there were catastrophic changes in the structure of households, villages, and technological systems after AD 1150 across the north Pacific Rim. These changes appear to coincide in most areas with the rise of complex hunter-gatherers. In the Aleutian and Kodiak regions, this transition marks the development of corporate households and fundamental changes in the character of the technological organizations documented in the region. There is also much more evidence for long distance exchange systems, intensive warfare, and microregional patterns of cultural identity.

**Knudson, Kelly (University of Wisconsin at Madison), T. Douglas Price (University of Wisconsin at Madison), Jane E. Buikstra (University of New Mexico) and Deborah E. Blom (University of Vermont)**

[147] *Migration in the Middle Horizon: Bone chemistry and the nature of the Tiwanaku polity in the South Central Andes*

In the South Central Andes, archaeological sites with Tiwanaku-style artifacts have been attributed variously to Tiwanaku colonization, economic and religious influence, and Middle Horizon 'verticality'. Understanding the relationships between Tiwanaku-affiliated sites and Tiwanaku itself is indispensable to a study of the nature of Tiwanaku influence. Here, strontium isotope analysis of archaeological human teeth and bone has identified non-local individuals at proposed Tiwanaku colonies as well as the site of Tiwanaku itself. These data show that the nature of Tiwanaku influence was highly variable through space and time, and included direct

colonization as well as economic and religious exchange.

**Kobayashi, Tatsuo (Kokugakuin University, Japan)**

[58] *Re-Thinking the First Pottery Use and the Concept of the Incipient Jomon of Japan*

Recent investigations into the Incipient Jomon sites suggest that the beginning of pottery use in Japan was more complex than it had been thought. The earliest dated pottery in Japan is associated with micro-blades or bifacial points. An AMS date for one such assemblage is 16,000 cal. B.P. In the next phase, the early pottery is associated with microblades, as at Fukui cave, or with stemmed points at many others. In southern Kyushu, however, the Incipient Jomon pottery is not associated with lithic assemblages of the Late Paleolithic tradition, requiring a careful consideration of the beginning of Jomon Culture.

**Kobti, Ziad [54]** see Reynolds, Robert

**Koenig, Viola (Ethnologisches Museum Berlin)**

[21] *The representation of landscape, gardens and other cultivated spaces in the Codices and Lienzos (maps) from Native Mexico*

Among the corpus of native codices, we can observe representation of landscape elements such as mountains, rivers and forests. Another subject is the depiction of cultivated fields (milpas), and probably garden areas. A comparison between the representations of such spaces in the documents will be made in order to distinguish garden areas from other cultivated areas and landscape. Are there any indications of pre-Columbian garden areas in the documentary record?

**Koetje, Todd [11]** see Grimm, Linda

**Koga, Yuko (Aichi Prefectural University), Saburo Sugiyama (Aichi Prefectural University) and Osamu Yoshida (Aichi Prefectural University)**

[118] *Architectural Sequence and Chronology of the Moon Plaza Complex*

This paper presents data on the changing construction sequences of the Moon Plaza complex. The chronological information gained through C14 and ceramic sequencing will be combined with a discussion of the ideological and political implications of these modifications. Architectural sequences from the Moon Pyramid, nearby pyramidal platforms, residential complexes such as the Quetzalpapalotl Palace, Jaguar Patio, or Feathered Shell Temple will be presented through the use of 3D maps generated on AutoCAD. A study of the spatial organization of the Moon Plaza complex at its final stage of construction will also be presented.

**Kohler, Tim [62]** see VanBuskirk, Stephanie

**Kohler, Timothy (Washington State University)**

[54] *Paradigms for Biocomplexity: An Introduction to the Symposium and to the Village Project*

In this paper I characterize families of approaches to studying biocomplexity, and offer the three projects presented in this symposium as examples. Following a more detailed introduction to the Village project, which seeks to model the interaction between Puebloan societies, cultures, and ecosystems in the Central Mesa Verde region between A.D. 600 and 1300, I suggest some themes that may unite the study of biocomplexity across differing sociopolitical scales.

**Kohler, Timothy A. [39]** see Johnson, C. David

**Kohn, Alison (University of Chicago)**

[160] *Vernacular Architecture and Social Status in an Urban Aymara Neighborhood in La Paz, Bolivia*

This paper presents some preliminary results of ethnoarchaeological research presently being carried out in an indigenous neighborhood in La Paz, Bolivia. The analysis looks specifically at the relationship between inhabitants' claims on local social status and its spatio-temporal correlates. In other words, this paper asks the question: what do vernacular architecture and spatio-temporal practices have to do with one's social position in the neighborhood community? In this case, I look particularly at who has rights to official political positions and how this logic of social status is embedded in the production of the physical landscape itself.

**Kojan, David (San Francisco State University) and Dante Angelo (Stanford University)**

[131] *Dominant Narratives, Multivocality, and the Practice of Bolivian Archaeology: The Case of Tiwanaku*

The practice of archaeology in Bolivia is intimately tied to the development of nationalism and a

history of colonialism. While the history of Bolivian archaeology has seen multiple interpretations of the past, the dominant voices have consistently emphasized understandings of the past that legitimize and bolster Bolivian nationalism and contemporary social politics. In particular, the Altiplano site of Tiwanaku has been formulated as a locus of Bolivian national patrimony, while other regions have been marginalized as "peripheries" or "frontiers". This understanding of history is not simply a matter of debate for archaeologists, but has very real consequences in present-day geopolitics and the lives of individuals.

**Kolata, Alan [120]** see *Dillehay, Tom*

**Kolb, Charles (National Endowment for the Humanities)**

[155] *Material Culture Collections: Archaeology and Ethnology vs. Intellectual Access in a Digital World*

Preserving artifact collections and conserving objects collected by archaeologists and ethnologists, and curated by museum collection managers are paramount, ongoing activities in cultural repositories. Providing intellectual access to artifact collections has become an increasingly significant and closely related activity, more recently enabled by advances in computerized record keeping and the Internet. Enhanced catalog records, finding aids, links to images and other Internet sites, and search capabilities are in high demand by scholars and the public. The National Endowment for the Humanities has funded projects from a variety of repositories. Successful projects and the preparation of grant applications are considered.

**Kolb, Michael (Northern Illinois University) and Ross Cordy (University of Hawai'i - West O'ahu)**

[132] *Warfare in Ancient Hawai'i*

A comparison of the ethnohistoric record of conflict in ancient Hawai'i gives rise to a better understanding of the causes of conflict, social process, and the archaeological record in this island society. Unlike many cultures, the Hawaiians were less concerned for civilian security than many cultures, suggesting that wartime expectations were very different even if the scale and intensity of combat were similar. These differences are perceived to be a reflection of distinct historical traditions of wartime ethics in Polynesia, unique rules of conflict adapted to the geographic isolation of the Hawaiians and the environmental diversity that defines the archipelago.

**Kolb, Michael [15]** see *Hajic, Edwin*; [2] see *Heinzel, Chad*

**Kolm, Kenneth (Washington State University) and Schaun Smith (BBL Inc.)**

[54] *Pre-Historic Sociopolitical Decision-Making in the Mesa Verde Region: Multiple-Scale and Multi-Temporal Hydrologic System Modeling to Predict the Relationship of Drinking Water Supplies and Settlement Patterns*

Multiple-scale, multi-temporal mathematical models simulate environmental variables, such as climate, hydrogeology, and ground-water systems, to predict the paleohydrologic drinking water supply in the Mesa Verde region. Conceptual and mathematical modeling results for the regional and local ground-water systems indicate that settlement patterns may be based on the quantity and location of drinking water supplies. The amount of drinking water available during a given time period corresponds to the climate, the aquifer recharge area of each settlement, and the delayed ground-water flow response caused by the hydrogeologic characteristics of the Dakota / Burro Canyon aquifer.

**Kooyman, Brian (University of Calgary)**

[122] *Boundaries and space in a very full place.*

Human activities and interactions are circumscribed by various kinds of boundaries at various levels. Compared with the boundaries in natural systems, human created boundaries are relatively abrupt although often flexibly defined given particular circumstances. The paper examines the potential for identifying boundary types and activity areas through spatial analysis of lithic and faunal remains at Head-Smashed-In Buffalo Jump, Alberta.

**Kooyman, Brian [75]** see *Pelly, Lorine*

**Kopecky, Tracey [52]** see *Staeck, John*

**Kopperl, Robert (University of Washington)**

[94] *Prehistoric cod fishing and cod population dynamics on Kodiak Island, Alaska*

Taxonomic abundances of smaller-bodied prey such as marine fish have been compared to those of larger sea mammals to test a resource depression model for the Kodiak archipelago, Alaska.

Intensive use of nonanadromous fish may result in changes in their population structure along with that of higher-ranked prey populations. Evidence of changes in body size of Pacific cod harvested prehistorically is presented here along with potential explanations both cultural and environmental in nature. Decreases in inferred mean body size of cod over 6000 years may indicate the influence of harvest pressure or paleoenvironmental fluctuations.

**Kornfeld, Marcel [75]** *see Tratebas, Alice*

**Korotev, Randy [8]** *see Glascock, Michael*

**Kosakowsky, Laura J. [3]** *see Little, Nicole*

**Koster, Renee (Colorado State University)**

[100] *Prehistoric Trade and Travel Routes of the Northeast*

Archival documents and imagery from Upstate New York and Canada provide evidence of early European trade and travel routes for the region. These pathways offer clues to original Native American travel corridors. This poster presents routes discovered through examination of archival map collections and primary sources related to early exploration. This poster also analyzes the trade and travel routes' relationship with known sites, GIS derived efficient pathways, and the potential for prediction of new site locations. These routes will be tested against the GIS derived pathways and then used to pinpoint probable site locations.

**Kotsakis, Konstantinos (Aristotle University of Thessaloniki), Dushanka Urem-Kotsou (Aristotle University of Thessaloniki) and Paul Halstead (University of Sheffield, UK)**

[174] *Pottery and Feasting in Late Neolithic Makriyalos, Greece*

Evidence for feasting in Neolithic Greece was recently revealed for the first time at Makriyalos, located in Northern Greece. The unique find comes from a single large pit, placed approximately at the center of the settlement. Combined ceramic and faunal evidence indicate that large scale consumption of food took place there, in a short period of time. In this paper, we discuss the evidence and examine the role of pottery in food consumption and food preparation in the context of feasting. To this end, archaeological analysis coupled with chemical analysis of organic residues in the pots was applied.

**Kozelsky, Krstin (Florida State University)**

[189] *Analysis of Faunal Materials From the Basurero at Lagartero, Mexico*

An unusually large deposit was excavated at Lagartero, Mexico in the 1970s. Preliminary analysis of the faunal material suggests that it may be the result of ritualistic behavior. Detailed information regarding the recovery techniques at Lagartero is currently unavailable, but analysis suggests that 1/4-inch screen was utilized. Current standards regarding the recovery of zooarchaeological materials from this region include fine screening (1/16 inch) and flotation to prevent sampling bias against small taxa. Recovery techniques may have distorted the data, but the nature of this deposit and associated artifacts supports the hypothesis that it may be the result of ritualistic feasting.

**Kreisa, Paul [9]** *see Edging, Richard*

**Kristiansen, Kristian (University of Gothenburg)**

[132] *Warriors on the Move: Ethnicity, Travels, and the Construction of Warrior Identities in Bronze Age*

In Bronze Age Europe it is possible to demonstrate that warriors formed a professional group with an explicit social identity that cross cut local and regional cultural identities. This raises a series of questions as to the dynamic between local, regional and "foreign" identities as represented by Warriors, and the social mechanisms employed to allow for warriors to move between cultural groups.

**Kruczek-Aaron, Hadley (Syracuse University)**

[26] *Smithfield ! Awake ! Community response to reform's alarm in 19th-century New York*

Believing that local level activism was crucial to the success of social reform on a national and global scale, noted reformer Gerrit Smith (1797-1874) and his circle of activists in central and western New York focused intensely on turning their home communities to the causes of abolition and temperance (among others) during the first half of the 19th century. In this paper, I consider the ways that neighbors responded to the call for reform in Smith's hometown of Smithfield.

Though some primary and secondary sources have touted Smith's successes and have hailed Smithfield as a moral beacon, archaeological and archival evidence has revealed that Smith's neighbors—even those living in the shadow of his mansion—struggled with reform and with Smith himself.

**Kryder-Reid, Elizabeth (IUPUI) [76] *Discussant***

**Kryp'anko, Alexander A. [149] *see Gillam, J. Christopher***

**Kuhn, Steven (Univ. of Arizona) and Anna Belfer-Cohen (Hebrew University)**

[152] *The Beginning of the Epipaleolithic in the Levant—the Perspective from Meged Rockshelter*. Meged Rockshelter, located in the Upper Galilee just over a kilometer from Hayonim Cave, preserves a sequence of deposits dating to between approximately 19,000 and 17,000 BP. Although there are no abrupt lithological changes in the sediments, the artifact assemblages can be divided into two major, vertically-distinct components. The frequency of microlithic artifacts, principally retouched bladelets, is twice as high in the later component (70%) as it is in the earlier one (35%). Numbers of unmodified bladelets change much less dramatically over time. The main technological differences between the two components seem to involve the efficiency of bladelet production, particularly the production of blanks with straight and/or twisted profiles.

**Kuijt, Ian (Univ. of Notre Dame)**

[152] *Exploring Neolithic Population Growth and Settlement Size: How Many Houses make a Community?*

Population growth, or more specifically pressure, is often viewed as being critical to the development of Near Eastern Neolithic food-production. The question is, however, how can archaeologists measure regional and settlement scale population growth through material remains? Among archaeologists population growth is believed to be reflected in increased settlement size. This paper explores the methodological and interpretative complexities of reconstructing site size, and argues that Neolithic settlements were characterized by a patchwork of occupied and unoccupied areas, resulting in artificially inflated estimates of settlement size and the importance of population pressure with the origins of food production.

**Kuijt, Ian [2] *see Quinn, Colin*; [85] *see Goodale, Nathan***

**Kulisheck, Jeremy (Southern Methodist University)**

[90] *Why Don't We Know the Size of the Southwest's Sixteenth and Seventeenth Century Pueblo Scholars* haven't been able to determine the size of the Southwest's Pueblo populations in the early historic era. This inability to measure population in the sixteenth and seventeenth century is a consequence of both a paucity of demographic evidence, and the nature of that evidence. A review of the sources indicates there will never be sufficient historical evidence to enumerate Pueblo populations during these two centuries. Accurate population descriptions will come only from archaeological research. An example from the Jemez Plateau of north-central New Mexico demonstrates this assertion.

**Kuns, Erin [76] *see Pyburn, K Anne*; [89] *see Garver, Lydia*; [89] *see Garver, Lydia***

**Kurchin, Bernice (Hunter College-CUNY) [109] *Discussant***

**Kurosaki, Kunihiko [118] *see Wang, Li***

**Kus, Susan (Rhodes College)**

[175] *A 'State' of Mind and a Matter of 'State'*

There is an "awe-full" materiality to state operations that has encouraged its reification and materialization in theoretical approaches. There is also an "awfulness" to a state's efforts to control "hearts and minds" and bodies that draws one into other theoretical domains to account for both its persuasiveness and its repressiveness. Continuing theoretical voraciousness of archaeologists can produce rich and nuanced theoretical bricolages from which to appreciate individual "states" and to produce powerfully "thick descriptions." The early 19<sup>th</sup> century Merina state serves as the focus for a discussion of several elements of a possible theoretical bricolage, "local knowledge" and "ethos".

**Kusimba, Chapurukha (The Field Museum) and Sibel Kusimba (Northern Illinois/The Field Museum)**

**[32] *Archaeology in Tsavo, Kenya***

Our poster reports on excavations of several sites conducted 1997-2002 as part of the Tsavo Research Program. The sites include a paleolithic rockshelter, iron age smelting and forging sites, and late Iron Age refugia/fortified sites. Analyses of lithic, ceramic, and iron artifacts are discussed and a culture history for the region is outlined. In particular, we discuss the significance of trade in ivory and enslaved persons and its impact on the region, especially in terms of warfare, insecurity, and settlement abandonment.

**Kusimba, Chapurukha [44] see Oka, Rahul**

**Kusimba, Chapurukha (Field Museum)****[133] *Elite and non-elite strategies in prehistoric and historic east Africa***

The appearance of hierarchy in archaeological contexts has often been viewed as evidence for transition from egalitarianism to ranked societies and beyond. Ranking goes hand in hand with elite control of basic resources and legitimation of inequality. In the African context, the emergence of social complexity in Africa was historically associated with foreign agents who introduced change in incremental packages during the process of migration, expansion and colonization. Diffusion, migration, and technology transfer perspectives minimized archaeology's efforts to analyze internal transformative processes. Consequently, theorizing about and operationalizing leadership in small scale and middle range societies is underdeveloped in African archaeology. My paper will use a variety of case studies to examine the origins of leadership in prehistoric and historic East African chiefdoms.

**Kusimba, Sibel [32] see Kusimba, Chapurukha; [44] see Oka, Rahul**

**Kuzmin, Yaroslav (Pacific Institute of Geography, Vladivostok) [8] *Discussant*****Kuzmin, Yaroslav V. (Pacific Institute of Geography, Vladivostok, Russia)****[24] *Geoarchaeological Aspects of the Origin and Spread of Microblade Technique in Northern Asia***

The earliest evidences of microblade manufacture in Northern Asia, with a few wedged-shaped microcores, are known from the Altai Mountains (Ust-Karakol 1, ca. 35,000 BP; and continue at the Anui 2 site, ca. 27,900 BP). At ca. 24,000 BP, microblade technique appeared in several regions, such as Northern China, Korea, and the Russian Far East. Later on, this technique is known in Japan (ca. 20,500 BP) and in Eastern Siberia (ca. 22,000-20,000 BP). Environment was not directly responsible for the origin and spread of microblade technique; in Siberia it co-existed with 'big blade' assemblages during ca. 24,000-14,000 BP.

**Kuznar, Lawrence (Indiana - Purdue U. at Fort Wayne) and Robert Jeske (Univ. Wisconsin - Milwaukee)****[36] *Analogic Reasoning, Ethnoarchaeology, and the Impact of Canines on the Archaeological Record***

Archaeologists have become painfully aware that their inferences are based on analogy. This apparent tyranny of the ethnographic record caused a crisis for many ethnoarchaeologists. Susan Kent remained a steadfast and courageous defender of analogic reason, and encouraged ethnoarchaeologists to use analogy to create a better inferential structure for interpreting archaeological residues. We explore the philosophical basis of analogy in scientific reasoning, and demonstrate how recent studies of canine activity on site structure can be used for inferring the presence of canines at prehistoric sites and the roles they played in prehistoric societies.

**Kuznetsov, Anatolii M. [149] see Gillam, J. Christopher**

**Kvamme, Kenneth L. (University of Arkansas)****[38] *Wood's Landscape Perspective and New Geophysical Results in the Northern Plains***

Recent advances in archaeo-geophysics allow imaging of the subsurface over large areas, enabling the mapping of significant cultural features within entire sites or settlements, or large portions of them. These results have increased our understanding of important northern Plains sites like Huff, Menoken, Double Ditch, the Fort Clark Trading Post, or its associated Mandan-Arikara village. Yet, it is clear that W. Raymond Wood had already provided a landscape perspective for many of these sites, and a context within which many of these findings can be placed.

**Kyriakidis, Evangelos (Cotsen Institute, UCLA)**

[52] *Bourdeian Doxa, Orthodoxy and Ritual in Minoan Archaeology*

The aim of this presentation is to enrich the study of ritual and especially of Minoan ritual through insights into the work of Pierre Bourdieu and in particular his work on doxa and agency, which has received considerable attention in recent scholarship. It will be argued that the notion of doxa, is particularly important to ritual -more so than to any other type of activity- and that doxa is one of the means by which ritual can influence beliefs and identities. An analysis of the relationship between doxa and ritual can enhance our understanding of how ritual works.

**La Belle, Jason M. [75]** see Hill, Matthew E., Jr.

**La Motta, Vincent (University of Arizona) and Sarah Klandrud (Arizona State University)**

[72] *Change through Time in Faunal Assemblages at Homol'ovi I: Evidence for Ceremonial and Social Reorganization in a 14th-century Hopi Village*

This presentation explores social and ceremonial contexts of hunting practices and faunal remains at Homol'ovi I, a 14th-century Hopi village. Changes through time in the taxonomic composition of faunal assemblages; in the representation of skeletal elements; in bone modification; and in the depositional contexts of faunal remains provide evidence for a major shift in hunting practices, prey choice, and ritual activities. These changes are aspects of two major social processes: (1) adjustment of immigrant populations to local fauna; and (2) reorganization and formalization of ceremonial roles and structures, including the elaboration of religious sodalities and the introduction of katsina ceremonialism.

**Lachniet, Mattew [136]** see Piperno, Dolores

**Lack, Andrew (Arizona State University)**

[20] *Clusters and Identity among the Late Coalition – Early Classic Salinas Pueblos: A Ceramic Design Analysis*

This paper presents the results of a design analysis of Chupadero Black-on-White pottery from five late Coalition and early Classic pueblos in the Salinas region of New Mexico. These pueblos occur in two geographic clusters. By the Protohistoric Period, they are thought to have been socially distinct. This study is intended to determine if this same social distinction among clusters was already present during early aggregation in the Salinas area, and, in so doing, help elucidate processes of identity formation in the late Coalition and early Classic periods in the Rio Grande area.

**Lacy, David M. (Green Mountain National Forest)**

[178] *Walking Through Time Along Vermont's Appalachian Trail*

Vermont's portion of the Appalachian Trail provides a linear, serpentine sample of northern Appalachian highland environments. Not surprisingly it often runs on, over, along or through a variety of Heritage Resource sites reflecting the rich land-use history of these now-remote areas. Native American quarries and traditional use sites: early Euro-American toll roads; 19th century logging camps, charcoal kilns, mills, mines and settlements; and CCC-era fire towers, and more recent ski areas, populate the AT corridor. They provide a baseline for observing and interpreting changes in landscape, land-use and ecosystems over time.

**Ladefoged, Thegn (University of Auckland) and Michael Graves (University of Hawaii)**

[54] *Modeling the Human Ecodynamics of Kohala, Hawai'i*

The leeward side of North Kohala District on Hawai'i Island has been occupied for over a millennium. By the time of European contact Hawaiians had developed an intensive agricultural system that supported an extremely hierarchical society. We have modeled the transformation of leeward Kohala from a pristine environment to a highly modified productive system using a landscape approach. We incorporate dynamic social and environmental constraints within a GIS. Archaeological data are structured in a distributional manner, with architectural features being the basic unit of analysis. Integrating the archaeological data with the spatial and temporal distribution of geochemical, geoarchaeological, and palynological data enables us to describe a hierarchical model of complex human environment interactions.

**Laden, Greg (University of Minnesota)**

[86] *Phytolith Assemblage Analysis: Updating the Methodology*

Thompson's methodology for the analysis of phytolith assemblages, especially of maize, has proven to be accurate and effective. However, the method in its preliminary form lacks a certain degree of replicability, and the statistical approach, while effective, is (by design) overly robust

and could be both simplified and enhanced with respect to sensitivity or discriminatory power. This paper presents preliminary re-analysis of previously studied data sets using refined methods that should address most of these problems. We propose that this new approach replace the existing approach pending further refinement.

**Lafe, Ols [52]** see *Gorogianni, Evi*

**Lai, Luca (University of South Florida) and Robert Tykot (University of South Florida)**

[98] *Diet In Prehistoric Sardinia (Italy): Preliminary Results of Isotopic Analyses*

Knowledge of subsistence strategies is invaluable for our understanding of prehistoric societies. For Sardinia, the data currently available comes mostly from a few faunal studies. As part of a larger project including radiocarbon dating, study of mobility patterns with strontium isotopes, and DNA analyses, we present the results of carbon and nitrogen isotope analyses on bone collagen, apatite, and tooth enamel. This study contributes to understanding the economic basis of social changes between the Neolithic and Bronze Age, and the relative importance through time of farming, herding and fishing in coastal and inland zones of central and southern Sardinia.

**Lakatos, Steven [185]** see *Schillaci, Michael*

**Lam, Yin (University of Victoria) and Osbjorn Pearson (University of New Mexico)**

[55] *The Past, Present, and Future of Bone Density Studies in Zooarchaeology*

Skeletal element representation in archaeological assemblages may reflect a combination of numerous factors, including the activity of humans and the structural properties of bone. Of these structural properties, density has received the most attention in taphonomic studies. Several methods have been used to derive bone density values, and the differences between these data sets may produce conflicting interpretations of the same faunal assemblage. This paper evaluates these various methods of calculating bone density and reassesses how this variable may be used in zooarchaeological analyses.

**Lambert, Patricia (Utah State University)**

[137] *Trophy Taking in California: The Historic and Prehistoric Evidence.*

Accounts of decapitation, head-taking, and scalping are common in the ethnographic literature on California. However, the antiquity of such practices is less clear. Reports of missing heads, bodies, and appendages exist for the prehistoric period, but are relatively rare. Whether this is because few researchers have looked for such evidence, evidence was destroyed due to the widespread practice of cremation, or signs of trophy taking are simply lacking, is not clear. The purpose of this paper is to review the ethnographic and osteological evidence for trophy taking in indigenous California, with an eye towards establishing prevalence and patterns, particularly as these pertain to warfare, in both prehistoric and historic periods.

**Landon, David [100]** see *Trigg, Heather*

**Lane Rodriguez, Marcianna [136]** see *Zurita-Noguera, Judith*

**Lanehart, Rheta E. (University of South FL), Robert H. Tykot (University of South FL), Anne P. Underhill (The Field Museum), Fengshi Luan (Shandong University) and Haiguang Yu (Shandong University)**

[6] *Contribution of Ceramic Residues and Bone Chemistry to Dietary Adaptations during the Longshan Period, Shandong, China.*

Stable carbon and nitrogen isotope analysis is a well-established technique for determining the dietary contributions of terrestrial and marine foods and C3 vs. C4 plants. Our preliminary isotopic analysis of human and faunal samples from Liangchengzhen suggested that people living in that area no longer relied heavily on millet, although it was probably the main source of fodder for domesticated animals such as pigs and sheep. Instead, other agricultural crops, especially rice, had increased in importance for direct human consumption. Lipid extraction from ceramic base, rim, and body sherds excavated at Liangchengzhen provide complementary data on dietary adaptations.

**Lange, Frederick (SRI)**

[165] *The Formative and Classic Foundations of Postclassic Greater Nicoya's Interaction with Southern Mesoamerica*

Research emphasizing the southern Mesoamerican Postclassic's relationship referred, although

not without some controversy, as 'Greater Nicoya' (Pacific Nicaragua and northwestern Costa Rica) has focused on the presence of trademarks of southern Mesoamerican presence (primarily deity representations, obsidian blades, and plaza oriented settlement patterns) and contact period linguistic data. The regional database, supported by chemical and visual analyses of obsidian, ceramics, and jade indicate that Postclassic events were based on long existing relationships. This paper examines Postclassic events from the perspective of their Formative and Classic period underpinnings.

**Langford, Jim [41]** *see Crass, David*

**Langlais, Amelie (Avataq Cultural Institute-University Laval) and Claude Pinard (Avataq Cultural Institute)**

[87] *Soapstone Lamps and Pots: The Reconstitution of the Extraction Process at the Qajartalik Quarry (JhEv-1), Kangirsujuaq Area, Nunavik*

The Qajartalik site, located approximately at forty kilometers southeast of Kangirsujuaq in Nunavik, is the largest of two unique Dorset petroglyph sites reported in the Eastern Canadian Arctic. The excavations carried out in 1998 and 2001 allows the discovery of an important archaeological potential regarding the use of the site. Well known for his carved faces in soapstone, the Qajartalik site was also used for the production of the soapstone lamps and pots. This paper discusses the analysis of extraction zones, soapstone preforms and debris just as others remains excavated and proposes extraction process practiced during the periods of the Qajartalik soapstone quarrying.

**Langley, Susan (Maryland Historical Trust) and Victor Mastone (Massachusetts Board of Underwater Archaeology)**

[177] *'Betwixt Wind and Water:' Identifying and Protecting Submerged Prehistoric Cultural Resources*

As underwater archaeology approaches the half-century mark, increasing and overdue attention is being paid to submerged prehistoric sites. Until recently these were known largely from unique or unusual circumstances and were generally considered rare and fortuitous discoveries. Theory-driven research was deemed admirable but impractical in all but ideal circumstances and often led to avoidance or outright dismissal of searches for prehistoric sites. Government regulators brought pressure to bear on this omission. Although limited to areas of potential impact, regulators provide the impetus obliging consideration of submerged landscapes and the utilization of more refined theories and methodologies to locate prehistoric sites.

**LaPorta, Philip (City University of New York)**

[106] *Criteria for the Development of Quarries in the Eastern Appalachians*

Chert occurs in a variety of geological settings within the polydeformed Paleozoic rocks of the Appalachians. It occurs lining unconformities as strata-bound layers of nodules embedded in great volume of surrounding country rock. The development of a quarry and the type of extraction process employed depends on the following: general attitude of the beds, thickness and number of chert beds in close spatial proximity, development of joint surfaces particularly conjugate joints and rock fabric, presence of a stable platform below the zone of extraction, and the availability of glacial till containing metamorphic and igneous rocks.

**LaPorta, Philip [106]** *Discussan;* [106] *see Werner, Alyssa;* [106] *see Sohl, Linda*

**Laroulandie, Veronique (UMR 5808 CNRS)**

[94] *Not Just Food: the Snowy Owl in French Magdalenian Sites*

Several Magdalenian sites from southwestern France have yielded bones of the Snowy Owl (*Nyctea scandiaca*). Although the number of calories provided by this bird is small when compared with larger mammals, how the exploitation of this species fit into a broader hunting strategy is unclear. In addition, zooarchaeological studies show that this bird of prey was not used simply as a food item. Bones and probably feathers were used as raw material, demonstrating that the Snowy Owl contributed to multiple aspects of the Paleolithic economy.

**Larralde, Signa (New Mexico Bureau of Land Management) and David Phillips (Maxwell Museum of Anthropology)**

[102] *The Archaeology of Early Hunter-Gatherers near Elephant Butte and Caballo Reservoirs, New Mexico*

Archaeologists have identified only a few pre-Formative archaeological sites during recent intensive surveys surrounding Elephant Butte and Caballo Reservoirs on the Middle Rio Grande

in south-central New Mexico. This poster explores the distribution and characteristics of these sites in the context of river geomorphology, current knowledge of PaleoIndian and Archaic adaptations in south-central New Mexico, and resource availability.

**Larralde, Signa [102]** see *Schlanger, Sarah*

**Larson, Daniel O (California State University Long Beach-IIRMES) and Carl P. Lipo (California State University Long Beach-IIRMES)**

[170] *Evolution of Complexity an Issue of Concepts and Terms: An Approach from Archaeological Science*

It has long been argued that the maritime hunting and gathering populations represent the emergence of complexity. However, previous analyses have been conducted without agreement about the meaning of the term "complexity" and are based evolution as a one-step Lamarkian process, a perspective abandoned by evolutionists more than fifty years ago in biology. We explore the meaning of the concept in evolutionary terms for the archaeological context, suggesting practical ways to measure complexity while at the same time explaining the persistence and ubiquity of the idea in archaeological analyses. We outline the beginnings of a language necessary for describing how evolution yields changing scales of organizational complexity.

**Larson, Mary Lou [187]** see *Byrnes, Allison*

**Latinis, D. Kyle (National University of Singapore)**

[167] *Before and after Angkor: the implications of archaeometrical analyses on Cambodian assemblages*

Energy Dispersive X-ray Fluorescence testing (EDXRF), CT scanning and X-ray imaging were conducted on a number of prehistoric and protohistoric ceramics, glass, metals and skeletal remains in Southeast Asia (primarily Cambodia). Some results illustrate high variability and ambiguity. Some results hint at exchange. Some results suggest exchange networks involving exotic goods produced outside the region. Finally, other results may suggest self-sustainable settlements with little or no interaction. Overall, the results help address questions related to urbanization and craft specialization, exchange networks, archaeometry and other issues.

**Latta, Martha (University of Toronto at Scarborough)**

[105] *Bruce Trigger and the Children of Aataentsic*

From the beginnings, Iroquoian archaeology in Canada has been a history-based discipline, which draws upon the eye-witness accounts of 17th century French explorers and missionaries. This paper outlines Bruce Trigger's contribution to archaeology in Canada and abroad: recognition that understanding of the cultural past rests on three points: the broad archaeologically-determined cultural horizon, the historical detail, and the oral traditions and values of living First Nations.

**Lau, George (Sainsbury Research Unit - University of East Anglia)**

[160] *Tombs of Distinction: Recuay Funerary Cults and Status Groups in Peru's North Central Highlands*

Recuay peoples (AD 1 – 700) construed differences in kin relations and social standing through funerary practices. Various Recuay settlements demonstrate that local groups and artisans collaborated on a series of mausolea, many featuring carved ancestor figure monoliths. The strong variability in their form and representation expresses diverse local priorities while participating within the same regional tradition and suite of cultural dispositions. The tombs, with its attendant artworks and luxury goods, articulate differentiating social relations – their makers were kin groups of different means/status bent on privileging the authority, specificity and potency of their ancestry.

**Lauinger, Jacob [54]** see *Widell, Magnus*

**Laumbach, Karl (Human Systems Research, Inc.)**

[185] *Agave Processing in the San Andres Mountains, South Central New Mexico*

Burned rock middens are ubiquitous across the American Southwest and northern Mexico. Their primary function was the roasting of agave hearts. Middens in eastern New Mexico and central Texas were used from the Late Archaic to the proto historic period. The limestone of the San Andres Mountain range supports three species of agave, but only two burned rock middens have

been recorded. Testing of a large midden near Hembrillo Canyon yielded data that indicate food preparation was a mixed grill that included agave. Artifacts and twelve radiocarbon dates provide temporal and cultural context, terminating with Apache use in the 1700s.

**Lauren, Sieg (University of Illinois, Urbana-Champaign) and Jarrod D. Burks (Ohio State University)**

[180] *The Land Between the Mounds: 'Empty' Spaces, Cognition, Settlement, and the Built Environment*

Negative space is an integral component to the overall design of Hopewell objects like copper cutouts and engraved bone. The negative spaces contain their own designs and define the design depicted in positive space. This design principle a combination of positive and negative space is writ large on the Hopewell landscape in earthwork and settlement patterns. In the Chillicothe area, the 'empty' spaces between earthworks were an essential part of the larger landscape. These interstitial spaces contained settlements and resource procurement areas. Although settlement and ceremonial precincts occupied different spaces, together they constituted complementary parts of the built environment.

**Law, Randall (University of Wisconsin - Madison)**

[149] *Harappan Steatite Trade Routes: A Source Provenience Study Using INAA*

Instrumental neutron activation analysis (INAA) was used to characterize fragments of steatite (soapstone) manufacturing debris excavated at the Indus Civilization site of Harappa, Pakistan (ca. 3300-1700 BC) and a set of geologic samples collected from South Asian steatite deposits. Using multivariate discriminant analysis, steatite sources could be differentiated from one another on a regional scale and the source provenience of archaeological samples could be assigned with a high degree of confidence. The acquisition routes of this important material commodity are traced over the course of Harappa's occupation by focusing on steatite fragments collected from throughout the site's well-dated stratigraphic sequence.

**Lazzera, Adrienne (University of Virginia)**

[180] *Fertility, Fidelity and Food Production: The Symbolics of Hopewell Subsistence*

Hopewell interaction was marked by increased production and reliance on cultivated foods. What were the sociocultural mechanisms that encouraged such increased food production? How did it relate to other Hopewell innovations such as ritual exchange, mound building, and perhaps socioeconomic inequality? I explore how food production and ritual intensification were interrelated and its relationship to elite lineage perpetuation. I demonstrate with ethnographic examples that domestication and cultivation can be linked to metaphors of fertility and reproduction. I propose a methodology for identifying these links archaeologically through differences in the paleobotanical record from Hopewell household and mound sites.

**Lazcano, Carlos [189] see Serra, Mari Carmen**

**Lazzari, Marisa (Columbia University)**

[12] *Circulation of things, production of social spaces: the roads of ceramics and obsidian in NW Argentina (1st millennium AD)*

Anthropology has long noticed that the exchange of things is connected to the production of space as a field of social experience. However, in NWA archaeology the circulation of objects has often been considered as a mechanism to overcome the environmental limits to social reproduction, while space - in terms of physical distance- was only the measure for the value of circulating things. This paper explores the landscape as a social space, constructed through the circulation and use of things and their sedimentation in different places. Lithic and ceramic evidence from sites in the Aconquija Mountains will be presented.

**Leckman, Phillip (University of Arizona)**

[115] *Settlement and Organization at the Marana Mound Site: A Spatial Approach*

Because it is well preserved, spatially discrete, and extensively documented, the Marana Mound site affords a rare opportunity to examine economic and social organization in a large Early Classic Hohokam center at a settlement-wide level. In this paper, artifactual and architectural data drawn from the original systematic intrasite surface collection of the site are examined via a variety of spatial and quantitative analytical methods. Site-wide patterns are thus developed that can be used in conjunction with data from excavated contexts to offer insights into resource distribution and residential patterning for the Marana Mound center as a whole.

**LeCount, Lisa J. (Alabama)**

[153] *Palace Banquets, Private Parties, and Royal Largess: Suprahousehold Food Preparation at the Late Classic Maya Site of Xunantunich.*

Late Classic Maya feasting is viewed through a contextual analysis of ceramic assemblages across elite and commoner households at the political center of Xunantunich. Results indicate that although the formal assemblages do not vary significantly, the concentration of ceramic debris located adjacent to the royal compound cannot be explained by daily commensality of the royal court alone. Unlike other households, food related activities were also spatially segregated at the royal compound. It is suggested that household feasting realized group inclusion while private banquets inside the royal compound could fully engage in diacritical consumption of specialty foods between royalty and their guests.

**Lee, Charlotte** [54] *see* Tuljapurkar, Shripad

**Lee, David (Southern Methodist University)**

[116] *Revisiting the Place of Ticks: Some Highlights of the Investigations at the Ancient Maya Site of Cahal Pech, Cayo District, Belize.* Cahal

Pech has served as a cornerstone and home base for the BVAR project since its inception in 1988. Starting with Jaime Awe's PhD research, investigations have continued at the site through a number of project partnerships, most notably Trent University's Preclassic Maya Project with Paul Healy. These efforts have produced a remarkable body of information on the role of this important Maya center. This paper will review some of the highlights of that research, looking particularly at how the site of Cahal Pech has broadened our understanding of the Preclassic period of Ancient Maya civilization.

**Lee, Elizabeth (University of California, Berkeley), Michael Galaty (Millsaps College) and Meredith Hardy (Florida State University)**

[123] *Soil Chemistry Survey at the Körösladány-Bikeri Site*

In 2002 soil chemistry analysis at the site of Vésztő-Bikeri, in Békés County, Hungary, provided valuable information about the concentration and boundaries of human activity on the prehistoric site. Based on the success of that research, soil samples were taken in 2003 for chemical analysis from the nearby site of Körösladány-Bikeri. The samples from Körösladány-Bikeri were collected in a similar fashion. These non-destructive methods will help establish the boundaries of the site, and will allow us to build a picture of settlement organization for Early Copper Age settlements in the region.

**Lee, Gyoung-Ah**

[108] *Sample size and Inter-Site Comparison in Paleoethnobotany*

One of the common issues in paleoethnobotany is how to gain the quantitative compatibility of macro-plant remains regardless to their different survival/retrieval rates and sample sizes. This research introduces a sampling method that standardizes the sizes of samples recovered from different sites, based on a relative error and a confidence level. Then, it reviews a statistical measure that allows the valid inter-site comparison. These methods are applied to samples recovered from the Nam River sites and others (1400-400 BC) in southeastern Korea.

**Lee, Richard B. (University of Toronto)**

[36] *From Ethnoarchaeology to Indigenous Advocacy: The Kalahari Journey of Susan Kent*

It is an unusual but by no means unique pathway for an archaeologist steeped in positivism to come to a wider awareness of contemporary political aspirations and struggles. Sue Kent followed such a trajectory, bringing her considerable energy, enthusiasm, and restless intellect to bear on an innovative mix of mainstream archaeology and cutting-edge ethnoarchaeology, later expanded to include medical anthropology and ethnohistory. But her close association with the San people of Kutse, Botswana led her beyond scholarship into new terrain, the field of indigenous human-rights. This paper traces her scientific and political journey and assesses her impact.

**Lee, Yun Kuen** [15] *see* Rosen, Arlene

**Lee, Jr., Thomas A.** [169] *see* Cheetham, David

**Lee-Greig, Tanya (Cultural Surveys Hawaii, Inc.)**

[121] *Kaho`olawe Ranch: Inquiries into the Social and Economic Structure of a Historic Ranch*  
The ranching period of Kaho`olawe extended from 1858 until 1941. After 83 years of operation, the ranch was abandoned in a single day following the attack on Pearl Harbor. What remains today, despite bombing disturbances from 1941 to 1990, is a near complete record of historic ranching virtually 'frozen in time'. The cultural materials from the ranch center at Kuheia Bay, particularly items recovered from residences of the cowboys, foreman, and owner, reflect the social and economic structure of a ranching system operating with limited resources and isolated from major exchange routes.

**Leezer, Carole (University of Texas, San Antonio) and Laura Levi (University of Texas, San Antonio)**

[67] *Feasting and the Domestic Group: a Lowland Maya Case from San Estevan, Belize*  
In the Maya lowlands, archaeological assessments of feasting typically have been formed in conjunction with studies of monumental architecture and its associated material culture remains. As a result, feasting behavior has become closely identified with the political strategies of ruling elites. A study of ceramic assemblages from small structure architecture at San Estevan, Belize, would suggest, to the contrary, that feasting was a far more commonplace activity. Community wide, feasting appears to have been just one among many strategies differentially adopted by domestic groups in the organization of their memberships.

**Legrand, Alexandra [79]** see *Sidera, Isabelle*

**Leimer, Michael (Louisiana State University)**

[53] *Behavior and Space at Vale de Obidos: A Contribution from Spatial Statistics*  
The primary Gravettian occupation level at Vale de Obidos contains several distinct clusters of flaked stone tools, debris, and fire-cracked rock associated with archaeological features. The behavioral interpretation of the Upper Paleolithic activity areas requires understanding of spatial variability in raw material use, technology, and typology of recovered lithic artifacts. The high resolution spatial data recovered during excavation enables definition of the activity area assemblages through a series of clustering techniques (unconstrained, K-means, hierarchical nearest neighbor analysis, kernel density estimation), which in turn informs archaeological interpretation.

**Lekson, Stephen (University of Colorado, Boulder)**

[19] *Mexico and All Points North: Southwest, Southeast, and Mesoamerica*  
Two spheres of Mesoamerican impact are evident north of Mexico: one in the Southeast (and Mississippi Valley) and a second in the Southwest. Large scale dynamics in these two areas took intriguingly different forms, reflecting continental geography, local histories in the Southeast and Southwest, and different Mesoamerican regions most closely engaged with each northern area. This paper compares and contrasts Mesoamerican interactions in the Southeast and Southwest, examines differing interpretations of the Southwestern situation, and offers conclusions of possible use for understanding large scale process in the Southeast.

**Lekson, Steve [135]** see *Nepstad-Thornberry, Curtis*

**Lemaitre, Serge (Royal Museum of Art and History)**

[176] *Regionalism in Canadian Shield Rock Art*  
The Canadian Shield Rock Art is considered by many scholars as a big comprehensive group. This paper intends to demonstrate that it is both true and false. Thanks to typology, to stylistic and to the study of some motives, it is possible to say that the authors of the rock paintings have together large cultural affinities but are also different in each region. They have some cultural convention to create their motives but they do not paint the same things.

**LeMoine, Genevieve (The Peary-MacMillan Arctic Museum, Bowdoin College) and Christyann Darwent (University of California, Davis)**

[17] *Late Dorset in the Canadian High Arctic: Resource Intensification or Resource Stress?*  
Investigation of Late Dorset sites on Little Cornwallis Island (ca. AD 1500-1000), and comparison with other High Arctic sites, suggests decreased residential mobility, increased exploitation of smaller game animals, and increased hunting activity by women. Intensive use of small game might have caused a decline in the resource base. This suggests that Late Dorset populations could not compete with the arrival of Thule migrants from Alaska about 1000 years ago. Whale hunting technology allowed Thule hunters to tap previously unexploited resources. Mammalian-

resource depression coincident with the arrival of Thule whale-hunters likely resulted in demise of the Paleoeskimo way of life.

**Lenert, Michael [57]** *see* *Prentiss, William*

**Lengyel, Stacey (University of Arizona)**

[101] *An Archaeomagnetic Reference Curve for the U.S. Southeast*

Archaeomagnetic dating depends on 1) the fact that the earth's magnetic north pole drifts around the geographic rotation axis on the order of decades, and 2) the fact that burned, clay-rich archaeological features, such as cooking hearths, accurately record the position of the magnetic north pole at the time they were last fired (e.g., the last time a cooking hearth was used). This project compiles archaeomagnetic data collected from throughout the Southeast over the past 30 years to create a regional reference curve that can be used to date archaeological features in much of the Southeast.

**Lentz, David L. (Chicago Botanic Garden) and Andrew Wyatt (University of Illinois, Chicago)**

[164] *Plants and Process among the Middle Formative Olmec: Paleoethnobotanical Studies at the San Andres Site*

Exceptional conditions for the preservation of plant materials were encountered at the San Andres site, located 7 km to the northeast of La Venta on the Gulf Coast of Tabasco, Mexico. Analysis of water-screened and flotation extracted plant materials from Middle Formative levels revealed the presence of two species of palm fruit (including *Acrocomia aculeata*), three species of Cucurbitaceae seeds (including *Cucurbita ludelliana* and *Cionosicyos macranthus*), *Phaseolus* sp. seeds, *Spondias mombin* pits, and *Ficus* sp. charcoal. These and other results will be discussed as a reflection of the prevailing socioeconomic and ecological milieu.

**Lentz, David [116]** *see* *Morehart, Christopher*; [136] *see* *Pohl, Mary*

**Leonard, Robert D. [62]** *see* *VanPool, Todd L.*

**Lerner, Harry (McGill University)**

[185] *Between a Rock and a Biface: Raw Material Selection and Chipped Stone Tool Life Histories, An Example from Northern New Mexico.*

Every stage of lithic reduction contributes to variability seen in the archaeological record. This implies that the reduction concept must be extended beyond tool manufacture to include use/maintenance-related attrition. This paper examines how raw material type influences use-wear accrual, its implications for assessing these traces, and how we evaluate functional implement variability over the course of tool use histories. Through controlled experimentation and artifact analysis, four Late Archaic assemblages from San Juan County, New Mexico were assessed to identify relative activity intensities, reflective of the subsistence strategies employed by the peoples of this time and area.

**Lerner, Shereen (Mesa Community College) [76]** *Discussant*

**Lesure, Richard (UCLA)**

[78] *Embodiment and Figurine Studies: Identifying Our Analytical Resources*

Archaeologists seeking to reinvigorate the study of anthropomorphic figurines are drawn to the literature on embodiment, and they often present their theories as something radically new. But does somatizing figurine studies also require novel methods? I argue that it does not. Instead, to make inferences about ancient "senses of being" based on figurines, we need two well-established tools: iconographic and stylistic analysis. The embodiment perspective directs us productively to the murky intersection between the two analytical domains. I illustrate the possibilities and challenges by examining two cases from Formative Mesoamerica: the Chiapas coast and the central Mexican highlands.

**LeTourneau, Philippe (University of New Mexico) and Robert Weber (New Mexico Bureau of Geology and Mineral Resources)**

[48] *Folsom Occupation in Socorro County, New Mexico*

Socorro County, the second largest of New Mexico's counties, contains a wide variety of landforms and environments, including large Pleistocene lake basins and several mountain ranges. The county is also home to several important toolstone sources. Little has been written of the Paleoindian occupation of this diverse area. Recent research has documented 132 Folsom

sites with over 1000 diagnostic Folsom artifacts in the county. In this paper we describe the environments, landforms, and toolstone sources in Socorro County; discuss Folsom site distributions; and briefly examine technology and raw materials of the Folsom artifacts.

**Leveillee, Alan (The Public Archaeology Laboratory, Inc.) [177] *Discussant***  
**Leventhal, Richard M. (School of American Research) [150] *Discussant*; [95] *Discussant***

**Levi, Laura [67] *see Leezer, Carole***

**Levine, Abigail (Stanford University)**

[4] *Monkeying Around With Pottery Production: A Study of Mold-Made Effigies from the North Coast of Peru*

This study examines the relationship between mold-made ceramic production and social change during the Inka conquest period. Analysis of Chimú-Inka monkey effigy vessels from Farfan, Jequetepeque Valley, and Tucume, La Leche Valley, indicates that the two assemblages were produced by separate workshops using different sets of molds. Comparison of Chimú-Inka monkey effigy vessels with Chimú monkey effigy vessels from Chan Chan has revealed certain morphological and stylistic differences, despite general similarities. These results suggest that the Inka relocated Chimú pottery production to provincial administration centers, and illustrate how the Inka adopted local forms for use in their own political economy.

**Levine, Marc (University of Colorado), Arthur Joyce (University of Colorado) and Paul Goldberg (Boston University)**

[3] *Earthen Mound Construction at Río Viejo on the Pacific Coast of Oaxaca, Mexico*  
Recent excavations at Río Viejo in the lower Río Verde region explored the nature of mound construction within the site's civic-ceremonial core. This work demonstrates that a large portion of Río Viejo's acropolis was completed by the late Terminal Formative Period. Much of the acropolis appears to be composed of unfired earthen blocks. Little research has focused on earthen building techniques in Mesoamerica. In addition to a discussion of mound stratigraphy, this poster will include results of micromorphological analyses of the earthen construction material and a discussion of an energetics approach pertaining to the political significance of Río Viejo's acropolis.

**Levitt, Steven W. [86] *see Benz, Bruce F.***

**Levy, Richard (Faculty of Environmental Design, University of Calgary) and Peter Dawson (Department of Archaeology, University of Calgary)**

[170] *Using CAD and laser scanning to model archaeological artifacts and historic sites*  
In archaeological research, computer models have been used for decades as tools in the preservation and analysis of physical data. Using a case study approach, various techniques of creating and displaying computer reconstructions will be examined. Special attention will be given to the role of traditional data sources and more recent technology such as 3D-laser scanning as a source of data for the reconstruction of historic sites and artifacts. Finally, recommendations will be offered on how to enhance the documentation and creation of computer models for teaching, public education and archaeological research.

**Levy, Richard [141] *see Dawson, Peter***

**Lewis, Brandon (Santa Monica College)**

[67] *Dos Barbaras, Belize: A Minor Center with Major Aspirations*

The transition from the Early to Late Classic period in the northeastern Peten represents a dynamic time of growth and change. Evidence throughout the region attests to significant increases in population, specialized craft activity, and socio-political complexity. Research at Dos Barbaras, Belize, suggests that the Late Terminal Classic, by contrast, may be characterized as a period of political instability in which minor centers attempt to exert autonomous or local political authority. Data from the site of Dos Barbaras are used to examine the role and changing fortunes of small centers within the overarching political and ecological landscape.

**Lewis, Cecil (University of New Mexico) and Anne Stone (University of New Mexico)**

[147] *MtDNA diversity at the archaeological site of Chen Chen, Perú: Implications for Andean genetic*

The Chen Chen people of the Osmore Drainage in southern Perú were part of the Tiwanaku culture. During its fourth and fifth phase (AD 500 to AD 1000), this culture spread throughout

portions of Argentina, Chile, Bolivia, and Perú. Here we report analyses of mitochondrial DNA haplogroups from Chen Chen. We use mitochondrial DNA and cultural evidence to examine the social organization at the site. This study also uses these Chen Chen data in a broader evaluation of Native American population history in order to evaluate hypotheses regarding the peopling of South America.

**Lewis, Thomas [29]** *see Basalik, Kenneth*

**Lewis-Williams, David (Univ of the Witwatersrand)**

[45] *Religion: An analytical, materialist definition*

The definition of religion developed here conceives of it as a possible outcome of every person's need to come to terms with the electro-chemical functioning of the human brain. It is necessary to distinguish between religious experience, belief and ritual. Religious experiences are generated by the human nervous system; they have much in common worldwide because the nervous system is a human universal. Religious beliefs are moulded by the cultural, social and political environment of religious experiences. Religious ritual mediates experience and belief. Religious experience, belief and ritual inevitably constitute a foundation for social discrimination.

**Li, Kuang-ti (Institute of History and Philology, Academia Sinica)**

[107] *The Development of Prehistoric Fishing Technology and Related Social Changes in Southern Taiwan*

Excavations of the coastal site of O-luan-pi II in southern Taiwan found a continuous sequence of occupations dating between 4000 B.P. and 2500 B.P. Analyses of the fish bone assemblages and fishing implements, as well as marine environment, have provided new data for studying prehistoric fishing strategies and social structures in the region. The preliminary results show an increase of offshore fish remains through time, while the intensification of local fishing subsistence activities also suggests changes in social organizations.

**Li, Yung-ti (Institute of History and Philology, Academia Sinica)**

[107] *Why Cast Bronzes Differently? Technological Changes in Late Shang Section-mold Casting and Their Socio-political Context*

Bronzes in Early to Middle Bronze Age China (ca. 2000-600 BC) were almost exclusively cast by using clay section-molds. While there are extensive studies on the technology itself, few have looked into the development and the socio-political backgrounds of the bronze industry. This paper first presents a new study on mold fragments from Anyang that suggests changes in both the technology and the production organization during the late Shang period (ca. 1300-1100 BC). It then explores the socio-political aspects of the Shang state based on textual, archaeological, and stylistic information in order to provide tentative explanations for such changes.

**Lieb, Brad R. (Cobb Institute of Archaeology, MSU/ Univ. of Alabama)**

[64] *Chickasaw Pottery: Seriation, Chronology, Horizons, Traditions, and Ethnicity*

A basic goal of The Chickasaw Project in attempting to assemble all excavated Chickasaw collections in one study has been to establish a fine-grained chronology for the early historic Chickasaw occupations in northeast Mississippi. A feature-level chronological ordering rather than a site-level chronology was called for. A seriation was constructed by comparing the frequencies of key ceramic types, attributes, and modes across vessel assemblages gleaned from large domestic refuse pit feature contexts. More than ten variables and twenty-six cases (pit features) distributed over seven different sites were used as well as non-ceramic variables to increase the robusticity of the seriation.

**Lieberman, Daniel (Harvard University)**

[129] *Rethinking the fossil evidence for behavioral differences between Neandertals and modern humans*

Cross sectional properties of limb bones are similar in humans and Neandertals when adjusted for body mass and limb length, but differ in shape, suggesting similar magnitudes but different patterns of loading. Such interpretations, however, assume that long bones deform like beams in pure bending, with neutral axes passing through the area centroids. Experimental tests falsify this assumption, because the combined effects of bending and compression yield substantial errors. Applying these analyses to the fossil and archaeological records indicates that we can neither support nor refute the hypothesis that Neandertals and early modern humans had different patterns of mobility.

**Liebhart, Richard [130]** *see Johnson, Jessica*

**Lightfoot, Kent (UC Berkeley)**

[14] *Native Negotiations of Diverse Missionary Practices in the California Missions* This paper considers the implications of diverse treatment of Indian neophytes within the Franciscan missions of Alta California (1769-1830s). Franciscan padres subjected Native peoples to varied forms of enculturation programs, Native relocation programs (reduction), labor practices, and social mobility. Recent archaeological and ethnohistorical analyses are presenting new insights on how Native peoples negotiated these varied practices in the missions of central and southern California. In summarizing these findings, this paper explores how mission engagements led to different outcomes for Native populations that still resonate to this day in California.

**Lillis, Jaclyn E. (University of Wisconsin-Milwaukee)**

[52] *Working with an Unworkable Collection: Textiles from the Swiss Neolithic at the Milwaukee Public Museum (MPM)*

Analyzing late 19th century collections excavated when recovery and conservation methods for organic materials were still being developed is problematic. The MPM textiles from the Swiss Lakedwelling site of Robenhausen (3000-2000 BC) exemplify this phenomenon. The mounting techniques employed preclude accurate measurement of individual strands and threaten the long term condition of the pieces. Issues associated with the study and care of ignored, poorly preserved and inadequately mounted collections are presented. Experimental archaeology is used to reconstruct conservation and mounting techniques, including the international jigsaw puzzle of textile fragments cut up by the excavator for sale to various museums.

**Lilly, Jr., Thomas G. [9]** *see Britt, Tad*

**Lindauer, Owen (Texas Department of Transportation) [128]** *Discussant*

**Lindner, Christopher (Bard College)**

[65] *Eastern New York's Bushkill Complex: Delving into the Great Gap*

In eastern NY prehistory, there is a gap between 2450 and 1550 BP where we have few sites and sparse information in comparison to longer spans before and afterward. Bob Funk first extended the concept of a Bushkill complex, taken from downstream along the Delaware, to link lobate-stemmed projectile points and minimally decorated pottery before 2050 BP. He later interpreted Susquehanna valley Bushkill phase artifacts as the domestic manifestations of a culture with its mortuary expression in the approximately contemporaneous Middlesex phase. Funk recently assisted in the recognition of three Bushkill components in the Hudson drainage, including the Lighthouse Cove bluff top, which will be discussed in this paper.

**Lindsay, Ian (UC Santa Barbara)**

[44] *Current Research on the Rise of Political Complexity and Strategies of Elite Authority in the Southern Caucasus: A View from the Tsakahovit Plain, Northwest Armenia*

The dawn of the Late Bronze Age (c.1550-1150) in the southern Caucasus was heralded by profound, wide-scale reformulations of the sociopolitical landscape, as mobile, highly-stratified herding societies of the Middle Bronze Age (c. 2200-1500 B.C.) begin to settle into communities centered around imposing new stone fortresses overlooking the agricultural plains and valleys. These transformations in the aesthetics of power form the backdrop for recent investigations into strategies of authority deployed by fortress elites on the Tsakahovit Plain, northwestern Armenia, and the responses of their followers at a time when the earliest enduring political institutions were emerging in the Armenian Highlands.

**Lipe, Bill (Washington State University) [76]** *Discussant*

**Lipo, Carl [35]** *see Bradford, Ileana*

**Lipo, Carl (California State University Long Beach) and Terry Hunt (University of Hawai'i)**

[124] *The Ancient Moai Roads of Easter Island*

Easter Island is famous for the hundreds of multi-ton statues (moai) transported over rugged terrain to every corner of the island. Some scholars have invested a great deal in arguing how the colossal statues were moved. However, few archaeologists have looked closely at the roads as a critical witness to this mystery of Easter Island. Here we describe the use of high-resolution satellite images with extensive field documentation to map the extent and complexity of moai

roads. Our preliminary analysis suggests the roads were the work of competitive social groups, not a centrally organized authority.

**Lipo, Carl** [124] *see* Hunt, Terry; [124] *see* Freckleton, Iain

**Lipo, Carl P.** [170] *see* Larson, Daniel O

**Lippert, Dorothy (National Museum of Natural History)**

[151] *Building a Bridge to Cross a Thousand Years: Indigenous Archaeology as applied to collections and consultation*

Repatriation laws established indigenous rights towards collections that had previously been considered the sole responsibility of archaeologists and museum curators. Although consultation is only required for collections that are potentially subject to repatriation, the process of making archaeological collections available to tribes for examination and appreciation can be conducted as a means of applied, indigenous archaeology. Indigenous Archaeology recognizes the connection between artifacts and people who are related in some way to the creators of those objects. This paper will consider the process of reestablishing this connection by allowing the descendants of those people to view/ handle the pieces.

**Lippi, Ronald (University of Wisconsin) and Alejandra Gudino (University of Missouri)**

[184] *Palmitopamba: Incas and Yumbos at a Monumental Rainforest Site in Northwestern Ecuador*

Recent excavations at Palmitopamba in northwestern Ecuador's rainforest demonstrate that the large site was constructed by the native Yumbos and later became an Inca fort. Palmitopamba is on a high hill that was extensively modified by the Yumbos at least three centuries prior to the Inca arrival. The Inca presence at the site suggests co-existence with the Yumbos as well as respect for Yumbo huacas. It is hypothesized that the site became the focus of northern Inca resistance to the Spanish shortly after the conquest. An analysis of the landscape, natural and modified, provides the framework for this study.

**Little, Nicole (University of Missouri), Laura J. Kosakowsky (University of Arizona), Robert J. Speakman (University of Missouri) and Michael D. Glascock (University of Missouri)**

[3] *Early and Late Classic Ceramic Resource Utilization in Northwestern Belize*

More than 100 pottery and clay samples from the site and hinterland areas surrounding Blue Creek in Northwestern Belize were analyzed by instrumental neutron activation analysis (INAA)—resulting in a combined dataset of more than 450 samples for this region. The expansion of the sample, both geographically and typologically, provides a greater understanding of resource utilization among polities in this region, as well as the development of trade in the critical transition from Early to Late Classic occupation.

**Littman, Sherri L.** [177] *see* Garrison, Ervin

**Litwinionek, Luc** [187] *see* Johnson, Eileen G.

**Liu, Li** [15] *see* Rosen, Arlene

**Llobera, Marcos (University of Southampton, UK)**

[103] *When Landscapes Whisper: Developments and Paradigms in GIS for Landscape Research*

This paper presents some applications of GIS in archaeological landscape research. It shows how GIS can be used to explore issues on past human experience traditionally considered only at a narrative level (e.g. perception), or simply not considered. By addressing some of these (complicated) questions the existence of new interdisciplinary paradigms, beyond GIS or landscape archaeology arises. GIS is presented as a tool to 'think through', a tool for obtaining insight into processes and/or data. This approach promotes the necessity for a higher integration between theory and model building, and for archaeologists to become more knowledgeable about current GIS limitations.

**Loebel, Thomas (University of Illinois-Chicago) and Daniel Amick (Loyola University Chicago)**

[162] *Where East Meets West - Early Paleoindian Foragers in the Western Great Lakes Region.*

Located at the margins of several contrasting environmental zones and proposed fluted point traditions, the western Great Lakes area is one of the most critical regions for evaluating models of Early Paleoindian adaptation. While absence of a secure radiocarbon chronology and of sites

containing preserved subsistence evidence remains a major deficiency, recent research has assembled a robust regional record of isolated finds, sites, and assemblages. Development of this regional synthesis has allowed for preliminary interpretations concerning questions about patterning and variation within the economic, technological, and social organization of Clovis/Gainey foragers of Illinois and Wisconsin.

**Loendorf, Lawrence [187]** see *Newman, Bonnie*

**Loendorf, Lawrence L. (New Mexico State University)**

[176] *Anthropomorphs Emerging from the Corncrib in Canyon del Muerto, Arizona*

Painted anthropomorphs are found partially under the Basketmaker II storage cists in Canyon del Muerto, Arizona while handprints surround the cists. Careful examination of these features suggests that the anthropomorphs were painted simultaneously with the construction of the storage cists. They were painted to look as though they are emerging from the cists. Emergence, a powerful metaphor in ancestral Pueblo ideology, is visually demonstrated in these early examples of the built environment.

**Lofthouse, Susan (McGill University)**

[46] *Thuleurbation and taphonomy: a formation process approach to faunal materials from Diana Bay, Nunavik*

Subsistence interpretations developed from faunal materials must of necessity exercise caution, maintaining a persistent awareness of the range of taphonomic factors that may have altered the deposited assemblage. This paper considers a zooarchaeological assemblage excavated from a Thule site located in Diana Bay, along the southern shore of Hudson's Strait. Excavations at JfEI-10 during the 1970s led to an interpretation of a purely Thule affiliation. Recent work at the same site, however, yielded evidence for a mixed Dorset and Thule context. As a result, the faunal analysis presented will provide a careful consideration of the formation processes that have affected this fossil assemblage. This awareness holds particular importance in a region that has traditionally been proposed as a likely source of evidence for Dorset-Thule interaction.

**Logan, Judith A. (Canadian Conservation Institute) and James A. Tuck (Memorial University of Newfoundland)**

[130] *Learning by Conserving: Filling in the Picture through Collaboration*

During excavation, conservation is a process which is visible and interactive with archaeology. On-site observations about form, function and composition of objects - areas in which conservators specialize - can be integrated immediately into the archaeological database. When conservation of objects requires post-excavation treatment or specialized expertise, conservators and archaeologists continue to collaborate. The benefits include a better understanding of the artifacts, developments in conservation processes, and ideally, objects which the public can appreciate. Case studies illustrate how conservation, integrated with archaeology, produces those results.

**Lohse, Jon [15]** see *Beach, Timothy*

**Lohse, Jon C. (UT Austin) and Michael B. Collins (UT Austin)**

[138] *The DeGraffenreid Cache: A Possible Clovis Cache from Gault*

A collection of five bifaces was reportedly found in tight association by collectors at the Gault Site. Flaking characteristics of these artifacts indicate they are of Clovis period manufacture. In this paper we reconstruct the history of this assemblage from oral accounts, explore its implications for Clovis lithic technology, and consider the significance of caching behavior at a Late Pleistocene campsite.

**Long, Darrel [88]** see *Julig, Patrick*

**Longstaffe, Fred J. [86]** see *White, Christine D.*; [169] see *White, Christine D.*

**Looper, Matthew (California State University, Chico)**

[143] *Integrating Politics and Cosmology: The History of Radial Pyramids at Quirigua*

Radial pyramids were a part of the ceremonial landscapes of numerous Classic Maya sites. While the cosmological significance of such structures has been studied, there is still much to be learned about their political and historical meanings. The site of Quirigua preserves remains of two radial pyramids, both of which have been excavated. These data provide a means of

understanding the way in which dedication rituals, architectural form, and iconography served to integrate cosmology with political messages.

**Lopez, Leonardo [118]** *see Sugiyama, Saburo*

**Lopez, Lorenza (Mestas C.) and Marisol Montejano**

[181] *Jerarquía e identidad social a través de las figurillas de la tradición Teuchitlan*

A fines del Preclásico la zona nuclear de la tradición Teuchitlan vivía un proceso de complejización social. Sus figurillas de representaciones humanas fueron abundantes. Se analizaron las figurillas encontradas en contextos arqueológicos controlados en los sitios de Guachimontones y de Huitzilapa, Jalisco. Se partió de contextos de uso y deposicionales, al igual que aspectos estilísticos y morfológicos, insistiendo en la dinámica de jerarquización social e integración política, como procesos interactuantes en dicha complejización, pues dichas figurillas se elaboraron por especialistas y fueron un reflejo de la identidad social involucrada en las diferencias étnicas y de status.

**Lopez Lujan, Leonardo [143]** *see Fash, Barbara W.*

**Lopez Mestas C., Lorenza [181]** *see Ojeda Gastelum, Samuel*

**Lopez Varela, Sandra L. (Universidad Autónoma del Estado de Morelos)**

[146] *Revering Maya Potters from the Sibun River Valley*

Moving from material data to socially meaningful interpretations is an essential hermeneutic question of archaeological studies in the 21st century. In this archaeological exercise, pottery from the caves and settlements of the Sibun River valley expresses a chronological sequence from Formative to Postclassic times. However, the puissant characteristics of pottery extend into multi-level dimensions of social practice and remain unrecognized in the archaeological record. Maya potters are revered by conceiving pottery making as a social practice, exploring the practical impact of the environment and societal organization into potters' lives and behaviors, helping to distinguish the reasons for making pots in time.

**Lopez-Hurtado, Enrique (University of Pittsburgh)**

[25] *Inca expansion on the Peruvian Central Coast. A conversation between ethnohistory and archaeology*

The Inca expansion on the Peruvian central coast has been studied mostly by ethnohistorians. Based on the study of colonial written sources and ancient myths they defined the Ychsma nation and described its transformation into the Inca province of Pachacamac. Recent excavations at the site of Panquilma only 12 miles from the sanctuary of Pachacamac are showing a different scenario than that reflected in the historical documents. Building on a number of recent investigations, we are able now to make new questions and propose some answers in this conversation between ethnohistory and archaeology

**Lopinot, Neal (Southwest Missouri State University) and Jack Ray (Southwest Missouri State)**

[38] *Trampling Experiments in the Search for the Earliest Americans*

Experiments were undertaken to evaluate the natural versus cultural origin of a set of "artifacts" found in pre-Clovis-age contexts at the Big Eddy site in southwest Missouri, U.S.A. Two experiments involving Asian elephants and American bison provided evidence suggesting that the pre-Clovis-age modified cobbles, pebbles, and flakes may have been produced by the trampling of large mammals traversing gravel bars in the search for food and water in a riparian environment. The production of "zoofacts" and behavioral aspects of elephants are described with respect to research on the earliest Americans.

**Loponte, Daniel (Instituto Nacional de Anthropología - Argentina)**

[79] *Bone Microwear Analysis and Optical Decisions*

Optical devices used to analyze microwear traces on bone tools are closely related with type and number of traces that can be detected in tool surfaces and subsurfaces. This paper will focus on different technical approaches to explore bone tool surfaces using SEM, ESEM, optical and metallurgical microscopes and other unusual technical resources. Archaeological bone tools recovered from hunter-gatherer campsites from South America (wetlands of the Parana River) and modern replicas were used to illustrate the discussion.

**Loren, Diana (Peabody Museum, Harvard University)**

[43] *Visions and Revisions of the Colonial Southeast*

Eighteenth-century paintings from Spanish and French colonies in the Southeastern US offer rich insights on quotidian practices such as dress and diet. At the same time, colonial images provide a stereotype of colonial life and fix our interpretive visions. Bodily experience often differed drastically from the colonial world represented in images. Attention must be given to influences in the production of colonial images, particularly European biases of New World peoples. In this paper I discuss the use of colonial images in interpretations of the 18th-century Southeastern US, highlighting biases inherent in such images as well as discussing the fit -or not- of these images with the archaeological record.

**Lorenz, Karl G. (Shippensburg University) and John H. Blitz (University of Alabama)**

[56] *The Rise and Decline of the Lower Chattahoochee Mound Centers*

Patterns of distribution, foundation, abandonment, and reoccupation for 12 Mississippian mound centers are summarized. Three issues are addressed: mound center duration, paired centers, and reoccupation. Mound center duration rarely lasted more than 100 years. Several closely spaced pairs of single-mound centers represent sequential abandonment and foundation episodes. Abandoned centers and mounds were sometimes reoccupied in later time periods. Implications for understanding Mississippian sociopolitical change and variation are discussed.

**Loring, Stephen (Smithsonian)**

[18] *Gone With the Wind: The post-millennial practice of archaeology with the Innu in Nitassinan (northern Quebec-Labrador).*

The practice of Subarctic archaeology has venerable traditions firmly rooted in its 19th-century antiquarian approach and "post"-colonial attitudes about the supremacy of western logic. It is a legacy that has put the pre-European history of the Quebec-Labrador peninsula into neatly configured cultural-historical "boxes" that have little meaning to the descendants of the people who left the landscape littered with traces of their presence. Recent research in Labrador, sponsored by Innu political, social and educational concerns, envisions a different approach to archaeology practice and interpretation by seeking Innu involvement and encouraging new ways of thinking about the past.

**Losey, Robert (University of Alberta)**

[33] *Exploration of Dungeness Crab Harvest at a Northwest Coast Estuary*

Most analyses of invertebrate subsistence resources on the Northwest Coast of North America have focused on bivalves, while other invertebrates have been little explored. One invertebrate largely ignored in most Northwest Coast zooarchaeological analyses is the Dungeness crab, a common inhabitant of the region's estuaries and offshore waters. Here I explore the use of Dungeness crab at a late-Holocene village on Netarts Bay, northern Oregon Coast. Allometric analysis of Dungeness crab claws indicates that a wide size range of these crabs was being harvested. The overall contribution of these crabs to the diet is also examined.

**Lothrop, Jonathan (GAI Consultants)**

[73] *Panhandle Archaic Chronology, Settlement and Lifeways at the East Steubenville Site: Regional Comparisons*

How has the data recovery investigation of the East Steubenville site refined our understanding of the Panhandle Archaic people and their lifeway since Mayer-Oakes' first synthesis in 1955? This poster reviews absolute and relative dating of the site, and evaluates East Steubenville's role as one seasonal encampment in a larger Late Archaic settlement adaptation in the Upper Ohio Valley. Finally, we compare findings at East Steubenville and other Panhandle Archaic sites of the Upper Ohio Valley to the Shell Mound Archaic (Midsouth) and Riverton (Midwest) cultures to highlight regional differences in Native American riverine-focused adaptations during the Middle Holocene.

**Lothrop, Jonathan [29] see Mohney, Kenneth**

**Loubser, Johannes (New South Assoc.)**

[45] *Venda mountains, pools and dry ones: Anthropological structural continuity versus fundamentalist catastrophic discontinuity*

Southern African Venda rulers have three status grades (mountain, pool and dry pool) given a sense of timelessness in myth and burial. Dated settlements and oral traditions show that prior to widespread political coups circa AD 1450 and 1700, pool and dry rulers had higher status. Shared symbolic connotations of mountains and pools over a wide area indicate considerable

antiquity; features did not change their meaning due to political upheavals. Fundamentalist Venda and literalist archaeologists do not accept this structural interpretation, mainly because of a belief that catastrophic events create a wedge between past and present processes.

**Loughlin, Michael (University of Kentucky)**

[189] *Chronology and Settlement Patterns at El Mesón, Veracruz, Mexico*

Despite being described as the most densely settled region of Mesoamerica (Coe 1965:679), the El Mesón area of the Gulf Lowlands has received little archaeological attention. El Mesón and surrounding settlements were situated near the western border of the Olmec Heartland along a major communication route into the Tuxtla Mountains, suggesting that the area may have played an important role in regional political and economic systems. This paper presents preliminary chronological and settlement data from recent survey at El Mesón. The data indicate that in addition to the EpiOlmec occupation, significant Classic period settlements were located around El Mesón.

**Love, Michael (CSU Northridge), Brian Damiata (UCLA), John Steinberg (UCLA) and Rene Ugarte (Proyecto La Blanca)**

[93] *Middle Formative Monumental Architecture at La Blanca: Preliminary Investigations of Mound 1*

Mound 1 at La Blanca was one of the earliest monumental pyramidal structures built in Mesoamerica. Originally standing over 25 M in height, it was largely destroyed by road construction in 1973. In July/August, 2003 a program of remote sensing and excavation investigated the mound. Approximately 4.5 M of the basal portion of the mound remains intact. The mound was constructed entirely within the Middle Formative Conchas phase (ca. 900-600 b.c.). The earliest, best preserved, construction was built of rammed earth. At least three later enlargements were, but are much less well preserved.

**Lovis, William (Michigan State University)**

[61] *Introduction to the Session*

Issues of mobility and between-group interaction across variable landscapes are vibrant topics of research in the Mesolithic of Western Europe, often incorporating multidisciplinary approaches. This session addresses significant topics in such research, including the social implications of strategies for the exploitation and movement of fixed and mobile resources, the social interactions essential to the movement of prestige goods, archaeological measures for the movement of people, and the application of ethnographic analogs to residential and logistic mobility strategies.

**Lovis, William** [61] *see Donahue, Randolph E.*

**Lovisek, Joan (Lovisek Research)**

[137] *Human Trophy Taking on the Northwest Coast*

This paper provides an overview of the evidence for human trophy taking on the Northwest Coast from archaeological, historical and ethnographic records. Although trophy taking was commonly associated with raiding and warfare, whether it was the cause or the result requires examination from an ethnohistorical perspective. This paper examines the changing purpose and function of Northwest trophy taking and display, with particular regard to its relationship to predatory raiding for slaves, and the appropriation of prestige prerogatives associated with the post contact potlatch.

**Lowe, Lynne (UNAM)**

[169] *Amber in Mesoamerican Archaeology*

This paper deals with the distribution of amber found in archaeological contexts in Mesoamerica. Amber was valued as a precious material for the elaboration of ornaments, such as earflares, nose plugs, beads and pendants. It was mined in highland Chiapas and exported to other regions as early as the preclassic. Diverse findings of this fossil resin have been made in Central Mexico, Oaxaca, Chiapas and the Maya area.

**Lowenstein, Jerry (MicroAnalytica) and Darden Hood (MicroAnalytica)**

[170] *Species Identification of bone fragments using protein radioimmuno assay (pRIA)*

pRIA is used for identifying species in morphologically indistinguishable bone fragments. It is most practical for animal vs. human identification, but can resolve animal species in most cases. It is based upon antibody response. Bone protein is used as an antigen which when added to an antisera containing species specific antibodies, will give the greatest response when there is a species match. The antibodies are radio-labeled with iodine-125, which is quantified to identify

the species match. It's proven on bones exceeding 11,000 BP and on cremated bones. pRIA is a practical, relatively inexpensive alternative to aDNA analysis.

**Lowry, Brett (University of Wisconsin-Milwaukee)**

[98] *Rinse, Reuse, and Recycle: The Conflation of Material Culture in Prehistoric and Modern Religions*

The Celtic triple spiral or triskel has been repeatedly appropriated and reinterpreted since the Neolithic. This simple and compelling symbol provides examples of how material culture can be conflated to create and transform cultural identities. Recent cooption and translation of the triple spiral and of other material aspects of the imagined Celtic past by modern Neo-Primitive religious movements illustrate how de novo religions conflate material culture to create legitimating ideological anchors. The analysis of contemporary de novo religions and their inceptive processes can provide insight into the development of prehistoric religious traditions through ethnogenesis as well as syncretistic processes.

**Lozada, Maria (The University of Chicago), Paula D. Tomczak (University of New Mexico) and Jane E. Buikstra (University of New Mexico)**

[147] *A view of social structure and gender roles in the señorío of Chiribaya, southern Perú*

In this paper, we present the results of our bioarchaeological analysis that correlates mortuary assemblages from 350 extremely well preserved burials with data on skeletal age and sex. They belong to the pre-Inka Señorío of Chiribaya that flourished along the coast of southern Perú around 750 A.D.. Archaeological and biological data already collected suggest that Chiribaya was a socially complex entity. We use Andean ethnohistoric and archaeological sources as well as ethnographic studies to interpret the way of material culture was used to symbolize age, gender, and status categories among the Chiribaya.

**Luan, Fengshi [6]** see *Cunnar, Geoffrey*; [6] see *Lanehart, Rheta E.*

**Lubinski, Patrick (Central Washington University)**

[33] *Faunal Exploitation at the Grissom Site in Central Washington, and Implications for Modern Fisheries Management*

The Grissom Site is a late prehistoric/protohistoric (ca. AD 780-1810) camp in central Washington possibly associated with intervillage horse racing. The site was excavated 1966-1971, but never analyzed in detail until the present investigation. The archaeofauna is dominated by deer, but also includes salmonid fishes. This has implications for modern fisheries management because the site is located along a small tributary currently not considered for anadromous fish mitigation. While the stream has no historic evidence of salmon or steelhead populations prior to large-scale irrigation, archaeological evidence may speak to mitigation and reintroduction measures being considered locally by tribes and agencies.

**Lucero, Lisa (New Mexico State Univ) and William Walker (New Mexico State Univ)**

[45] *Genealogies of religious technology*

We conceptualize social interaction between people and animate forces as the heart of religious phenomena. Material culture and its ritual uses comprise a technology for such interactions. As such, prehistoric religions should be amenable to the social and performance characteristic analyses applied to other technologies in archaeological research. Ritual architecture such as kivas in the American southwest and temples in the southern Maya lowlands entail technological histories that document the growth and change of religious traditions.

**Luchsinger, Heidi (Texas A&M University)**

[138] *The Younger Dryas at the Gault Site: A Micromorphological Perspective of a Clovis Drought*

Among studies of the Pleistocene-Holocene Transition, evidence is growing in support of a global expression of the Younger Dryas. Analysis of sediments from the Gault Site indicates drought-like conditions contemporary with Clovis occupation which may correlate with the Younger Dryas event, originally established in northern Europe. This evidence is comparable to a paleoenvironmental sequence for Central Texas, regional models beyond Texas, and evidence from similar Paleoindian sites throughout North America. Such an event would have had a profound impact on human lifeways during the peopling of the Americas.

**Luhr, James [169]** see *Mountjoy, Joseph*

**Lukes, Alena (University of Sheffield)**

[52] *A Social Perspective on the Origin of the Earliest Linienbandkeramik (LBK) Culture*  
The onset of sedentary agriculture in Central Europe has been undeniably linked to the appearance of the Linienbandkeramik (LBK) culture. This paper will explore the implications of human interactions and communal histories on the possible processes of cultural change through which the LBK came into being, with a specific focus on the inter-generational transmission of cultural knowledge. This social perspective will be used to explore the role of incoming colonist populations from southeast Europe versus indigenous hunter-gatherer communities in LBK constitution, along with implications for future research.

**Lund Valle, Mellisa [147]** see *Gaither, Catherine*

**Lundelius, Jr., Ernest L. [138]** see *Timperley, Cinda L.*

**Lupo, Karen (Washington State University)**

[62] *Central Place Foraging and the Prey Body Part Transport Decisions of Hunter-Gatherers*  
Central place foraging models derived from NeoDarwinian theory offer the potential for explaining how human foragers tradeoff the costs of processing resources in the field against the costs of transporting unprocessed items. In an archaeological context, these models may help explain the relative abundances and distribution of debris associated with transportable resources. Thus far, central place foraging models have been applied to simple resources comprised of edible and nonedible portions. This paper outlines how central place foraging models may be applied to transport problems involving animal carcasses, and how these models can be operationalized in the archaeological record.

**Lupo, Karen [94]** see *Schmitt, Dave*

**Lupo, Karen D. [55]** see *O'Connell, James F.*

**Lusteck, Robert (University of Minnesota)**

[111] *The Migration of Maize into the Southeastern U.S.*  
Because maize is vital to so many late prehistoric economies, it is imperative to understand how maize came to be adopted into these cultures. Recent research has shown that the statistical analysis of phytolith assemblages recovered from food residues can be used to document both the presence of maize and its ancestry. Residue samples taken from the Southeast have provided data on multiple introductions of maize into the Southeastern U.S. Combined with radiometric age determinations, we can reconstruct the history of maize in the area.

**Luzzadder-Beach, Sheryl [15]** see *Beach, Timothy*; [39] see *Dunning, Nicholas*

**Lycett, Mark T. (The University of Chicago)**

[14] *Archaeology Under the Bell: the Mission as Situated History*  
The frontier mission, or doctrina, has long been cast as the seminal institution of the Spanish colonial state. Beyond their role as trans-local institutions for the propagation and control of sacred knowledge and socio-political identity, missions were the single most important location of colonial and indigenous contact and the context in which colonialism as an historical process was situated. Drawing on material from 17th century New Mexico mission settings, this paper examines the mission not as a complete, prior, meta-historical structure imposed on passive subject populations, but as a variable and developmental array of policies, strategies, settings, and processes made and transformed in historical practice.

**Lycett, Mark T. [90]** see *Morrison, Kathleen D.*

**Lyman, R. Lee (University of Missouri - Columbia)**

[55] *The Concept of Equifinality in Taphonomy*  
The term equifinality was coined by Ludwig von Bertalanffy as he worked to develop general system theory. In 1949 he defined equifinality as reaching the "same final state from different initial states" in an open system, one capable of "exchanging materials with its environment." Taphonomists have typically defined equifinality as reaching the same final state from different initial conditions and in different ways, without consideration of whether a system was open or not. Recent criticisms of use of the concept fail to recognize that natural historical processes involving organic tissues comprise open systems, and the production of much greater understanding of why skeletal part frequencies vary.

Lyman, R. Lee [38] see O'Brien, Michael

**Lymer, Kenneth (University of Southampton)**

[47] *The Multiple Roles of Zoomorphic Imagery during the Early Nomadic Period of Kazakhstan*  
Zoomorphic imagery found amongst the Early Nomads of Central Asia is generally interpreted as belonging to the so-called Scytho-Siberian "Animal Style". At the beginning of the 20th Century, the foundation for the Animal Style was based on the traditional examination of formal characteristics in the artwork, however this approach did not address the social processes in which they were embedded. By focusing on a case study from the Saka Period in Kazakhstan, fresher perspectives can be gained about the imagery. Funerary symbolism and connections to the landscape will be explored via depictions in the rock art.

**Lynott, Mark (National Park Service)**

[180] *Earthwork Construction and the Organization of Hopewell Society*  
Many current models of Hopewell settlement and social organization are based upon analogies from other areas or general anthropological models, rather than the archaeological record. Long-term interdisciplinary studies are needed to answer basic questions about Hopewell chronology, settlement, subsistence and social organization. The value of interdisciplinary research is illustrated by three seasons of geophysical survey, archaeological excavations, and geoarchaeological analysis at the Hopeton Earthworks. These studies are generating a better understanding of how and when the Hopeton Earthworks were built.

Lynott, Mark [15] see Weymouth, John

Lyons, Natasha [57] see Orchard, Trevor

Maasch, Kirk [163] see Sandweiss, Daniel

**Mabry, Jonathan B. (Desert Archaeology, Inc.) and William E. Doolittle (University of Texas)**

[111] *From the Tropics to the Desert: The Role of Water Control in the Spread of Maize Cultivation to Southwestern North America*  
Maize, a grass domesticated in the humid tropics of southern Mexico, became a staple crop throughout much of the prehistoric New World, including the deserts of the North American Southwest. In the latter region, it was cultivated intensively under canal irrigation from early on. A question of long interest, but unresolved due to limited data, is: Did irrigation technology originate in Mexico and spread north with maize, or was irrigation developed independently in the Southwest? This paper addresses this question, relying on recent evidence of both early maize and early water control technologies in each region, the area between, and even other regions. It considers local-scale environmental differences, the characteristics of early maize varieties, and the relative costs and benefits of various cultivation techniques to model the developmental sequence and spread of water control technologies.

**Maca, Allan (Colgate University)**

[143] *U-groups and the re-making of Copan during the reign of Yax Pasah*  
Recent archaeological investigations in the northern foothills of Copan help to delineate the creation and chronology of U-group architecture across the 8th century city. The distribution of these groups and the parallel timing of their appearance suggest a top-down attempt by the 16th ruler, Yax Pasah, to re-make and re-sacralize the urban landscape and community. This paper discusses the evidence for this phenomenon, its relation to other large-scale architectural programs of Yax Pasah, and the larger implications of his efforts during a period of intense socio-political and environmental stress.

**MacDonald, Douglas (GAI Consultants, Inc.), Brian Fritz (Carnegie Museum) and Ken Mohny (Skelly and Loy, Inc.)**

[29] *Lithic Raw Material Procurement in the Upper Juniata Subbasin, South-Central Pennsylvania*  
As part of an alternative mitigation project, we evaluated lithic raw material use over time in the Upper Juniata River basin of south-central Pennsylvania. Collection of toolstone from primary sources across the study area facilitated an understanding of lithic raw material procurement patterns, including use of locally-available toolstones from the Ordovician, Silurian, and Devonian

Systems. Rhyolite was the major non-local stone used in the area, with only minimal use of Flint Ridge chert. Results of this study highlight the importance of data synthesis projects, including lithic raw material studies, as alternatives/supplements to standard data recovery mitigations.

**MacDonald, K.C.** [127] *see Morgan, David W.*

**MacDonald, Robert (Archaeological Services Inc.), Stephen Douglas (Ontario Geological Survey), Paul Karrow (University of Waterloo) and Albert VandenBygaert (Agriculture and Agri-Food Canada)**

[188] *The Geoarchaeology of the Peace Bridge Site and the Holocene History of the Upper Niagara River*

The Peace Bridge site (AfGr-9) is a very large multi-component site situated at the head of the Niagara River in the Town of Fort Erie, Ontario. On-going archaeological investigations have documented occupations from the Late Archaic period (circa 3,580 B.P.) through to the present. Archaeological deposits, sediments, and paleosols exposed through construction activities, bore holes, test pits, and archaeological excavations, reveal the evolution of this riparian landscape and its colonization by Aboriginal peoples. This paper reviews the site investigations and outlines the cultural context and paleoenvironment of the site, both locally and regionally.

**MacDonald, Robert** [105] *see Pearce, Robert*

**MacDougall, J. Paige (McGill University) and Nadine Gray (University of British Columbia)**

[95] *Late Classic Maya Ceramics and Political Economy at Minanha*

The primary focus of the Minanha ceramic project is to define the spatial and temporal range of ceramics that were produced, distributed and consumed by the polity. With this data, an evaluation of how ceramics reflect social group interactions during the Late Classic Period will be made. The tools used to understand the role of ceramics in group interactions include stylistic, petrographic and contextual analyses. By documenting the types, frequency and provenience of ceramics, we will compare between and within archaeological contexts and discuss how social groups used material culture in their interactions.

**MacEachern, Scott (Bowdoin College)**

[16] *Unitary Identifier Or Fuzzy Set? Testing For 'Culture' In Chadic Populations*

Ethnoarchaeological analogies often rely upon the existence of unitary social formations as the medium through which shared cultural norms are translated through action into material objects. This may involve historical analogies between a modern 'culture' and its archaeological antecedents; more generally, unitary 'cultures' provide social frameworks within which distinct social and material manifestations develop. Definition of such bounded cultural units is a vexed question in ethnoarchaeology, especially given different time-scales of ethnographic and archaeological research. This paper will examine the reality of such units among Chadic populations in northern Cameroon, comparing data on material culture, genetics and linguistics.

**Machado, Juliana Salles (Museu de Arqueologia e Etnologia / USP), Eduardo Góes Neves (Museu de Arqueologia / USP) and James Petersen (University of Vermont)**

[168] *Social Complexity in the Central Amazon: A Case Study of Artificial Mounds at Hatahara site*

This work is an attempt to understand how the study of cultural formation processes of mounds in the central Amazon can be seen as indicators of social complexity. We sought to deal with this debate through a case study of mounds situated near the varzea of the Solimões River. It is composed of a high density of ceramic fragments, faunal remains, anthropogenic Terra Preta and human burials. Structure and secondary usage of the mounds indicate a strong degree of work mobilization. We discuss the relevance of this configuration to a debate concerning social complexity in the Amazon.

**Machado, Jr., John L. (University of Texas at Austin)**

[189] *A Ritual Procession at Las Higueras, Veracruz*

The murals of Las Higueras Mound 1 (600-900 CE) contain elaborate narrative processions emanating from scenes of ballcourt ritual. The scenes progress along the outside of the structure toward the entrance positioned in the east. These mural narratives are possible depictions of actual ritual processions at Las Higueras that led from its ballcourt to the temple superstructure of Mound 1. Through a comparative analysis of Central Mexican codices it will be proposed that the murals portray prototypes of ritual festivals depicted in these texts.

**Machovec-Smith, Kimberly [130]** *see Beziur, Aniko*

**MacKay, Glen [18]** *see Easton, Norman Alexander*

**Mackey, Carol (California State University, Northridge)**

[184] *The Inka Occupation of Farfan in the Jequetepeque Valley, Peru*

The political strategy of Tawantinsuyu has not been adequately documented for the north coast of Peru. This paper discusses the economic, political and ideological changes that occurred after the Inka co-opted the Chimú administrative center of Farfan on Peru's north coast. After a five-year study of the administrative center, the results from the spatial, architectural and artifactual data suggest a continuation of traditional Inka administrative policies. However, the architectural correlates that define the Inka occupation do not conform stylistically to known Inka or north coast administrative centers, but instead represent a new Late Horizon style.

**Mackey, Douglas (New York State Historic Preservation Office)**

[65] *The Importance of Light-Density Lithic Scatters to Settlement Patterns: A Reevaluation of Significance*

Bob Funk always encouraged the reassessment of old information to maximize what we could learn from the past. Within the context of Compliance or CRM archaeology, light density lithic scatters have traditionally been viewed as incapable of providing new data to studies of chronology and settlement patterns. This bias often resulted in determinations of not eligible for the National Register. A growing body of evidence suggests that such decisions may be inappropriate. This paper illustrates the importance of assessing the potential of these lithic scatters. Several sites are discussed, each sharing one characteristic: their initial identification suggested that they were "insignificant" lithic scatters.

**Mackey, Douglas [100]** *see Van Nest, Julieann*

**Macklin, Mark [15]** *see Woodward, Jamie*

**Macphail, Richard (Institute of Archaeology, University College), John Crowther (University of Wales, Lampeter) and Jill Cruise (Private)**

[15] *Microstratigraphic Evidence of Building Function in Roman and Medieval London*

Modeling of beaten (earth) and stabling floor deposits is based upon soil micromorphology, microchemistry, bulk chemistry and palynology of deposits formed over 1-15 year periods at Butser Ancient Farm, Hampshire, UK. These findings have permitted the clear differentiation of Roman and Medieval domestic and stabling use of space in London during the last decade. The identification of soil microfacies types (SMTs) that are based upon these combined datasets has contributed to 3D reconstructions of use of urban space and its chronological development. Insights have also been gained into domestic organization, foddering regimes, waste disposal, and offsite management.

**MacWilliams, A. C. (University of Calgary), Robert J. Hard (University of Texas, San Antonio), John R. Roney (BLM, Albuquerque), Karen R. Adams (Crow Canyon Archaeological Center) and William L. Merrill (Smithsonian Institution)**

[66] *Observations On the Ceramic Period of Southern Chihuahua*

The Ceramic period in southern Chihuahua is enigmatic due to the apparent absence of distinctive, highly integrated regional traditions. Preliminary results from recent research suggest dispersed populations and more localized variability as compared to some adjacent regions, and particularly the Casas Grandes area in northwest Chihuahua. This situation has previously been attributed to restrictive environmental conditions, maintenance of a buffer zone between Casas Grandes and Mesoamerica, or considered illusory due to limited knowledge of the region. While such longstanding explanations are addressed, consideration is also given to the possible consequences of long term low-density population in the region.

**MacWilliams, Art [136]** *see Hard, Robert J.*

**Madella, Marco (McDonald Institute / University of Cambridge)**

[108] *Indus Civilization Plant Economy in the Countryside: The Beas River Valley Villages (Punjab - Pakistan)*

The Indus Civilization is one of the first urban societies. In the last decades a clearer picture of the Indus economy emerged mostly thanks to work carried out at the ancient urban centers of the Greater Indus Valley. However, the picture that formed makes it clear that regional variation and

rural/urban dynamics are significant factors in the Indus Civilization. These factors are also to be found in the agricultural economy and the Beas River survey offered the first plant data sets from rural settlements in Punjab. The present paper discusses crop packages, issues in Indus agriculture and village-cities plant economy.

**Madrigal, T. Cregg (New Jersey Dept. of Environmental Protection)**

[55] *White-tailed deer meat transport, marrow processing, and return rates: The utility of utility indices*

Patterns of ungulate body part representation have long been used to infer transport of animals or animal parts. These interpretations are often based on meat yields and rarely take into account the time involved in butchering animals. White-tailed deer meat and marrow utility indices and return rates are applied to deer bone assemblages from prehistoric North American sites and compared to other methods of interpreting deer body part profiles. The relative importance of marrow processing decisions, bone/meat transport decisions, and other taphonomic agents in structuring body part profiles is then examined.

**Magde, Douglas [173] see Taylor, R. E.**

**Maggard, Greg J. (University of Kentucky) and Rosario M. Becerra (Universidad Nacional de Trujillo)**

[120] *Early Preceramic Settlement and Regionalization on the North Coast of Peru*

Results of recent survey and excavation of Early Preceramic (ca. 11,000-8,500 BP) Fishtail, Paijan, and Unifacial sites in the lower Jequetepeque Valley are discussed in terms of their significance for understanding sequential and coterminous changes in early forager adaptive strategies and increasing localization during the critical Late Pleistocene-Early Holocene transition. These data provide new insight into the initial settlement and subsequent economic and technological regionalization that occurred on the Peruvian North Coast and its impact on later cultural developments. These data also provide an important comparative case for long-term models of hunter-gatherer behavior from other parts of the world.

**Magne, Martin P.R. (Parks Canada, Calgary) and Michael A. Klassen (Klahanee Heritage Research, Vancouver)**

[176] *'Our history of being part of the land': Rock art, cultural landscapes, and National Historic Sites of Canada*

Rock art is central to Aboriginal cultural identity, yet Aboriginal groups rarely encourage recognition of these sites. Some are suspicious of government intentions, sceptical of archaeological interpretations, or doubtful of opportunities to tell their story from their perspective. Recently, Parks Canada invited the Kainaa in Alberta and the Upper Similkameen in British Columbia to seek designation of their rock art heritage. Both groups challenged the view that rock art could be comprehended separately from broader culture. Through collaborative research and consultation, two cultural landscapes with rock art components have been recommended as National Historic Sites of Canada.

**Magne, Marty P. R. (Cultural Resource Services, Parks Canada) and Daryl W. Fedje (Cultural Resource Services, Parks Canada)**

[24] *The Spread of Microblade Technology in Western Canada*

Using data obtained from provincial archaeological site databases, examination of the distribution and age of microblade technology-bearing assemblages in western Canada yields several patterns not identified before. Both temporal and geographical distributions are strongly bimodal. GIS manipulation shows time-transgressive patterning from west to east, with regional sub-patterning. In addition, the technology shows a strong association with Na-Dene and Athapaskan languages. Initial introduction of data from American states further refines results obtained with Canadian data.

**Maher, Lisa (University of Toronto)**

[97] *Small Tools, Big Changes: the Transition from Forager to Farmer in the Southern Levant*  
Sites in Israel and Jordan indicate that Late Pleistocene hunter-gatherers shifted towards life in aggregated farming villages. Appearing for the first time were new developments in technology, economy, art, semipermanent architecture, settlement and social organisation - necessary pre-conditions for village life. These gradual changes did not occur synchronously. Furthermore, the impetuses for these changes, and why only some groups adopted them, are poorly understood. This research explores these issues in a small river valley in northwestern Jordan, using

micromorphology to reconstruct the palaeolandscape and relate local landscape evolution to prehistoric occupation. In Wadi Ziglab, a period of climatic amelioration during the Middle Epipalaeolithic appears to have provided favourable conditions for long-term occupation.

**Maher, Ruth (GSUC/CUNY)**

[148] *Searching for patterns in Viking Period Icelandic burials: Gender as a variable*  
Searching for patterns in the pre-Christian burial record of Viking Period Iceland has been deemed pointless by many. Conclusions up to this point have been that there are no recognizable patterns; however, this seems to be based on simple calculations not taking into consideration the many variables that may influence location. The use of GIS to analyze more complicated models which include many variables will greatly improve the likelihood of distinguishing patterns in the burial record. This paper will present preliminary findings based on variables that may have been overlooked in the past.

**Maina, David [11]** see Braun, David

**Majewski, Teresita (Statistical Research, Inc.)**

[38] *Learning at the Knee of W. Raymond Wood: Lessons for a Historical Archaeologist* I am fortunate to have studied under W. Raymond Wood at the University of Missouri in the 1970s and 1980s. The training I received from him has strongly influenced the way I practice historical archaeology today, both in academic and private sector settings, and I contend that his contributions to this field go far beyond what he imparted to an individual student. Wood has enriched our discipline by his pioneering efforts in Native American historical archaeology, his emphasis on holistic anthropological approaches incorporating both archaeological and documentary insights, his contributions to ethnohistorical research, and his insistence on professionalism in scholarship.

**Maki, David [125]** see Ollendorf, Amy L.

**Malcom, Christine (University of Chicago, Indiana University---Northwest) and Paula Tomczak (University of New Mexico)**

[147] *Spatial and temporal population dynamics at the middle valley site of Estuquiña in southern Peru: Biological distance estimates from cranial metric and nonmetric data*  
Cranial metric and nonmetric data are used to examine the biological relationships within the Late Intermediate Period (A.D. 1000-1476) site of Estuquiña in the upper middle Osmore valley of Southern Peru. This site contains three cemeteries and a domestic area from which a minimum of 411 individuals was excavated. Although mortuary analysis indicates that the site was socially homogeneous, heterogeneity in cranial deformation and spatial differences in burial location indicate that the Estuquiña people recognized distinctions. We examine the biological relationships among individuals interred at this site with an eye to better understanding the social organization of this site.

**Malpass, Michael (Ithaca College) [184]** *Discussant*

**Malpass, Michael (Ithaca College)**

[184] *Introduction to Provincial Inca Studies in the 21st Century*  
A benchmark for Inca studies was set in 1993 with the publication of *Provincial Inca*. Yet, the volume was deficient in the lack of research presented from the far northern and southern peripheries of the empire as well as key areas between, such as the Peruvian North Coast. In addition, research conducted since 1993 has focused at a level of investigation that is more fine-grained than previously. This symposium will both fill in the research lacunae and provide new information on the nature of the interactions between the Inca and their subject peoples.

**Maltby, Susan L. (Conservator Maltby & Associates Inc.) and Andrew Clish (Archaeologist Archaeological Services Inc.)**

[130] *And now for something completely different. The relocation of Elmbank Cemetery, a case history*

Elmbank Cemetery was an Irish Catholic cemetery located on the grounds of Toronto's international airport exactly where a new deicing facility was to be located. Thus, Elmbank was closed and relocated to a nearby cemetery. The project included an archaeological investigation of the church and rectory ruins, genealogical research, conservation of grave markers and exhumation. Remains were reinterred and cemetery markers reerected in a manner that

respectfully memorialized the original cemetery. The conservator was responsible for all aspects of the preservation relocation and reerection of the grave markers. This paper discusses a project where conservators and archaeologists worked together towards a common goal. The numerous challenges came from outside our team.

**Mandel, Rolfe (University of Kansas) and Alan Simmons (University of Nevada-Las Vegas)**

[15] *Evidence for Emergence of Complex Societies at Aceramic Neolithic Sites in Jordan and Cyprus: A Geoarchaeological Perspective*

Recent research in Jordan and Cyprus indicate that the Aceramic Neolithic operated within a large "Neolithic world" and was far more complex than previously believed. In Jordan, the documentation of the so-called "mega-sites" such as Ain Ghazal, Basta, and Wadi Shu'eib, attest to the existence of huge communities. These had to have had complex social structures in order to effectively operate. In Cyprus, recent excavations revealed unexpected complexity during the Aceramic Neolithic, which appears to have lasted longer than previously thought and was contemporary with mainland developments. Geoarchaeological investigations placed the Aceramic Neolithic sites into geomorphic and paleoenvironmental contexts.

**Mandelko, Sierra (University of Montana-Missoula)**

[57] *The Slate and Silicified Shale Industry Recovered at the Bridge River Site, British Columbia: A Preliminary Report*

The 2003 field investigations at the Bridge River Site in the Mid-Fraser Canyon of British Columbia have recovered a new stone tool industry emphasizing groundstone slate and silicified shale scrapers and knives. This raw material tool assemblage exhibits a range of forms as well as hafting techniques. Consequently, it may point to a broader and more complex pattern of lithic technological organization than previously thought as compared to nearby villages such as Keatley Creek.

**Manske, Kelly (Mercyhurst College), Mary Ann Owoc (Mercyhurst College), Maria Greek (Mercyhurst College), Jeffrey Illingworth (Mercyhurst College) and James Advasio (Mercyhurst College)**

[2] *Island threads: Bronze Age textile production and identity on the Isles of Scilly, UK*

The first in-depth analysis of the unique Late Neolithic/Early Bronze Age cordage and textile industry on the Isles of Scilly, UK has yielded a wealth of new and valuable knowledge to what has traditionally been a neglected realm of inquiry. A presentation of the techniques employed by early Scillonian populations who decorated funerary and domestic vessels will be given. Further, the extent to which this new information contributes to the discussion of Scilly colonization, funerary practices, and local identity will be discussed.

**Manzanilla, Linda (UNAM-Mexico)**

[96] *The Site Museums at Teotihuacan, Mexico: The View of Art Historians Versus the View of Archaeologists*

Teotihuacan in Central Mexico is one of the most complex examples of early urban societies. A vast planned metropolis and a multiethnic city, Teotihuacan was the capital of a state and a sacred site. This paper will review the structure of two site museums at Teotihuacan: the Site Museum and the Museum of Mural Paintings. The structure of these museums often represents the view of art historians or architects, often lacking a comprehensive view of a complex society and a multiethnic city, which will be proposed.

**Manzanilla, Linda [142] see Padró, Johanna**

**Manzanilla, Ruben (I.N.A.H.)**

[166] *Salvamento arqueológico en la presa hidroeléctrica La Parota, Costa Chica, Guerrero*

Se darán a conocer los resultados de una antigua región que fue habitada por el grupo Yope. Los datos se verán a la luz de las fuentes que hablan sobre este señorío de Yopitzingo.

**Marciniak, Arkadiusz (University of Poznan)**

[52] *A nature of small scale changes in the early farming communities. Example of early and middle Neolithic in the North European Plain*

The objective of the paper is to discuss transformation and modification of everyday activities in the Neolithic communities throughout Central Europe. In particular, it is aimed at addressing changes in practices of food acquisition and consumption and refuse disposal. The research procedure of interpretive social zooarchaeology is applied. It involves contextualized taphonomic analysis of animal bone assemblages along with evaluation of density driven attrition, food

indices and interpretation of horizontal distribution of faunal remains in relation to other categories of archaeological data. Small scale changes in early and middle Neolithic communities from central Poland are discussed to address more general tendencies.

**Marean, Curtis W. (Arizona State University), Travis Rayne Pickering (Indiana University) and Manuel Dominguez-Rodrigo (Complutense University of Madrid)**

[55] *Skeletal element equifinality begins with method*

Researchers have recently argued that selective excavator and zooarchaeological sampling methods are a potent molder of skeletal element abundance, primarily because sampling often excludes shaft portions of bones. This argument rests on subsidiary arguments: shafts are more resistant to destructive processes, while other bone portions preserve in ways that reflect density. Rebuttals include: the evidence for shaft survival and non-shaft destruction is overstated, shaft portions do not regularly outperform non-shaft portions in the published literature, and it is perhaps impossible to estimate derived numbers from shafts. Here we show that both published and new data overturn these rebuttals.

**Marean, Curtis [55]** *see Cleghorn, Naomi*

**Margaris, Amy (University of Arizona)**

[2] *Apatite for Destruction: Monitoring Differential Rates of Compact and Cancellous Bone Dissolution*

Bone microporosity likely affects rates of chemical-mediated destruction to skeletal remains, presumably as a function of differences in surface area; these differences may or may not correspond to the macrostructural distinction between compact and cancellous tissues. This study compares rates of bone mineral (apatite) loss in acid-exposed bone samples. A series of paired compact and cancellous tissue 'test tiles' from a fresh bovine femur were machined to exact dimensions and subjected to an alternating regimes of mild acid immersion and drying. The patterns of ensuing mineral loss, indicated by changes in mass, will be reported on here.

**Mariana, Mould de Pease (Instituto Nacional de Cultura)**

[25] *The Mochicas and their heirs*

Extensive archaeological study and museum exhibits have brought to light the beautiful contents of the looted Mochica tombs at Batán Grande, currently known as Sican culture, and those of the world-renowned Sipan burials. Conversely artefacts in private collections from La Mina still lack archaeological study. These two cases exemplify the inexorably slow and biased transition of cultural depredation to archaeological science on the north coast of Peru. This paper presents an historical analysis of this transition in light of the SAA Code of Ethics in order to reach a larger audience of Mochica heirs who benefit from this legacy.

**Marisol, Instituto Nacional de Antropología e Historia [181]** *see Lopez, Lorenza*

**Marks, Anthony (Southern Methodist University)**

[53] *Placing VdO in Regional Context*

The excavations at VdO are considered in the context of previous archaeological work in the Rio Maior area. This previous work came in two blocks: one in the 1930s/1940s and the other in the late 1980s. Each period of work had different goals and different methodologies and each brought to light different aspects of the Upper Paleolithic of the region. With new techniques and a somewhat different focus, the work at VdO has added important new understanding of Gravettian settlement in Central Portugal.

**Marler, Clayton [31]** *see Grieve, Tanya*

**Marley, Marie [59]** *see Clayton, Lucy*

**Marquardt, William [127]** *see Walker, Karen*

**Marques, Gabriela Mota [53]** *see Thacker, Paul*

**Marquez Morfin, Lourdes (INAH/ENAH) and Patricia Olga Hernandez Espinoza (INAH/ENAH)**

[67] *Health and Society among Prehispanic Maya from Chacmool, Quintana Roo, Mexico*

Health evaluation among prehispanic Maya population is considered one of the main issues related with health-society paradigm. In this paper we present the osteological analysis based in

the study of a skeletal sample (128 burials) from the archaeological site of Chac Mool, located in the Eastern Coast of Yucatan, during the Early and Late Postclassic period. We compare temporal differences in health and diet of the populations buried there.

**Marquez Morfin, Lourdes [67]** *see Hernandez Eepinoza, Patricia Olga*

**Marshall, Amanda [57]** *see Prince, Paul*

**Martelle, Holly [88]** *see Timmins, Peter*

**Martin, Andrew (University of Cambridge)**

[78] *Agents in Inter-Action: Bruno Latour and Agency*

As archaeologists, we are constantly trying to access the underlying ideas behind individual actions. However, as material culture can be used abstractly in a functional context, ambiguously in social reproduction, meaningfully in a communicative context, or in all three, it's hard for us to know whether our analyses of one type of meaning are misled by another. Therefore, Bruno Latour's adaptation of Kuhn's discovery that underlying ideas are only made explicit when threatened is of immeasurable value. The value of Latour's highly empirical method of following agents involved in threatening or defending ideas is illustrated in a Hopewell case study.

**Martin, Cheryl [31]** *see Varley, Kerry*

**Martin, Debra [102]** *see Hendrickson, Lauren*

**Martin, Fabiana Maria (CEQUA) and Luis Alberto Borrero (CONICET)**

[168] *Mundo Subterráneo: Regional Taphonomy at the Pali-Aike Lava Field, Southern Patagonia*

The volcanic landscape of Pali-Aike is characterized by the presence of abundant rockshelters, caves and lava tubes. Recently deposited faunal assemblages are present at many of these features. The accumulation of bones results from animals falling at natural traps, animals dying of winter stress at protected locations and transport by carnivores. Information on the rate of bone deposition, the potential for bone preservation, and the degree of contamination of archaeological sites is presented, together with a discussion of its relevance to interpret the archaeology of the Pleistocene-Holocene Transition.

**Martin, Helene [122]** *see Allard, Michel*; [98] *see Allard, Michel*

**Martin, John (Gannett Fleming, Inc.)**

[114] *Rethinking Survey Testing on the Coastal Plain of New Jersey*

Archaeological survey along 50 miles of the Garden State Parkway consisting of over 900 shovel test pits yielded little artifact recovery. High probability areas adjacent to water were the targets of investigation and much more was anticipated. While the linear APE restricted the prime areas near each drainage, it cannot bear the total blame for the disappointing results. Standardized testing intervals provide consistent coverage and comparable data, but may not be adequate for identification of sites in all locations. Area specific testing or sampling is urged to ensure adequate prehistoric site identification, especially in location of small, low-density sites.

**Martin, Terrance (Illinois State Museum)**

[156] *Animal Exploitation at the Illiniwek Village Site (23CK116) in Northeast Missouri*

Investigation of the Illiniwek Village site in Clark County, Missouri culminated in the discovery of numerous houses and hundreds of pit features that were associated with the seventeenth-century Illinois Indians. Analysis of more than 80,000 animal remains from over 30 features distributed among five houses revealed a diverse assemblage of mammals, fish, and reptiles. This paper will explore the intra-site distribution of skeletal portions from white-tailed deer, bison, elk, black bear, and dog in order to discover differences in processing, consumption, and refuse disposal.

**Martindale, Andrew (McMaster University)**

[63] *Material Dynamics among the Post-contact Tsimshian.*

Material culture in post-contact Tsimshian archaeological sites allows a trend from an early florescence of wealth items and a decline in traditional technologies to a later abundance of utilitarian objects, hybrid objects, and the reemergence of traditional artifacts. These trends correlate with political reorganizations recorded in oral records. In the early 19th century, Tsimshian leaders gained power through control of the fur trade, creating an association between

European objects and political stature. By the late 19th century, the regional political structure had collapsed, and the role of leaders shifted from controlling powerful trade networks to maintaining social cohesion through the reestablishment of pre-contact values.

**Martinez, Amanda (New Mexico State University)**

[27] *Abandonment at Isla Cilvituk: Ceramics as Evidence*

Abandonment is a topic that lends itself to debate and is difficult to recognize in archaeological contexts. At Isla Cilvituk, in Campeche Mexico, this problem is especially evident. Isla Cilvituk is an island in Lake Cilvituk that was occupied for over 600 years from AD 900-1530. This long occupation makes distinguishing intrasite abandonment from final abandonment and rapid versus gradual abandonment not only very important, but also extremely difficult. In order to better understand abandonment at Isla Cilvituk, using a statistical approach, I will analyze the data I have collected from the ceramic assemblage.

**Martinez, Desiree Renee (Harvard University)**

[151] *The More Things Change, the More They Stay the Same: Continuing to Protect Indigenous Traditional Cultural Sites*

Archaeologists and Native communities share two goals: to protect traditional cultural sites and to tell the story of the ancestors who created them. Strained interactions result from differing views on the appropriate method to achieve these goals. Native people have been preserving traditional cultural sites for millennia, just using methods not usually defined as archaeology. Two collaborative groups from the Pacific Northwest show that practicing indigenous archaeology can attain the goals of all parties involved while complying with legal obligations.

**Martinez, Horacio [27] see Webster, David**

**Martinez, Juan [147] see Klaus, Haagen**

**Martínez Tagüena, Natalia (Universidad de las Américas, Puebla), Guadalupe Sánchez (Universidad de las Américas, Puebla) and John Carpenter (Universidad de las Américas, Puebla)**

[72] *Paleoethnobotany study of La Playa, Sonora*

Roasting pits are the most representative feature of the Early Agricultural Period at the La Playa site in Sonora, Mexico. These features provide insights on human-plant interaction at the site. Through paleoethnobotanical analysis of the roasting pits contents, we obtained data on the type of plants that were processed and consumed at the site, and we compare these results with similar sites in the Southwestern US. Preliminary findings suggest that La Playa population employed a mixed subsistence strategy based on maize agriculture together with foraging of local wild plants and animals, we designated this strategy the Sonoran Agricultural Complex.

**Martinoli, Daniele (University Basel) and Stefanie Jacomet (University Basel)**

[108] *Plant Food Economy Put in Context: from Epipalaeolithic Southwest Anatolia*

The cave sites of Karain B Okuzini in southwest Anatolia yielded traces from Epipalaeolithic (16000-12000 BC) occupations. Unique for this area, plant macroremains (seeds, fruits and charcoals) could be recovered and analysed. The results show a foraging strategy based on the exploitation of nuts, fruits and underground organs originating from different milieu present in the surroundings. The occupation was probably seasonal. The subsistence strategy observed will be put in the context of regional and overregional development.

**Martinson, Elizabeth (CILHI), Karl Reinhard (UNL) and Alena Mayo Iñiguez (Oswaldo Cruz Foundation)**

[48] *Pinworms and the Pathoecology of Porotic Hyperostosis: Challenging El-Najjar's maize-dependency hypothesis with coprolite data.*

El-Najjar and colleagues' maize-dependency hypothesis of porotic hyperostosis is based upon the assumptions that dietary dependency on maize is primary in the etiology of porotic hyperostosis and that parasitic infection was not an issue for the Anasazi and therefore did not contribute to the porotic hyperostosis observed. Using pollen, faunal, botanical, and parasite data derived from coprolites we test these assumptions. The data indicate that diet is not correlated with porotic hyperostosis prevalence, but that pinworm parasitism is. We argue that pinworm parasitism is a proxy for infectious diseases that led to anemia and, ultimately, porotic hyperostosis

**Maschner, Herbert (Idaho State University), Bruce Finney (University of Alaska Fairbanks) and Amber Tews (Idaho State University)**

[17] *Did the North Pacific/Bering Sea Ecosystem Collapse in AD 1150?*

The period between AD 1100 and 1350 was one of the most tumultuous in the prehistory of the north Pacific. Sweeping changes in patterns of rank, village organization, household organization, warfare, trade, and subsistence are present regardless of culture group or region. Recent research on long-term changes in the north Pacific indicates that many of these social changes might be a byproduct of a catastrophic realignment of the north Pacific ecosystem, leading to a heavy reliance on salmon and a reduced reliance on marine species - impacts that lasted for the next 800 years.

**Maschner, Herbert [17]** see Knudsen, Garrett

**Maschner, Herbert [46]** see Agger, William A.

**Maschner, Herbert D.G. [99]** see Tews, Amber

**Maslowski, Robert (USACE, Huntington District)**

[7] *Public Archeology and the Great Kanawha Navigation*

The Great Kanawha Navigation system originally included ten Chanoine dams on the Kanawha River in southern West Virginia. The ten locks and dams were replaced with four high lift dams in the early 1930s. Beginning in 1989 three of these Locks and Dams were improved by adding additional lock chambers. Land required for these improvements totaled 1854 acres and included 69 archeological sites. Fourteen sites dating from Late Paleo Indian to A. D. 1900 required data recovery. This poster discusses methods of presenting data recovery results to the general and professional public.

**Mason, Owen (Georch Alaska)**

[17] *Flight from Bering Strait; Did Punuk/Thule Military Cadres Conquer northwest Alaska AD 1150-1350?*

The Punuk and Birnik cultures witnessed significant innovations in hunting and birding weaponry while larger structures reflect organizational shifts. Occasionally elaborate Punuk burials imply inspired leadership while demographic reconstructions suggest high populations that exceeded local resources or opportunities for advancement. Warfare cannot be identified--evidence of violence is rare, compared with the earlier Ipiutak culture. Diverse localities show profound affinities to Bering Strait societies, reflecting an 11th century dispersal. This demographic "surge" co-occurs with increased marine productivity and intense storms during cold intervals, while the 13th century Thule expansion reflects the stresses of warmer weather.

**Massey, David (College of Wooster)**

[2] *Settlement Dynamics of Central Cyprus: A GIS Analysis*

GIS analysis of sites discovered by the Athienou Archaeological Project (AAP) between 1990 and 2002 in the Malloura Valley region of central Cyprus aids in understanding the economic, ritual, and political function of settlements with an emphasis on the Archaic to Roman periods. The GIS study provides insights into (1) the factors that determine burial location; (2) site proximity for all periods, and (3) viewsheds for Roman, Medieval, and Early Modern hilltop sites. Analysis of the GIS-generated maps reveals patterning of site placement that fits the models of Hagerstrand and Christaller.

**Masson, Marilyn (Univ. at Albany - SUNY) and Carlos Peraza-Lope (Centro INAH - Yucatan)**

[67] *A New Look at Household and Administrative Facilities at the Postclassic Maya City of Mayapán*

New excavations of architectural features within the city of Mayapan reveal residential patterns that vary according to social status. We assess these data with regard to three important issues pertinent to the reconstruction of the city's foundations of power: 1) categories of elite administrative roles in the city's economy, 2) degrees of centralized production within the city walls and consumption trends that reveal dependency on local and distant market exchange, and 3) evidence for social and ethnic diversity.

**Masson, Marilyn A [67]** see Hare, Timothy

**Massouh, Paula (American University)**

[48] *The T Site in Rio Arriba County, New Mexico: A Largo-Gallina Site from the Mohr-Sample Collection*

During the summers of 1972 and 1973 Mohr and Sample from the University of Toronto, Erindale College, conducted field schools at the T site in Rio Arriba County, New Mexico. The resulting collection associated with this site and nine other Largo-Gallina sites investigated by Mohr and Sample was recently acquired by New Mexico's Museum of Indian Arts and Culture, Laboratory of Anthropology. This paper will discuss a recent reanalysis of the T site collection that offers further insight into the largely ignored Largo-Gallina culture and the role that it played in the prehistory of the greater American Southwest.

**Masters, Joel [156]** *see Drexler, Carl*

**Mastone, Victor [177]** *see Langley, Susan*

**Masucci, Maria (Drew University) [128]** *Discussant*

**Matsumoto, Naoko (Okayama University)**

[134] *Figurines, circular settlements and the Jomon worldviews*

Although the Jomon is well known as an example of complex hunter-gatherer societies, it does not consist of a single culture but of quite diverse cultures with various levels of complexity. We can recognize certain patterns or repeated associations of cultural elements over a wide range of space and time. This paper aims to elucidate the social and cognitive factors behind such archaeological evidence as emergence, increase, decrease and disappearance of figurines and circular settlements in different parts of the Japanese Archipelago and discusses the uniqueness of the Jomon worldviews as well as universal human cognitive factors.

**Matsunaga, John (University of California, Berkeley) and Nenad Tasic (University of Belgrade)**

[131] *Multiscalar Approaches to Multivocality: A Case Study from Serbia*

While multivocal approaches have played an important role in many recent archaeological investigations, the relevance of such approaches to archaeology worldwide has been assumed rather than established. This assumption places these approaches in a position of perpetuating the very hegemonic discourses that they seek to challenge. Therefore, an understanding of the relevance of multivocality is required and this can be achieved by recognizing that its relevance may differ at various scales (e.g. local, national, and international). Utilizing a multiscalar approach, this paper attempts to assess the relevance of multivocality in the interpretations of the site of Vinca, in Serbia.

**Maureille, Bruno (Université Bordeaux 1), Marie Soressi (IPGQ), Anne-Marie Tillier (IPGQ), Shannon McPherron (George Washington University) and Harold Dibble (University of Pennsylvania)**

[23] *The Pech-de-l'Azé Hominids : new data on the stratigraphic position of the Pech-de-l'Aze I skeletal remains and a presentation of the Pech-de-l'Aze IV specimen*

Two hominid specimens have been discovered in the Pech-de-l'Azé sites. The Pech I remains consist of an immature Neandertal skull. Its stratigraphic position had never been clear. It was attributed by Peyrony and Capitan to the Mousterian of Acheulean Tradition (MTA) which was then contested by Bordes. The discovery of Peyrony and Capitan letters and a study of Bordes' 1970 field notes indicate to us now that the fossil came from MTA layers 6 or 7. During the 2002 campaign at Pech IV, a fragment of a crown molar was discovered. It corresponds to a germ of a molar. Its preservation will not allow us to obtain major scientific results.

**Maureille, Bruno [122]** *see Costamagno, Sandrine*

**Maxwell, David (Statistical Research, Inc.)**

[34] *The Fragmentation Index: An Approach to Recognizing Intrusive Faunal Specimens in the Archaeological Record.*

The fragmentation index (FI) is a method of estimating whether all components of a faunal assemblage have been subjected to the same types of formation processes responsible for bone breakage. FI measures the degree of completeness of each identifiable bone fragment. This can be employed on a taxon-by-taxon or context-by-context basis to determine which are most and least fragmentary. FI has been employed in conjunction with other taphonomic indicators to recognize intrusive specimens. This approach has been applied at several sites in southern California, with consistent results. Details of the method and results are presented.

**Maxwell, David [140]** *see Edwards, Joshua S.*

**Maxwell, Tim [102]** *see Clifton, Julia*

**May, J. Alan (Schiele Museum of Natural History) and Deborah Keene (South Carolina Institute of Archaeology and Anthropology)**

[127] *Searching for Spanish Explorers: Electron Microprobe Analysis of a Copper Artifact from 31GS30, Catawba Valley, North Carolina*

The LaFar Site (31GS30) is a (Late Woodland - Protohistoric) Native American village site on the banks of the South Fork Catawba River, Gaston County, North Carolina. A copper artifact was recovered during excavations conducted by the Schiele Museum. This artifact was analyzed using an electron microprobe and does not appear to be an alloy, but rather nearly pure copper. Subsequent research has focused on a local or regional source for the copper. This search has incorporated chemical profiles, survey of geological literature for native copper sources in the region, and comparisons with similar artifacts found in the region.

**May, J. Alan (Schiele Museum) and Deborah Keene (SCIAA)**

[127] *Searching for Spanish Explorers: Electron Microprobe Analysis of a Copper Artifact from 31GS30, Catawba Valley, North Carolina*

The LaFar Site (31GS30) is a (Late Woodland - Protohistoric) Native American village site on the banks of the South Fork Catawba River, Gaston County, North Carolina. A copper artifact was recovered during excavations conducted by the Schiele Museum. This artifact was analyzed using an electron microprobe and does not appear to be an alloy, but rather nearly pure copper. Subsequent research has focused on a local or regional source for the copper. This search has incorporated chemical profiles, survey of geological literature for native copper sources in the region, and comparisons with similar artifacts found in the region.

**Mayo Iñiguez, Alena [48]** *see Martinson, Elizabeth*

**Mayor, Anne (Département d'anthropologie et d'écologie, Université de Genève)**

[16] *Ceramics and cultural identities in Mali: which correlations at which scales?*

Reconstruction of settlement history is a challenge in archaeology, but the researcher is often reticent when confronted with questions of "cultural" identity. It is thus necessary to develop conceptual frameworks constructed on the present that take into account the dynamics of societies. The concept of "culture" is situated here at a high level of interpretation. Using ethnoarchaeological enquiries in Mali, I analyse the (non)pertinence of correlations between ceramic internal characteristics (shaping technique, form, decoration) and sociocultural external characteristics, seen at different scales (linguistic family, ethnic group, sphere of endogamy). I will then explore different time depths with regional archaeological excavations.

**Mazow, Laura (University of Arizona)**

[59] *Votive Deposits and their Association with the Built Environment: A Test Case from Tel Miqne-Ekron, Israel*

Spatial analysis of the ceramic assemblage at Tel Miqne-Ekron, Israel, identified two types of deposits: foundation deposits, associated with the construction or renovation of a building, and a second type of deposit, which may be associated with the termination of a building. This latter type can be isolated from general ceramic discard behavior based on a number of factors including: vessel wholeness and the clustering of vessels. Seen through a diachronic perspective, the long-lived significance of these deposits can be viewed as evidence for the maintenance and adaptiveness of the expression of group identity and socio-cultural interaction.

**Mazzullo, Sal [67]** *see Powis, Terry*

**McAnany, Patricia A. (Boston University)**

[146] *The Second Wedding of Culture with Ecology on the Xibun Archaeological Research Project*

Ever since Julian Steward convinced Gordon Willey to do more than "dig for chronology" in the Viru Valley, archaeologists have concerned themselves with the distribution of cultural remains in reference to landscapes. Steward's approach, paradigmatically called cultural ecology, reigned supreme during the heady decades of processual archaeology only to be branded reductionistic by postprocessualists. The alternative, cognitive landscape studies, emphasizes human agency and often denigrates scientific approaches. But ecology—the give and take among plants,

animals, and environments—has not disappeared. The Xibun Archaeological Research Project provides a case study of how cultural and ecological concerns can be wedded and how a richer understanding of past landscapes can be achieved using this meta-approach.

**McAnany, Patricia A.** [22] *see Berry, Kimberly A.*

**McBride, Kevin (University of Connecticut/Mashantucket Pequot Museum and Research Center)**

[177] *Deep Water Prehistoric Archaeological Potential on the Continental Shelf Near Block Island, Rhode Island*

The Mashantucket Pequot Museum, the University of Connecticut, and The Institute for Exploration initiated a long-term research campaign to reconstruct Late Pleistocene and Early Holocene coastal environments in deep water on the Continental Shelf south of Block Island, Rhode Island and Long Island, New York. Evidence of relict landforms such as lagoons, barrier beaches, rivers and wetlands that may have been used by the earliest inhabitants of the region is being sought. The first phase of this research entailed underwater survey of selected areas of the Continental Shelf in the U.S. Navy's nuclear research submarine NR-1. Subsequent phases of research included a sidescan sonar survey and sampling of sediments in several areas off Block Island. This presentation discusses the methods and techniques employed in the project as well as future research plans.

**McCafferty, Geoffrey (University of Calgary)** [144] *Discussant*

**McCafferty, Geoffrey (University of Calgary), Larry Steinbrenner (University of Calgary), Jolene Debert (University of Manitoba), Denise Gibson (University of Saskatchewan) and Jorge Zambrana (Universidad Nacional Autonoma de Nicaragua)**

[165] *The Nahua Way?: Preliminary Interpretations of Ethnic Identity Strategies from Domestic Contexts in Santa Isabel, Nicaragua*

Ethnohistoric accounts from Colonial Mesoamerica describe migrations of Nahuatl speakers from central Mexico to the Greater Nicoya region of Nicaragua and Costa Rica. Cultural characteristics such as language and religion are among 'foreign' traits presumably introduced into Central America in the Postclassic period. This paper will present evidence from recent excavations at Santa Isabel, site of the ancient Nahua capital of Quauhcapolca, where elite domestic contexts are being sampled in order to infer Postclassic lifeways. Rich material remains found in association with living surfaces provide outstanding data for evaluating Nahua ethnicity as practised in Nicaragua.

**McCafferty, Geoffrey** [165] *see Gibson, Denise*; [165] *see Debert, Jolene*

**McCafferty, Geoffrey D.** [144] *see McCafferty, Sharisse D.*

**McCafferty, Sharisse D. (University of Calgary) and Geoffrey D. McCafferty (University of Calgary)**

[144] *Textile Production on Mesoamerica's Southwestern Periphery*

Evidence of textile production in the Gran Nicoya region of Pacific Nicaragua have recently been discovered in the remains of elite residential compounds. The spindle whorls and well-preserved bone tools that were recovered can be compared with similar materials from Central Mexico, and allow inferences about the fibers used and the thread quality produced, as well as weaving and embroidery practices. During the Late Post-Classic, Nahua groups occupied the Gran Nicoya region of Pacific Nicaragua and Costa Rica, extending Mesoamerican culture to new extremes and providing the opportunity to study changes and continuities in Nahua culture practice.

**McCaffrey, Moira (Musée McCord Museum)**

[18] *The Architecture of Ancient Social Networks in Northern Quebec-Labrador*

Over the past 30 years, cultural resource management projects within the La Grande Complex, combined with independent research efforts, have resulted in a rich archive of data. Thus far, archaeologists have understandably focused on developing local chronologies and interpreting specific sites. My research uses this data to address a new set of questions that challenge the interior subarctic's typecast role as isolated and peripheral. This paper documents the movement of a few distinctive lithic types, and employs insights gleaned from ethnohistoric and ethnographic accounts, to explore the emergence and maintenance of social networks that still stretch across the eastern subarctic.

**McCall, Grant (University of Iowa)**

[11] *Reconstructing Landscape Use and Mobility in the Namibian Early Stone Age Using Operations*

This paper presents an analysis of Early Stone Age lithic production operation sequences. This analysis seeks to identify the position of flakes in sequences of core reduction and relate these to position on the landscape. This paper addresses five sites in the Nhomadom omirumba in the Kaudom National Park, Northeastern Namibia. The positions of the flake assemblages from these five sites are compared and inferences made concerning procurement of raw material, movement about the landscape, and use of sites. This paper preliminarily concludes that assemblages from these sites indicate frequent movement and short duration of occupation of sites.

**McCartan, Sinead [61]** *see* *Kimball, Michael J.*

**McClung de Tapia, Emily (Instituto de Investigaciones Antropologicas Universidad Nacional Autonoma de Mexico), Rebeca Rodriguez Bejarano (IIA-UNAM), Emilio Ibarra Morales (IIA-UNAM), Elizabeth Solleiro Rebolledo (Institute de Geologia, UNAM) and Jorge Gama Castro (IG, UNAM)**

[118] *Evidence for Prehispanic Plant Use from the Moon Pyramid, Teotihuacan*

Sediment samples from burials and construction fill, together with in situ plant remains recovered during excavations in the Moon Pyramid, provide evidence for different aspects of prehispanic plant use in the Teotihuacan region during the Classic period: ritual uses, agricultural practices and indicators of vegetation change. In this paper we describe new results from some of the techniques recently employed to complement the identification of macro- and microbotanical remains, to arrive at a better understanding of the impact of urban Teotihuacan society on the surrounding landscape: including phytolith analysis of fibers and carbon isotope and micromorphological studies.

**McConaughy, Mark (Bureau for Historic Preservation, Pennsylvania Historical and Museum Commission)**

[26] *Middle Woodland Hopewellian Cache Blades: Blanks or Finished Tools?*

Cache blades are usually interpreted as blanks that are curated for later production of finished tools or projectile points. A cache of 54 leaf-shaped blades was recovered from Middle Woodland Hopewellian Burial 14 at Sugar Run Mound in northwestern Pennsylvania. Macro and microscopic examination of the cache blades indicates they were used as tools prior to use as burial goods. The study shows that at least the Sugar Run Mound cache was not merely a batch of blanks awaiting further reduction into finished tools.

**McCullen, Megan [30]** *see* *O'Gorman, Jodie*

**McCulloch, Malcolm [13]** *see* *Muller, Wolfgang*

**McCullough, Robert (Indiana University-Purdue University Fort Wayne)**

[156] *Examining Population Dynamics through Attribute Seriation: Implications for the Late Prehistoric Oliver Phase of Indiana*

A seriation of Oliver pottery attributes was used to chronologically arrange larger habitation sites in central and southern Indiana. Dating between 1200 and 1450 AD, the Oliver ceramic assemblage is distinguished by a wide diversity, including the co-occurrence of Great Lakes and Middle Fort Ancient forms and motifs. By observing selected attributes over time, the ethnogenesis and development of the Oliver phase from disparate groups is evident. With the temporal placement of Oliver sites from seriation, it is possible to assess the timing of population migrations and the levels of social risk through the presence of stockades and defensive embankments.

**McEachen, Paul (Richard Grubb & Associates, Inc.) and Vincent Bourgeois (Archaeological Services, New Brunswick)**

[114] *The Edwards Run Site (28-GI-304), East Greenwich, New Jersey*

In the fall of 1998 and winter of 1999, Richard Grubb & Associates conducted Phase I/II/III archaeological investigations of the Edwards Run site. Discrete Late Archaic and Late Woodland temporal components were identified on a slight rise overlooking Edwards Run, a tributary of Mantua Creek. The Late Archaic component consisted of a fire cracked rock concentration dating to 4140 B.P. The Late Woodland occupation(s) produced several small pit features ranging from 1090-650 B.P. This paper presents the results of fieldwork, artifact and floral analysis, and the

implications for southern New Jersey prehistory.

**McElroy, Windy (University of Hawai'i)**

[35] *Variability in Poi Pounders from Kaua'i Island, Hawai'i*

Hawaiian poi pounders are unique artifacts which have received inadequate attention from archaeologists. Three varieties of poi pounders are recognized today: the knobbed, ring, and stirrup forms. These artifacts have never been systematically analyzed and a great deal of variability exists within the three categories. Paradigmatic classification is used to examine stylistic variability in pounder morphology. Seriation illuminates patterns of interaction and transmission among groups. Functional analyses help explain processes of selection and interaction between pounders and the environment. The spatial extent of this research is limited to Kaua'i Island, which is historically known for its distinctive poi pounder forms.

**McEwan, Colin (The British Museum)**

[96] *Archaeology and Community at Agua Blanca, Manabi, Ecuador*

Agua Blanca is an important late prehispanic site located in the Machalilla National Park on the Manabi coast of Ecuador. Over many years a community based site museum has been created at Agua Blanca. This represents a pioneering initiative in archaeological site management. This paper offers an evaluation of what has so far been accomplished and the potential for the future.

**McFaul, Michael (Laramie Soils Service) and Bonnie Pitblado (Utah State University)**

[75] *Searching for Paleoindian Sites near Flaming Gorge, Utah: A Geoarchaeological Approach*  
In summer 2003, Utah State University and LaRame Soils Service, Inc. undertook a survey project designed to locate and document Paleoindian sites in the vicinity of Flaming Gorge, Utah. To maximize the chances of finding sites older than ca. 7,500 B.P., researchers used geoarchaeological modeling to pinpoint areas to transect. Previously recorded geological data, geological maps, and ground reconnaissance yielded clues that helped the archaeological team identify the areas most likely to contain very ancient sites. This poster explains the details and results of our geoarchaeological approach to the Flaming Gorge area survey.

**McGhee, Robert (Canadian Museum of Civilization)**

[17] *When and Why Did the Inuit Move to the Eastern Arctic?*

The movement of Alaskan Inuit eastward to Arctic Canada and Greenland has been generally depicted as a population expansion that occurred around AD 1000 in response to environmental variables. Re-evaluation of the evidence relating to this event now suggests that it occurred during the thirteenth century, and that the presence of Greenlandic Norse traders in the eastern Arctic may have been of central significance as a motive. The paper summarizes the evidence related to this reinterpretation of early Inuit history, and considers the origin, destination, and nature of the historical event that we interpret as the "Thule migration."

**McGovern, Thomas (CUNY Graduate Center and Northern Science & Education Center) and Sophia Perdikaris (CUNY Graduate Center and Northern Science & Education Center)**

[148] *Outlaws, traders and chieftains: A zooarchaeological perspective on Viking Age Iceland*  
Work carried out in Myvatnssveit in N Iceland under the international collaborative Landscapes of Settlement project has produced large archaeofauna dated by radiocarbon and tephra to the period of first settlement during the 9th-10th c Viking age. These collections allow an assessment of early economic organization and environmental impacts on a regional scale, allowing comparison of herding strategy changes and use of wild resources by farms of different size and site territory. Archaeofauna dating to the late 9th c from this inland district show clear evidence for an extensive local-level trade in preserved marine fish as well as marine mammals and birds. These farmstead archaeofauna can be contrasted with contemporary bone collections from caves inhabited by outlaw bands who raided stock but apparently did not participate in social networks providing access to marine resources. Economic interactions during the settlement period in Iceland were complex and these new data underline the importance of staple goods production and exchange in the Viking age North Atlantic.

**McGuire, Randall (Binghamton University) [151] *Discussant***

**McGuire, Randall (Binghamton University)**

[105] *Marx, Childe and Trigger*

The history of Marxism in English speaking archaeology is often hidden and overlooked. Archaeologists drew on Marx's ideas throughout the 20th century but it was only in the 70's that Anglophone archaeologists explicitly confronted Marx. Bruce Trigger was one of the first of these archaeologists. He engaged Marx in both his analyses of the work of V. Gordon Childe and in his own research. Trigger eschewed the trendy New Archaeology of his day and instead built a solid base for Marxist scholarship. This paper will critically consider his contributions to a Marxist archaeology in the contemporary arena of archaeological theory.

**McKelway, Henry [127]** see *Baggett, Klint*

**McKillop, Heather (Louisiana State University)**

[27] *Classic Maya Workshops*

This paper questions the centralized model of the Late Classic Maya economy in which the urban royal Maya and their courtiers controlled the production and distribution of goods and resources. Notwithstanding the presence of attached specialists producing highly crafted goods in lowlands cities, there was considerable variability in the production and level of elite control of other, including more utilitarian goods. The existence of independent workshops not associated with household production is underscored by the recent discovery in 2003 of eight new salt workshops in Punta Ycacos Lagoon. Sea-level rise inundated the workshops, preserving pots in situ.

**McKillop, Heather [113]** see *Dudar, J. Christopher*

**McKnight, Justine (Archeobotanical Consultant)**

[73] *Mid-Holocene Landscapes and Plant Use at the East Steubenville site*

Patterns of plant use during the Late Archaic period vary across the Eastern Woodlands of North America. The study of paleoethnobotanical remains from the East Steubenville site provide insight into the role that plant resources played in the Panhandle Archaic adaptation. The data are examined within a landscape context, revealing the contribution of resources from extremely diverse ecological zones in close proximity to the site. A subsistence focus on nuts, small fruits and wild grains gathered from a rich and varied local landscape and an absence of cultivated or quasi-cultivated plants may constitute botanically-diagnostic attributes of the Panhandle Archaic phenomenon.

**McMillan, R. Bruce (Illinois State Museum)**

[38] *From Wheatland to Warsaw: An Appreciation of W. Raymond Wood*

W. Raymond Wood's legacy is to Plains archaeology, to anthropology, and to Quaternary studies. My purpose is to offer a commentary as a student, a colleague, and a friend.

**McMillan, R. Bruce [38]** see *Styles, Bonnie*

**McNeely, Roger [74]** see *Dyke, Arthur*

**McNees, Lance M. [75]** see *Smith, Craig S.*

**McNeil, Cameron L. (The Graduate School, CUNY)**

[143] *An Idealized Natural World in Early Classic Ritual Spaces at Copan, Honduras*

The analysis of pollen residues and charcoal macroremains from Copan, Honduras has revealed a wide spectrum of plant species in ritual spaces. These botanical components of elite spaces were selected from the environment to act as offerings, tools and backdrops for ritual activities. Plants and plant products were used in the Acropolis to selectively simulate the natural world, recalling the mythic origins of the Maya. Flowers and plants were chosen not only for these mythological associations, but also likely for appealing smells, colors, and tastes. Their presence would have endowed ritual areas with an array of attractive sensory experiences.

**McNeil, Lynda (University of Colorado, Boulder)**

[141] *Siberian Rock Art (Middle Yenisey River) and Seasonal Revival Rites*

Combining comparative ethnography and field research conducted during an archaeological expedition (Kemerovo State University, August 2002) to Middle Yenisey River rock art sites, this paper explores congruities between Middle Yenisey rock art iconography and bear cult seasonal revival rites of the oldest known inhabitants in the region, the Ket and Evenk. Recently, Russian and French archaeologists (Sher 1994; Francfort and Sher 1995), working in collaboration, have stylistically dated this rock art, including bear glyphs in narrative contexts, from the Late Paleolithic to the Mesolithic/Neolithic at the sites discussed: Oglakhty I, Tepsei I, Ust'-Tuba II and Shalabolino.

**McPherron, Shannon (George Washington University)**

[23] *Introduction to Research at Pech de l'Azé (Dordogne, France)*

Pech de l'Azé is a set of four Paleolithic sites. Pech I, known since the 19th century and recently re-analyzed, contained a rich MTA sequence and Neandertal child cranium. Pech II, discovered and excavated by Bordes, has an older sequence that also overlaps with Pech I. Pech III is a small cave that contained little. Pech IV, excavated by Bordes and recently re-excavated, contains a rich and highly variable sequence of Mousterian industries. ESR dates are now available for Pech I, II and IV. Together these sites have the potential to document well late Pleistocene Mousterian adaptations in southwest France.

**McPherron, Shannon [23]** see *Maureille, Bruno*; [5] see *Olszewski, Deborah*

**McVicker, Donald (North Central College) and Mary McVicker (Independent Scholar)**

[37] *Forgotten Documenters: Artists and Copyists at Chichen Itza*

Archaeology owes much to its artists and copyist and their renderings in color. Adela Breton, Jean Chariot, and Ann Morris worked at Chichen Itza in the 1900s and 1920s. Breton, an independent artist, worked outside the institutional framework of Americanist archaeology; Chariot, also an independent artist, was employed by the Carnegie Institution's Chichen project as was Ann Morris the wife of head archaeologist Earl Morris. How did their insider/outsider positions affect the legacy of their contributions as documenters? An extreme case of institutional amnesia appears to have left many professionals today unaware of the contributions of these unconventional scholars.

**McVicker, Mary [37]** see *McVicker, Donald*

**Means, Bernard (Arizona State University)**

[100] *New Science Meets Old Archaeology: AMS Dating of Curated Collections from the Somerset County (Pa.) New Deal Excavations*

The 1930s era Somerset County Relief Excavations completely revealed the community patterns of more Late Prehistoric villages in southwestern Pennsylvania than had ever been done before or has been done since. Serious studies of community patterns in this region must therefore turn their attention toward sites excavated during the New Deal, nearly seven decades ago. The uncertainty surrounding the dates of their occupations has hampered incorporation of these villages into modern community pattern studies. With NSF support, strict chronological control was obtained for several sites through AMS dating of organic remains and ceramics with organic residues.

**Medina Jaen, Miguel [49]** see *Tucker, Tim M.*

**Meegan, Cathryn [72]** see *Swanson, Steve*; [72] see *Crider, Destiny L.*; [72] see *Crider, Destiny L.*

**Mehalchick, Gemma (Prewitt & Associates)**

[183] *Wild Onions and Geophyte Processing in Central Texas Prehistory*

The greater Edwards Plateau of central Texas is characterized by vast outcrops of Cretaceous limestone. These rocks were used by prehistoric people to construct cooking features and the most prominent are the large accumulations called "burned rock middens." Research in the past decade suggests that these middens result from repeated use of the same earth oven locations over long periods of time. With the recovery and advances in identification of charred root fragments, a strong pattern is emerging. Throughout much of central Texas, earth oven activities appear to have been focused on processing of large quantities of selected root foods-primarily wild onions eastern camas-that are rendered edible or more palatable through lengthy cooking that initiates hydrolytic conversion of complex carbohydrates to sugars. Radiocarbon evidence indicates these bulbs and other geophytes were processed in this manner from 8200 to 500 B.P.

**Meignen, L. [129]** see *Tushabramishvili, N.*

**Meignen, Lilianne (CNRS), John Speth (University of Michigan) and Ofer Bar-Yosef (Harvard University)**

[122] *Changes in site function during the late Middle Palaeolithic in Kebara cave (Israel).*

Kebara provides an opportunity to examine shifts in human land-use during the Late Middle Paleolithic. The fauna show that Kebara's function changed from ephemeral warm-season

occupations, ca. 60 kya, in which hunting was minor, to intensive cool-season occupations, 58-60 kya, in which hunting was very important. Lithic studies confirm these interpretations. In the upper levels (52-57 kya), however, fauna and lithics yield intriguingly contradictory views. Nevertheless, our data concur in showing that Kebara was part of a dynamic settlement system about which more must be learned before prehistorians are justified in concluding that Levantine Neandertal land-use patterns were qualitatively distinct from those of modern humans.

**Meignen, Lilianne [122]** see *Costamagno, Sandrine*

**Meltzer, David (Southern Methodist University) [162]** *Discussant*; [75] see *Byerly, Ryan*

**Mendoza, Marcela (University of Memphis)**

[137] *Head and Scalp Hunters in the Argentine Chaco*

Since colonial times, hunter-gatherer peoples of the South American Gran Chaco have been known as ferocious warriors that took head and scalps as trophies, and kept captives from neighboring ethnic groups. Killing enemies in war enhanced the status of warriors. After a successful raid, women subjected war trophies to ritual mockery and scorn, and the warriors performed the dance of the scalps. Based on evidence from missionaries' records and the oral tradition as well, this paper analyses Western Toba warfare and describes the circumstances of the last war trophies taken by the Toba of Western Chaco, reportedly in 1935.

**Mendoza, Ruben G. (California State University Monterey Bay)**

[137] *The Divine Gourd Tree: Tzompantli Skull Racks, Decapitation Rituals, and Human Trophies in Ancient Mesoamerica*

The Mexica incorporated an eclectic range of cosmologically informed iconography and architectural arrangements into their civic-ceremonial precincts and religious monuments. One particularly notorious architectural element included the tzompantli skull racks that graced the ceremonial core of Tenochtitlan and allied towns and centers. This paper will review the origins, archaeology, and ethnohistory of the Mesoamerican tzompantli in order to contextualize the cosmological ecology of this most ostentatious and multicultural of pre-Columbian monuments devoted to conjuring the sacred interplay of war and blood sacrifice, decapitation rituals, and the plight of the Hero Twins as embodied within the symbolism of the Mesoamerican ballgame.

**Mensforth, Robert (Cleveland State University)**

[137] *Human Trophy Taking in Eastern North America during the Archaic Period: Its Relationship to Demographic Change, Warfare, and the Evolution of Segmented Social Organization.*

Archaeological evidence for the existence of warfare related trophy taking behaviors in North America is present in the southeastern United States in the Early and Middle Archaic periods. By Late Archaic times trophy taking behaviors became fairly widespread (e.g. Florida, Alabama, Tennessee, Kentucky, Ohio, and North Dakota). The purpose of this study is to consider the extent to which ritualized patterns of human trophy taking behavior are of value as an inferential tool for identifying past human societies which were undergoing, or had undergone, the transition from band to tribal level societies.

**Mentzer, Susan (University of Arizona), Paul Goldberg (Boston University) and Taryn Ortolí (Boston University)**

[23] *Geology and Stratigraphy of the Mousterian site Pech de l'Azé IV* Pech de l'Azé IV as initially excavated by F. Bordes revealed deposits primarily consisting of fine sands and silts mixed with varying amounts of éboulis and large blocks of roof fall. These sediments overlie a conspicuous decimeter-thick layer of dark cultural deposits. Current geoarchaeological field and laboratory research (e.g., optical micromorphology, SEM/EDAX, and chemical analyses) has revealed that the site is a cave (not a rockshelter), and the basal cultural layers accumulated as numerous small burning events alternating with trampling and hearth cleanouts that are localized near the entrance. Cryoturbation is present, but much less so than originally suggested and is the focus of present research efforts.

**Menzies, Adam (University of Pittsburgh)**

[95] *The Obsidian Assemblage of Minanha, Belize*

An analysis of the obsidian assemblage from the Classic Maya site of Minanha, Belize was carried out to address questions of obsidian trade, production, distribution and the differential usage of blades at the intra-site level. Using technological analysis and low-power usewear analysis, it is suggested that prismatic blades were produced at the site, although the raw material was likely received at a late-stage trade junction. Usewear data indicate that blades

found in ceremonial contexts lack intensive edge damage whereas blades recovered from domestic contexts exhibit intensive wear patterns, indicating the importance of obsidian in both prestige and utilitarian economies.

**Merrill, William** [136] *see* *Hard, Robert J.*

**Merrill, William L.** [66] *see* *MacWilliams, A. C.*

**Merwin, Daria (State University of New York - Stony Brook)**

[177] *Current Research on Submerged Prehistoric Sites in the New York Bight*

Prehistoric archaeological sites that were submerged by sea level rise have significant potential to increase our understanding of long-term economic and demographic patterns. Several authors had noted the high archaeological potential of the continental shelf in the New York Bight, but until recently there was no attempt to systematically search for prehistoric deposits here. This paper describes the initial stages of a long-term survey that uses Geographic Information Systems (GIS) and remotesensing technology to predict and investigate the most likely locations of submerged prehistoric archaeological sites. Results of new field work undertaken by scuba divers will also be discussed.

**Meskel, Lynn (Columbia University)**

[105] *History, Theory and Politics: Situating Trigger's Contribution to Social Archaeology*

Bruce Trigger's wide-ranging anthropological analyses have done much to socialize the field of Egyptian archaeology and to incorporate it into more expansive understandings of Africa and beyond to comparative global cultures. Trigger occupies a unique position in this regard. Similarly, his work on nationalist, colonialist and imperialist archaeologies has played a crucial role in defining and reinforcing the situatedness of archaeological discourse and its concomitant periodicities. Each is testament to Trigger's willingness to engage in theoretical and empirical dialogues and his justified place as one of the discipline's leading thinkers.

**Messenger, Lewis C. (Hamline University)** [76] *Discussant*

**Messika, Natalie (Tel-Aviv University)**

[109] *The Good, the Bad and the Ugly: Israel in the Time of the Two monarchies*

Biblical and historical sources suggest that the disintegration of the earliest state of Israel was due to internecine conflicts among the northern and southern tribes of Israel that ultimately led to the divided Monarchies of Israel in the south and Judah in the north. Archaeological evidence, organized through GIS suggests, rather, that social and economic differences led to the emergence of two different polities whose lifestyle and infrastructure followed contrasting paths of development, opening the way for the conquest of Judah by the Assyrian Empire and creating ideological and ethnic conflict between the once unified states.

**Meyers, Maureen (Gray & Pape, Inc.)**

[56] *The Norris Basin Revisited: Reanalysis of Data from the 1938 Survey*

In 1938, William Webb completed a survey of the Norris Basin region in northeastern Tennessee which focused on locating late prehistoric mound sites along the Clinch, Powell, and Holston Rivers. Although quite large in scope, little settlement pattern analysis of the data has been done since the 1938 publication. This paper uses the original data to undertake analyses of site locations and site size to better understand the sites' relationship to one another. Further, the relationship of the Norris Basin sites to other late prehistoric and Mississippian sites in southwestern Virginia and eastern Tennessee will be addressed.

**Michelaki, Kostalena (McMaster University)**

[98] *Ceramic Production in Neolithic Calabria, Italy*

In this paper I will examine the ceramic material from the excavations at Umbro and Penitenzeria, two neolithic sites in Southwestern Calabria, Italy. The excavations are still in progress, as are our physico-chemical analyses of the ceramic material. While the results are still preliminary, I will nevertheless use them as the basis to look into craft production as part of the everyday life of a village. Situating the ceramic technological process in its spatial, temporal, functional and social context, I will consider the potters not in isolation, but through their many activities, relations and identities within their community.

**Miksa, Elizabeth (Desert Archaeology, Inc.)**

[66] *Discrimination of Granitic Sand Temper Sources using Petrofacies Modeling: An Example from the Gila and Phoenix Basins, Arizona*  
 Petrofacies modeling--the creation of maps and descriptive keys for the identification of sand temper in pottery--has been proceeding steadily in Arizona for nearly 20 years. As the area encompassed by the petrofacies models increases, so does the problem of distinguishing among sands of broadly similar composition. A new combined petrofacies model for the Gila and Phoenix basins is used to illustrate statistical and microscopic techniques for making detailed petrofacies distinctions over large areas. It is applied to undecorated sherds, previously identified as having 'indeterminate granitic' composition, from Salt River sites which received pottery from both Phoenix and Gila sources.

**Miksic, John (National Univ of Singapore) [167] Discussant**

**Miksic, John (National University of Singapore)**

[167] *Jar Burials in the Cardamom Mountains*

Tiger trackers in the Cardamom Mountains in western Cambodia recently reported the discovery of jars containing bones in remote caves. An expedition to four sites in March 2003 ascertained that the jars and other associated ceramics consisted of 15th-century Chinese, Thai, and Cambodian wares. The jars contained remains of several individuals, who seem to have died in their 20's. The majority were female. Bones gave evidence of thalassemia. Other associated artifacts include glass beads and copper ornaments. The cultural affinity of the remains is unknown; the sites are unique in the Cambodian cultural-historical context.

**Milanich, Jerald [86] see Kelly, Jennifer**

**Milanich, Jerald T. (Florida Museum of Natural History)**

[14] *Jesuit and Franciscan Spanish Missions of La Florida: Archaeological Evidence for Colonialism*

Archival sources interpreted by John Hann and by John Worth have documented the role of the Spanish missions (1566-1763) in the colonization of La Florida. Is there corresponding archaeological evidence for the process of colonization? By comparing the pre-mission archaeological record of native peoples with that of their mission-dwelling descendants we can begin to discern such phenomena, including bioarchaeological data, changes in agricultural production and practices, new burial patterns, the accumulation of specific categories of European-made items, and the resettlement of native populations. It will be interesting to compare these archaeological correlates with those from other colonial regions.

**Milbrath, Susan (Florida Museum of Natural History, University of Florida) and Carlos Peraza (Centro Regional de Yucatan, INAH)**

[50] *The legacy of the Classic and Terminal Classic Periods at Postclassic Mayapan*

Mayapan's art and architecture reflects Classic and Terminal Classic Maya forms. A censer at Mayapan represents the Classic Maya howler monkey scribe with a "number tree." Katun monuments typical of the Classic period reappear at Mayapan between A. D. 1185 and 1224, coinciding with the end the great Baktun cycle. Subsequently, between A.D. 1300 and 1400, Mayapan architects constructed a series of buildings in revivalist styles intended to evoke Terminal Classic buildings at Chichen Itza and Kabah. After A.D. 1400, near the end of the site's main occupation, buildings at Mayapan show a marked divergence from Terminal Classic Maya patterns.

**Miljour, Heather [140] see Huber, Edgar K.**

**Millaire, Jean-Francois (Université de Montréal)**

[51] *Gallinazo - Moche interactions at Huaca Santa Clara, Viru Valley (north coast of Peru)*

Recent discoveries at the Gallinazo site of Huaca Santa Clara in the Viru Valley have brought about a new understanding of Gallinazo - Moche relationships in the Viru Valley during the Early Intermediate Period. Moche-like artifacts uncovered at this site will be described contextually and their presence will be assessed in regard of current theories on Moche expansionism in the valleys south of Moche.

**Millard, Andrew (University of Durham)**

[13] *From isotopes to places: how close can we get?*

I will examine the fundamental processes and concepts underlying all isotopic studies of place of

origin and migration. I will explore the inherent limitations to geographical resolution in detail using oxygen isotope data from Europe. The resolution achievable and the definition of a "local" signal are themselves dependent on location, and quite probably, date, but an absolute theoretical best can be established. I will outline the extension of these ideas to other isotope systems.

**Millard, Andrew** [13] see *Budd, Paul*; [13] see *Hughes, Susan S.*

**Miller, Mary (Yale University) and Megan O'Neil (Yale University)**

[119] *States of Interaction: Monumental Sculpture of Yaxchilan, A.D.752-808*

Eighth-century Yaxchilan sculpture is highly interactive, replete with internal interactions of personages in conversation, dance, ritual, and/or subjugation. Although depicting specific persons, they often symbolize larger but less tangible commercial and political interactions between Yaxchilan and other Maya polities and between present and past. This paper focuses on Yaxchilan's sculptural production of A.D.752-808, the final three katunob of its sculpted history. We focus on the representational strategies used, particularly concerning interactions with ancestors, contemporary polities, and ancestors' relations with those polities. These interactions—both physical and symbolic—may shed light both on Yaxchilan's eighth-century florescence and its early ninth-century demise.

**Miller, Naomi F. (University of Pennsylvania Museum)**

[108] *Proxy Data and Climate Reconstruction, Examples from West Asia*

Culture change is often attributed to climate shifts. In west Asia, climate has been implicated in both agricultural origins and a late third millennium collapse of civilization. The problem for archaeologists is determining when a shift occurred and whether it was sufficient to affect (positively or negatively) the established cultural response to normal annual and interannual variability. Examples from west Asia illustrate that when climate is reconstructed from proxy data, human impact on the vegetation may swamp whatever evidence for climate change there is.

**Millhouse, Philip G. (University of Illinois)**

[156] *Late PreColumbian Culture Contact in the Upper Mississippi Valley: A View From the John Chapman*

During the summer of 2003 the University of Illinois archaeology field school conducted extensive excavations at the John Chapman site along the Apple River in northwestern Illinois. These excavations uncovered a number of single post basin structures and associated pit features. The architecture and artifact assemblages indicate that the site's inhabitants were actively engaged in creating a new cultural identity that incorporated both traditional Woodland and new Mississippian ideas. The dynamic nature of these developments had a profound impact on Native American historical developments throughout the Upper Mississippi Valley.

**Millones, Mario (University of New Mexico)**

[163] *Geometric Morphometrics on Moche Portrait Vessels (Peru, AD 100-800)*

Moche-portrait vessels have a distinctive place in Andean Archeology due to the realism of their phenotypic features. Current explanations focus on the recognition of a 'Moche type', the identification of life stages among individuals and, the emphasis on faces that characterize an individualistic phase in Moche organization. Besides these assumptions, there is not coherent proposal that organizes the variety of faces depicted. I will develop a system to make sense of all depictions by using a statistical analysis of the shape (geometric morphometrics) of the faces based on digital images. I will work with the UNT and Larco Museum's collections.

**Mills, Barbara (University of Arizona)**

[153] *Performing the Feast: Visual Display and Suprahousehold Commensalism in the Puebloan Southwest*

Feasting is a performance that can take place in private or in public. Public displays of feasting have different spatial and visual characteristics - and different social implications - than do private feasts. I argue that the incidence of public feasting can be fruitfully investigated through the spatial location of large-scale food preparation features and the visual performance characteristics of serving and consumption vessels. A case study from the Western Pueblo area illustrates how increasing evidence for public feasting intersects with the diversification of ritual architecture and explores the implications for understanding a pivotal period of social change.

**Mills, Barbara J.** [135] see *Neuzil, Anna*

**Milne, S. Brooke (Wilfrid Laurier University)**[134] *Seasonality and Social Interaction Among the Early Palaeo-Eskimos*

The ethnographic record from southern Baffin Island indicates seasonal changes in the Arctic environment not only influenced human mobility and hunting strategies, but it also affected how people felt about their surroundings, and one another. After a long winter on the coast, springtime travels to the interior filled people with excitement and anticipation. A change in scenery, social organization, and diet created a relaxed atmosphere for interaction. Recent archaeological evidence suggests the early Palaeo-Eskimos on southern Baffin also regarded the interior as a warm-season refuge where distant groups could meet to secure their social and reproductive stability, while simultaneously satisfying their technological needs.

**Minchak, Scott (Texas A&M University)**[138] *Use-Wear Analysis on Clovis Blades from the Gault Site, Bell County, Texas*

Quarry sites are generally interpreted as a place to obtain raw materials or a place to bring other materials to work in craft activities. The Gault Site (41BL323), located in Central Texas, is a large multicomponent site containing quarries and workshops. A use-wear analysis was performed on a sample of blades from the Clovis units (3a and 3b) excavated by Texas A&M University from 2000-2002. Techniques and methodology, blade-use, comparison between the two Clovis units, and the question of quarry function are addressed.

**Minichillo, Tom (University of Washington)**[126] *Sophisticated Lithic Technology in the Middle Stone Age*

Middle Stone Age (MSA) lithic technology is frequently characterized as being simple and unchanging for long periods of time. This characterization is, in turn, used to support the notion that MSA people are not behaviorally sophisticated or 'modern'. This paper examines the lithic artifacts from a number of archived MSA assemblages, including those containing Still Bay and Howieson's Poort materials, from South Africa. Issues such as style, hafting, raw material choice, toolkit variability, and change through time are addressed using these assemblages and in a newly excavated assemblage from Pinnacle Point, near Mossel Bay, South Africa.

Mink, Philip [185] *see Sullivan, Alan*Minnis, Paul [133] *see Whalen, Michael***Minnis, Paul E. (University of Oklahoma) and Michael E. Whalen (University of Tulsa)**[39] *Issues in Anthropogenic Ecology: Examples from Casas Grandes.*

Fortunately, scholars have a renewed interest in the ancient human ecology. Several issues must be addressed in order to realize the potential of this topic including the recursive nature of human ecology and the value of practical knowledge. Examples from Casas Grandes, Chihuahua, Mexico are used to illustrate these points.

**Miracle, Preston (University of Cambridge) and Jo Wilson (University of Cambridge)**[158] *Sacred Spaces: animal remains and ritual action at Nakovana Cave, Croatia*

A sealed chamber discovered in 1999 in Nakovana Cave provides an unprecedented chance to examine Illyrian ritual activity. Animal remains, although less visually impressive than the piles of Hellenistic fine wares or the stalagmite "phallus" dominating the inner chamber, are crucial to understanding the rites that occurred there. Did feasts take place? How regular were rites, and how do these practices fit into the regional context? Our analyses indicate a site where natural morphology, local and regional identities, and social status were highly inter-related, with the use of animals providing one of several major foci of activity.

Miracle, Preston [122] *see Pellegatti, Paolo*Miranda, Ana [71] *see Costion, Kirk; see Beebe, Erica***Miroff, Laurie (Binghamton University) and Timothy Knapp (Binghamton University)**[65] *Late Woodland Settlement in the Chemung Valley: Past Research and Future Directions*

Dr. Funks's focus on integrating valley sites into regional settlement systems constituted a major contribution to New York State prehistory. In both the Hudson and Upper Susquehanna Valleys, his interpretation of subsistence and settlement patterns formed the foundation on which future studies were launched. One of these studies focused on the poorly-understood Chemung Valley, a major tributary drainage of the Susquehanna. This paper will review over 10 years of archaeological investigations in the Chemung Valley and using existing data, propose a model of

Late Woodland regional settlement. Additionally, we outline future research directions using Funk's Upper Susquehanna settlement study as a guide.

**Miroff, Laurie [65]** see *Versaggi, Nina*

**Misdea, Sharon (University of Pennsylvania) [150]** *Discussant*

**Mitchell, Megan [177]** see *Garrison, Ervin*

**Mohney, Ken [29]** see *MacDonald, Douglas*; [73] see *Pope, Melody*

**Mohney, Kenneth (Skelly and Loy, Inc.), Jonathan Lothrop (GAI Consultants, Inc.) and Renee Sobota (GAI Consultants)**

[29] *Lithics Source Use During the Late Archaic in the Upper Ohio Valley: A View from the East Steubenville Site*

During the Late Archaic in the Upper Ohio Valley, Native Americans employed a wide variety of lithic raw materials for stone tool manufacture. This paper begins with a review of the toolstone data from GAI's recent excavations at the East Steubenville Site, sponsored by WVDOH. Findings at East Steubenville (located in West Virginia's Northern Panhandle) and other Late Archaic sites in the region suggest the exploitation of both primary bedrock and secondary cobble cherts. This poster presents an overview of lithic raw materials available from sources within and adjacent to the Upper Ohio River Valley and offers insights into changing patterns of raw material procurement and use during the Late Archaic of this region.

**Molenaar, Molly (SWCA Environmental Consultants)**

[139] *Native American Consultation on the Kern River Expansion Project*

The Native American consultation process for the Kern River 2003 Expansion Project involved federal agencies and 21 federally-recognized Native American tribes in six states with traditional ties to the project area. Key components of the consultation process that will be discussed in the presentation include the development of the project Programmatic Agreement, coordination with BLM state and field archaeologists for a multi-state pipeline project, documentation and follow through with tribal requests, and the consultation challenges encountered with this multi-state pipeline project.

**Mollerud, Katy (University of Wisconsin-Milwaukee)**

[156] *Up North: Analysis of Aztalan Ramey Incised Ceramics*

The restricted set of decorations marking Ramey Incised vessels are argued to have symbolically represented the Mississippian world view. Ramey Incised ceramics, initially identified at the large Mississippian site of Cahokia, have subsequently been found at Late Prehistoric sites throughout the upper Midwest, including Aztalan in southeastern Wisconsin. Although a systematic analysis of Ramey symbolism was employed by Emerson for the Cahokia collection, a similar examination of other Ramey Incised collections has not been undertaken. This paper outlines the initial stages of a comparable analysis of Aztalan Ramey Incised ceramics.

**Molnar, Jim (Parks Canada)**

[176] *The Spatial Distribution of Rock Art in Canada*

Parks Canada has conducted background research in preparation for the potential nomination of Aboriginal rock art sites to the UNESCO World Heritage List. Before the nominated sites can be presented in a national context, the universe of possible sites must be defined for comparative purposes. This paper presents a compiled database of the approximately 2,000 recorded rock art sites in Canada and provides initial comments on their spatial distribution.

**Monckton, Stephen (G.)**

[88] *Plant Remains Spatial Distributions and their Social Implications*

Much has been written about the chronology and the adoption of horticulture in the Northeast, yet relatively little attention has been given to the way plants can inform us about the human behaviors responsible for plant remains spatial distributions within sites. This paper explores the implications of certain plant remains distributions for social organization and archaeological sampling.

**Monks, Gregory G. (University of Manitoba)**

[57] *How much is enough: approaches to sampling ichthyofaunal assemblages*

Large ichthyofaunal assemblages frequently must be sampled. How large must a sample be,

what methods can be used to draw the sample, and how can one know that the sample size is sufficient to accurately characterize the total assemblage? Using a completely analyzed ichthyofaunal assemblage from the Northwest Coast as a control, the study addresses these questions and goes on to suggest a pragmatic sampling and analytic methodology for field recoveries. The method and results are evaluated in terms of time, accuracy, replicability and adaptability to a variety of other archaeological sampling situations.

**Montero, Coral [48]** *see Carpente, Johnr*

**Montoya, Andres [149]** *see Blackwell, Bonnie A.B.*

**Montoya, Janet (Arizona State University)**

[118] *Figurines from the Pyramid of the Moon*

Over 2,000 clay figurines have been recovered to date from the excavations at the Pyramid of the Moon. The figurines provide a unique view of the culture and ideology of the inhabitants of Teotihuacan during the city's development. An overview of the collection, with particular focus on those figurines associated with the 5th building stage, will be presented. Evidence in the figurines of influence from other geographic or cultural areas, particularly the Maya, will be explored.

**Moore, David G. [110]** *see Beck, Jr., Robin A.*

**Moore, James (Queens College)**

[188] *The Spatial Dimensions of Colonial Long Island Slavery*

Analysis of census and tax records from the late 17th century point to the development of both a slave based system of labor and increased class stratification on Long Island. With the socially and politically powerful families dependent on captive labor, the issues of surveillance, control and organization of task groups shaped the settlement of Long Island. Yet the spatial characteristics of this labor system are not known. Spatial analysis of land and slave holdings for western Long Island in 1800 reveals the landscape that emerged out of dynamics of class and slavery on late colonial Long Island.

**Moore, Jonathan (Parks Canada)**

[177] *Eroding Shorelines and Inundated Landscapes at Rice and Lovesick Lakes*

During the course of recent inventory survey work on the Trent-Severn Waterway, the lakebeds adjacent to terrestrial prehistoric sites, as well as zones of high potential, have been the subject of archaeological assessment. This paper will describe the results two of these investigations in the vicinity of Peterborough, Ontario: (i) underwater 'fieldwalking' searches, shovel-testing and core sampling at White Island (Rice Lake); and (ii) the mapping and sampling of submerged wooden stakes in Lovesick Lake.

**Morales Lopez, Abel [27]** *see Folan, William J.*

**Morales Monroy, Juan Jorge (Universidad de las Américas, Puebla) and John Carpenter (Universidad de las Américas, Puebla)**

[72] *1000 Years of Trincheras Ceramic Tradition at La Playa, Sonora, Mexico*

Although Trincheras pottery from northwestern Sonora, Mexico is frequently present as intrusive types at sites in the southern Southwestern U.S., it remains poorly known. This study of the Trincheras ceramic tradition, derived from analyses of the La Playa site (Son F:10:03) ceramic assemblage, addresses chronological, typological and technological components (including the application of Actualistic Petrofacies Modeling of Temper Provenance developed by Miksa and Heidke [2001]), and provides new data for evaluating the relationships between the Trincheras tradition and the ceramics of adjacent regions.

**Morandi, Steven J. (Boston University)**

[146] *Spanish Colonial Archaeology in the Sibun River Valley, Belize*

Located in central Belize, the Sibun River valley provides an important case study of Maya-Spanish interaction along the sixteenth and seventeenth century colonial frontier. Scant historical documents record a Spanish visita (or temporary chapel) in the valley at the village called Xibun, which was deserted during a Maya rebellion in 1630. An archaeological perspective on Spanish presence in the Sibun River valley will be discussed in light of recent field work at the Cedar Bank site. A discussion of how Maya-Spanish interaction in the Sibun River valley compares with that of the wider frontier region will also be undertaken.

**Morden, Margaret (Odyssey Adventures in Archaeology)**

[97] *The Sacred Landscape of Ancient Idalion, Cyprus: The Evidence of the Idalion Survey Project*

In the Iron Age from the 8th century B.C.E. into the Roman period, the kingdom of Idalion maintained a network of sanctuaries throughout its territory. Although these sanctuaries were not all in use at the same time, it is remarkable how many did overlap functionally, spatially and chronologically. The Idalion survey Project located these specialized sites within their archaeological and geographical contexts and revealed how these sanctuaries were important as loci of political and social display, social interaction, and as markers of the kingdom's corporate identity.

**Morehart, Christopher (Northwestern University), Andrew Wyatt (University of Illinois, Chicago) and David Lentz (Chicago Botanic Garden)**

[116] *Paleoethnobotany in the Upper Belize Valley.*

Paleoethnobotany in the Maya Lowlands has a short history compared to other regions of the world. Archaeological projects in Belize, however, have increasingly sought out archaeobotanical techniques to understand human and plant relationships during Maya prehistory. This paper presents an overview of paleoethnobotanical investigations in the Upper Belize Valley of western Belize, many of which were made possible by archaeological projects directed by Paul Healy and Jaime Awe. Although paleoethnobotany in the Upper Belize Valley has yielded insight into multiple aspects of ancient Maya ethnobotany, more problem-oriented studies are needed. Thus, this paper proposes some potential avenues for future inquiry.

**Morehart, Christopher T. (Northwestern University)**

[49] *Food Offerings in Caves as "Gifts" to the Gods and the Recreation of Myth in Ancient Maya Society*

Paleoethnobotanical research has revealed that food offerings were commonly incorporated into ancient Maya cave rituals. These rites were likely part of a complex of recurring ceremonial practices to celebrate and repay deities who controlled the products of the earth. Further examination of paleoethnobotanical evidence suggests that many food offerings were not simply "gifts" to the gods but were part of rituals that recreated mythological events emphasizing the Maya's obligatory subordination to the sacred. This cosmological structure legitimized the belief that the Maya were only possessors of the land and were in constant obligation to the true owners of the earth.

**Morell-Hart, Shanti (UC Berkeley)**

[67] *Building Semantics: Prehispanic Maya Structures and the Modern Practical Typology*

This paper explores the contextualization and morphological characteristics of structures, reviewing some of the ways we have classified, or neglected to classify, non-monumental architecture in the Maya area. Unlike other artifactual materials, in the course of analyzing structures and spaces we often fail to make explicit our underlying assumptions regarding their typologies. Approaches to typological classification are here reviewed in terms of linguistic practice, as a language subject to variation in translation and interpretation. Briefly explored are the implications of current typologies, utilizing as case study small structures on the periphery of the site of T'isil in northern Quintana Roo.

**Moreno, Enrique [136] see Piperno, Dolores**

**Moreno, Teresa (Arizona State Museum, University of Arizona), E. Charles Adams (Arizona State Museum, University of Arizona) and Nancy Odegaard (Arizona State Museum, University of Arizona)**

[130] *The Homol'ovi Research Program: An example of an on-going collaboration between archaeologists and conservators.*

Since 1986 archaeologists and conservators from the Arizona State Museum have collaborated on the Homol'ovi Research Program, an archaeological project focused on ancient Hopi culture. Students in both archaeology and conservation are exposed to excavation methods and gain experience in various field conservation techniques. On site preservation has included stabilizing wall murals, taking samples for analysis, safely removing objects, documenting technologies, and

identifying materials. On-going collaborative efforts have ensured the preservation of painted objects, basketry impressions, textile fragments and other materials that give glimpses into the rich ritual fabric that was integral to Hopi village life in the 14th century.

**Morgan, Colleen (University of Texas, Austin)**

[157] *In Search of Queen Himiko: One Undergraduate's Foray Into Gender Archaeology*  
Queen Himiko (also, Pimiko) is the earliest known ruler of Japan. Historians regard her as a figurehead, a charlatan, a shamaness, and a recluse, but rarely as a stateswoman. Would a male founding figure be so controversial? As an undergraduate in anthropology and a member of a new majority of female students, I discuss the importance of a clear understanding of non-essentialized gender interpretation at the introductory level.

**Morgan, David W. (Cultural Resource Office, Northwestern State University of Louisiana) and K.C. MacDonald (Institute of Archaeology, University College London)**

[127] *The Origins of Melrose Plantation: Archaeological Research Meets Oral Tradition*  
Melrose Plantation, a National Historic Landmark, is a focal point for the Cane River Creole community. Celebrated as a pre-Louisiana Purchase plantation, its origins go back to 1796, when oral tradition says Louis Metoyer built Yucca House. However, recent excavations at Yucca suggest it was not built until the 1820s or 1830s, and it appears that no structures were in the vicinity prior to this date. Archival research places Metoyer's dwelling on the opposite side of Red River, requiring a reinterpretation of the plantation's developmental history.

**Morgan, Molly (Vanderbilt University) and Jeremy Bauer (Vanderbilt University)**

[186] *Preclassic Maya ritual, architectural, and elite transformations: New evidence from Cival, Peten.*

Thirty years of research since Cerros have yet to clarify the pivotal transition from the Late Preclassic to the Terminal Late Preclassic period. However, recent and ongoing research at the Late Preclassic center of Cival located in the Holmul Region of the Northeastern Peten has yielded promising insights into this transition to statehood, and the depth of occupation in this poorly understood region. Iconographic and architectural analysis of monumental sculpture and ritual offerings suggest new avenues for understanding emerging symbols of divine and secular power during the fundamental shift in elite authority after the Middle Preclassic period.

**Morris, Margaret [123] see Harrower, Michael**

**Morris, Sarah (UCLA)**

[133] *Architecture and Inequality: A Case Study in Ancient Slavery*

The invisibility of non-elites--women, slaves, and non-citizen foreigners--is infamous in classical Greece, which restricted equality to male land-owning citizens and called it "democracy." Historical and literary texts illuminate the presence of non-elites, but classical archaeology lags far behind in identifying the activity of women and slaves. Yet historical archaeology in the Americas has succeeded in delineating residences, foodways, and material culture of African-American slaves. Through comparative method, regional survey and contextual analysis of rural residences in classical landscapes, one genre of Greek architecture--the stone farm-tower--emerges as both a symbol of wealth and power and of the exploitation of non-elites who produced it.

**Morrison, Bethany (Historical Perspectives, Inc.) [128] Discussant**

**Morrison, David (Canadian Museum of Civilization)**

[17] *The 'Arctic Maritime' Expansion: A View from the Western Canadian Arctic*

The expansion of Thule Inuit (or "Arctic Maritime") culture across the Canadian Arctic is one of the clearest and most dramatic migrational episodes in the pre-European history of North America. This paper examines the Thule migration from the perspective of recent archaeological research in the western Canadian Arctic, along what must have been the original migration route eastward. The results of radiocarbon dating, stylistic and site distribution analysis, and a basic understanding of regional ice conditions, present a increasingly coherent picture of a highly goal-oriented migration, actively propelled by social aspirations.

**Morrison, Kathleen D. (University of Chicago), Mark T. Lycett (University of Chicago) and Noah H. Thomas (University of Arizona)**

[90] *The Historical Anthropology of Place: Multi-disciplinary Research at LA 162*

During the 17th century, LA 162, alternately known as Paa-ko and Mission San Pedro, was both an ancestral Pueblo village and a Spanish colonial mission site. Over the past decade, research in this setting has addressed colonial incorporation and transformation, the constitution of marginality in new social geographies, and the import of differential incorporative practices on each of these processes. Drawing on examples from paleoethnobotanical and metallurgical findings, this paper discusses the importance of multi-disciplinary approaches to historic settings and examines the emergence of novel systems of production in colonial settings as an historical process.

**Morrow, Julie (Arkansas Archaeological Survey)**

[162] *Time, Space, and Technological Variation in the Clovis age*

The Clovis cultural complex is represented by a suite of technological behaviors that became widely distributed across many regions of the Now World at the close of the Wisconsinan period. Special techniques of working stone and bone and antler materials spread quickly across the mega-mammal landscape in what may have been a 500 to 1000-year period. This paper examines the geographic variation of Clovis and temporally related artifact assemblages in North America from an evolutionary perspective. Data from significant coups, kills, caches, and mortuary sites are used to explore the evolution of stone technology during the Clovis-age.

**Morrow, Juliet [56] see Belly, Elizabeth**

**Mortensen, Lena (Indiana University)**

[96] *Experiencing Copan: The Authenticity of Stone*

The archaeological site of Copan in Honduras is defined by the abundance of carved stone left by the ancient Maya. At present there are three primary spaces in which it can be viewed: in the small museum in the neighboring town of Copan Ruinas, in the newer Sculpture Museum on park grounds, and in and around the site itself, generally resurrected for tourist presentation. By considering visitor and other responses to stone in its various contexts, this paper explores the competing notions of authenticity at play in tourist expectations, expert concerns, and the expressive medium of stone itself.

**Morton, Allan (Ministry of Defence, UK)**

[89] *Cultural Resource Management: A Comparison of the United States and British Military Practices*

This paper compares Cultural Resource Management in two large and similar tank training areas: Salisbury Plain, Wiltshire, England, and Fort Hood, Texas, USA. Two main areas of archaeological resource protection practice are investigated, namely the consultation process and physical measures. A discussion will outline the important findings, report on possible explanations for differences, and offer a series of lessons learned. The conclusion demonstrates how different management solutions are used to solve similar problems. Lessons learned in either the US or Britain can be useful to many Cultural Resource Managers - military or otherwise.

**Morton, Marie Blake (Wessex Archaeology)**

[183] *Harder than Hardscrabble: The Fort Hood Oral History Program*

Archaeologists agonize over what to do with 20th century sites. Excavate? Using what methodology? What questions do we ask? What answers can archaeology provide? At Fort Hood, there are 1,119 historic sites, many dating to the 20th century, and representing farms that were occupied at acquisition in 1941. Instead of excavation, researchers at Prewitt and Associates of Austin, in conjunction with Fort Hood, dug into a deeper and untapped source of vanishing data: oral history. This paper will examine the project, its results and how oral history can work in conjunction with, and be a substitute for, more traditional archaeology.

**Mosher, Matthew (Trent University)**

[95] *The Minanha Site Plan and Inter-regional Interaction*

Like other ancient Maya centres, Minanha's civic layout pattern corresponds to the cosmological model as outlined by Ashmore and Sabloff. In the absence of textual records, its civic layout may offer the best indication of Minanha's role in inter-regional affairs. Specifically, through the spatial and architectural emulation of Caracol, I infer that Minanha looked to this polity as a source of traditional political authority. As such, Minanha's elite drew upon these symbolic markers during its rise to political dominance of the North Vaca plateau, during the 8th century, which may have ultimately contributed to its demise.

**Mota Marques, Gabriela (Camera Municipal do Aveiro) and Paul Thacker (Wake Forest University)**

[53] *Seeking Paleolithic Society at Vale de Obidos; An Interdisciplinary Archaeological Effort*

High resolution excavation strategies coupled with innovative field and laboratory techniques yield detailed behavioral information about the Early Upper Paleolithic hunter-gatherers that camped at Vale de Obidos. Among other findings, stone-boiling, plant processing, and pigment manufacturing took place near stone-lined hearths, while composite projectile weapons were fashioned in a specific 'workshop' on the site. From the electrical resistivity survey that preceded excavation to the final spatial statistics that define activity areas in the laboratory, research at Vale de Obidos provides the complex context of human activities. This interdisciplinary research results in an understanding of Upper Paleolithic society that moves beyond the isolated description of functions or behaviors.

**Mountjoy, Joseph (University of North Carolina at Greensboro), Nathan Mountjoy (I.N.A.H. (Mexico), James Luhr (Smithsonian Institution) and Sorena Sorenson (Smithsonian Institution)**

[169] *Social and Cultural Implications of Jadeite and Iron Pyrite Jewelry Recovered from the Middle Formative Cemetery at El Pantano, Jalisco (Mexico)*

National Geographic supported research at the El Pantano cemetery (2001-2003) has resulted in the excavation of 30 burial pits dated to approximately 800 B.C. and containing the skeletal remains of some 130 individuals. Many of these burials were accompanied by items of jewelry made of bone, rhyolite, quartz, malachite, iron pyrite and jadeite. In this paper we focus on what the technical analysis of the jadeite and iron pyrite reveals about long-distance relationships, and what the distributional analysis of burial associations, especially relating to the age and sex of the deceased, reveals about status differentiations within the population.

**Mountjoy, Nathan [169] see Mountjoy, Joseph**

**Moyes, Holley (State University of New York at Buffalo) and James Brady (California State University Los Angeles)**

[158] *Caves as Sacred Space in Mesoamerica*

Caves represented the most sacred spaces in Mesoamerica due to their association with the fundamental forces of earth and water. Rituals conducted in caves related to life, fertility and renewal. Their importance is reflected by the large number of caves that functioned as pilgrimage centers. Archaeological excavations have recovered evidence of extensive utilization throughout the region from the Formative Period to the present. As complex societies developed, emerging elites appropriated caves as powerful symbols of legitimacy. This is evidenced by the incorporation of both natural and artificial caves as central features in site core architecture.

**Moyes, Holley [103] see Craig, Nathan**

**Mt. Pleasant, Jane (Cornell University)**

[111] *An Agronomic Assessment of Indigenous Agriculture in the Northeast*

Intercropping of corn, beans and squash provided a stable and productive agricultural system for the Iroquois for several hundred years. Examining this polyculture from an agronomic perspective provides information about Iroquois knowledge systems and their ability to manipulate the environment. Intercropping mimics natural plant communities, providing substantial benefits to farmers. But the successful use of polycultures is surprisingly complex and reflects sophisticated understanding of crop growth and development, as well as an ability to manage dynamic interactions between different plant species and the environment. Field research on traditional polycultures will be presented in order to evaluate the system's agronomic performance.

**Mueller, Emily (University of Wisconsin-Milwaukee) and Scott Thomas (Burns District Bureau of Land Management)**

[83] *New Data on the Mortar Riddle Site (35HA2627), Steens Mountain, northern Great Basin, Oregon*

Over 100 hopper mortars were recorded at the Mortar Riddle site on the Steens Mountain, Oregon. The first subsurface testing at the site, conducted July 2003, produced a large

subsurface assemblage including bone, charcoal, lithic tools and debitage, and over 60 projectile points from six test pits, indicative of occupation throughout most of the Holocene. This paper addresses the significance of recovered and recorded artifacts, spatial-temporal context, and resource exploitation at the site. This project, funded by the Bureau of Land Management, adds to our understanding of the Riddle Brothers Ranch Historic District, and the larger Steens Mountain area.

**Mueller, Jennifer [72]** *see Duff, Andrew*

**Mueller, Raymond (Richard Stockton College of NJ) and Arthur Joyce (University of Colorado, Boulder)[84]** *Buried Archaic Sites in the Nochixtlan Valley, Oaxaca, Mexico*  
Extensive investigation of arroyo exposures in the Nochixtlan Valley revealed the ubiquitous presence of numerous buried paleosols. These exposures revealed buried sites at multiple locations in the form of walls, hearths, and worked stone. Radiocarbon dating of paleosols and other evidence point to an Archaic period age for some of these locations. Geomorphologic research shows that site burial occurred as a result of upland erosion due largely to anthropogenic impacts during the Formative and Classic periods. The paper discusses the implications of geomorphologic research to better understand early occupations in the region and suggests alternative methods for settlement research.

**Muldoon, Mark [2]** *see Isaac, Andrew*

**Muller, Wolfgang (The Australian National University), Henry Fricke (Colorado College), Alex N. Halliday (ETH Zurich), Malcolm McCulloch (The Australian National University) and Jo-Anne Wartho (Curtin University of Technology)**

[13] *Origin and migration of the Alpine Iceman revealed by combined stable and radiogenic isotopic tracing*

The Alpine Iceman provides a unique window into the European Neolithic-Copper age. We compared the isotopic composition (Sr-Pb-O-C) of the Iceman's teeth and bones, and <sup>40</sup>Ar/<sup>39</sup>Ar mica ages from his intestine, to local geology and hydrology, and obtained insights into his child- and adulthood. Oxygen isotope data indicate that the Iceman lived his entire life south of the Alpine watershed. The isotopic record of enamel, bones and intestinal content reveal that he migrated during adulthood, but remained on soils covering gneisses and phyllites. His origin can be restricted to a few valleys within ~60 kilometers S(E) of the discovery site.

**Munger, Dawn [156]** *see Amick, Daniel*

**Muñoz, Arturo (University of Arizona) and Charles William Golden (University of Pennsylvania)**

[160] *The Conception and Construction of Status among the Classic Period Maya*

Interpretations of ancient Maya society are dominated by simplistic notions of class focusing on the distinction between elites and non-elites, with a one-to-one correlation between wealth (as revealed in burial furniture) and status. In this paper we focus on individual and group status as a dynamic process resulting from competition, which often left material remains through the consumption of finery in conspicuous displays typically dubbed termination or dedication deposits. By focusing competition, we develop a more nuanced picture of Maya social organization, presenting elites as a factious group whose patterns of consumption legitimated their status and blurred socio-political identities.

**Muñoz, René [119]** *see Scherer, Andrew*

**Munro, Natalie (University of Connecticut)**

[94] *Tortoise Taphonomy: Insights into Human Demography, Consumption and the Curation of Animal Bone at the Transition to Agriculture in Southwest Asia*

The Mediterranean spur-thighed tortoise (*Testudo graeca*) made a significant contribution to human diets throughout the Paleolithic and Neolithic periods in Southwest Asia. Analyses of tortoise remains from the southern Levant and the Zagros region provide insight into human demography and economy at the transition to agriculture. First, the relative abundance of tortoise remains in relation to other small prey and shifts in average tortoise body-size provide informative measures of human demographic pressure. Second, taphonomic analyses of tortoise carapace, plastron and limb bones illustrate variability in human modes of butchery, consumption, and the curation of tortoise shells for secondary uses across this transitory period.

**Munro, Natalie [55]** *see Bar-Oz, Guy*

**Munson, Cheryl Ann (Department of Anthropology, Indiana University), Patrick J. Munson (Department of Anthropology, Indiana University), Leslie L. Bush (Glenn A. Black Laboratory of Archaeology, Indiana University) and A. Gwynn Henderson (Kentucky Archaeological Survey)**

[101] *Overview of the Bone Bank Archaeological Project, Posey County, Indiana*

The Bone Bank archaeological site, named by historic Wabash River travelers for the Mississippian cemeteries eroding from the riverbank, was the locus of Indiana's first archaeological excavations in 1828. The primary component represents one of the largest villages of the protohistoric Caborn-Welborn culture (A.D. 1400-1700). Although long considered destroyed, riverbank surveys and test excavations in the 1990s revealed buried midden deposits and several surviving pit features. Geomorphic reconstruction of the site remnant guided the first state-funded rescue excavations in 2000-2001. Analyzed data sets for stratigraphic comparison of Caborn-Welborn village refuse include ceramics, fabric impressions, botanical remains, and radiocarbon dates.

**Munson, Marit K. (Trent University)**

[176] *Rock art without rocks: Archival and museum collections from North America*

Records of rock art have been produced by explorers, archaeologists, and artists for hundreds of years, providing a rare look at rock art sites through time. This paper reviews important collections of images and written descriptions from archives and museums across North America, highlighting their utility in understanding the changes that have affected rock art in historic times.

**Munson, Patrick J. [101]** *see Munson, Cheryl Ann*

**Muntz, Isabella [23]** *see Schurmans, Utsav*

**Murakami, Tatsuya (Arizona State University)**

[118] *Technological and Ideological Dimensions of Craft Production: A Preliminary Analysis of Green Stone Material from the Moon Pyramid Complex, Teotihuacan*

This study presents a preliminary analysis of green stone material recovered from burials and construction fill at the Moon Pyramid Complex and explores implications for the study of Teotihuacan lapidary industry. I will concentrate on the technological aspects, including raw material, style, technique of manufacture, and size variability, taking into consideration spatial and temporal changes and organization of production. I will also compare these data with green stone artifacts recovered from the Feathered Serpent Pyramid. The evidence suggests possible preferences for raw material usage, restricted distribution of green stone objects, and a relatively high degree of standardization of certain objects.

**Murphy, Kimmarie (Grand Valley State University)**

[30] *Skeletal Analysis of Individuals from the Norton Mounds Middle Woodland Site, Kent Co., MI*

Michigan lacks an abundance of prehistoric skeletal material and analyses of Middle Woodland skeletal material are limited relative to the volume of data from sites in Illinois and Ohio. To address this situation, individuals from Norton Mounds (c. 2000 B.P.) are examined. Dental remains are characterized by extensive tooth wear and defects of dental enamel. Vertebral degenerative changes among adults are common. Cribra orbitalia is prevalent among the juveniles. Several juveniles exhibit postcranial proliferative lesions. The observed health patterns contribute to a more comprehensive understanding of life in prehistoric Michigan and allow for comparisons with other regional Middle Woodland populations.

**Murphy, Melissa [147]** *see Gaither, Catherine*

**Murray, Matthew (University of Mississippi)**

[52] *The Local Contexts of Cultural Change: Deriving Reliable Models from Small-Scale Landscapes*

Models of cultural change in temperate Europe are often derived from disparate data sources. Ad hoc attempts to characterize the past based on information from excavated but scattered sites neglect local archaeological sequences that are more reliable records of cultural change. This paper presents data gathered from a small-scale archaeological landscape between the Danube

and Isar river valleys in southeastern Germany. It focuses on the transition from the late La Tène to the middle Roman period (ca. 200 B.C. to A.D. 200) and allows an examination of change in frontier and interior contexts across a physically and culturally contiguous landscape.

**Murtha, Timothy [27]** *see Webster, David*

**Murtha, Timothy (Department of Behavioral / Social Sciences)**

[21] *A Thin Line between Gardens and Fields: Classic Maya Settlement and Agriculture*

Traditional approaches to Classic Maya settlement and agriculture emphasize a distinction between in-fields and out-fields. In-fields, or gardens, are characterized as the land immediately surrounding households devoted to specialized crop production. Out-fields, on the other hand, are described as agricultural plots not located near households dedicated to staple crop production. This paper evaluates in-fields and out-fields in the context of intensified terraced agriculture at the Classic Maya site of Caracol, Belize. The data clearly suggest that such a distinction may not be appropriate at Caracol, and that household gardens were linked to the field systems immediately surrounding Late Classic households.

**Myer, Jennifer [170]** *see Dumas, Ashley*

**Myers, Bethany (Pennsylvania State University)**

[189] *The Rise of Tlaloc: Private Worship at the Templo Mayor*

The vast quantity of offerings found in and around the Templo Mayor has been a subject of great interest since the late 1970s. Previous authors have suggested, based on the contents and placement of offering assemblages, that Tlaloc was subordinate to Huitzilopochtli. A reexamination of these offerings contradicts the hierarchy of these two gods to whom the Great Temple is dedicated, suggesting instead, in this case, that these two deities were considered equal in stature and significance.

**Myers, Thomas P. (University of Nebraska State Museum)**

[111] *Hominy Technology and the Emergence of Mississippian Societies*

The rise of large, stable populations in eastern North America after A.D. 800 is attributable to the increased productivity of maize agriculture in association with hominy technology that utilized upright cylindrical wooden mortars and heavy wooden pestles to release essential nutrients through the addition of alkali. The shift to mortar and pestle technology is associated with the abandonment of slab metates and change in food storage patterns. Physical changes include a dramatic increase in female arm strength, an increase in the deltoid tuberosity of females, and changes in tooth enamel microwear patterns.

**Myster, Susan (Hamline University) [76]** *Discussant*

**Naga Research Group, Michael Dega [167]** *see Vannary, Mam*

**Nagaoka, Lisa (University of North Texas)**

[35] *Carnivore attrition of fish remains in northern New Zealand*

The effects of carnivore attrition on faunal assemblages have been documented and discussed extensively in New Zealand archaeological literature for large taxa such as seals and moas. However, the extent with which fish remains in the region are affected by carnivore consumption has not been studied. To determine if fish assemblages in New Zealand are biased by carnivore attrition, I examine variables such as frequency of gnaw marks, skeletal element representation, and fragmentation patterns, on a fish assemblage from the Kokohuia site. The implications for subsistence interpretations are discussed.

**Nahrgang, Kris (Kawartha Nishnawbe First Nation)**

[177] *Protecting First Nations History and Archaeology Under the Trent-Severn Waterway*

In the late 1700's thousands of acres were flooded to accommodate Ontario's logging industry. The result is the Trent-Severn Waterway which spans 386 kilometres. The history of my culture is now preserved underwater, buried in the silts of time. The threats of development and looting have left sites extremely vulnerable. Working with a lack of funding and Government interest has left us in a volunteer situation. Burial mounds, village sites, petroglyphs and a history dating back to the end of glacial dominance lay beneath the waves. Documentation, awareness and protection is our mandate as we attempt to educate the world.

**Nakamura, Oki (Sainsbury Institute)**[182] *Inequality and social stratification in Jomon burial practices*

In the Late and Final Jomon (c. 2000-800 BC), inequality of burial practices increased remarkably in eastern Honshu and Hokkaido: a handful of people were buried with sophisticated grave goods, such as jade beads, shell bracelets and stone rods. The few rich child graves with jade pendants indicate that this inequality was becoming hereditary. Rapid changes in grave goods and methods of disposal of the dead perhaps reflect competition to create new status symbols by elites. This paper examines the possibility that social complexity and social stratification led to inequality and changes in Jomon burial practices.

**Nance, C. Roger (UCLA) and Jan de Leeuw (UCLA)**[93] *The Obsidian Blade Sequence for El Ujuxte, a Late Preclassic Center*

Systematic data on ca. 1200 blades El Ujuxte were summarized in terms of three ceramic phases (defined by Love 2002) for the same site. That is, blades were assigned to phases based on the ceramic content of their proveniences. Regular phase-by-phase decreases were found in blade dimensions, weights, and length:width ratios, and these results had been predicted based on early findings from La Blanca (Nance and Kirk 1991). The blade sequence is discussed as the result of increased scarcity of obsidian traded to the region. The possible impact of increased inadvertent, post-use breakage is considered also.

**Nash, Donna (The Field Museum) [71] Discussant; [71] see Blom, Deborah****Nash, Donna J. (The Field Museum) and Patrick Ryan Williams (The Field Museum)**[153] *Fine Dining and Fabulous Atmosphere: Feasting Facilities and Political Interaction in the Wari*

Feasting is currently considered a significant component of political activities in archaic states. Several feasting venues and associated preparation areas have been recovered from the Wari sites, Cerro Baul & Cerro Mejia, on the state's periphery in southern Peru. Elaborate meals were prepared for important ritual and social gatherings and established social contracts, political ties, and hierarchies. Feast meals and accoutrements varied depending on their context. This paper takes a comparative approach to illuminate the archaeological markers of feasting in different venues and its relationship to political control in the Wari state.

**Nash, Stephen (The Field Museum)**[37] *Lyndon Lane Hargrave: Of Birds, Trees, and Humans*

During a career that spanned six decades, Lyndon Lane Hargrave (1896 - 1978) was variously employed in the American Southwest as a hydrographer, archaeologist, ornithologist, assistant Museum director and curator, and businessman. Archaeologically, Hargrave made significant contributions to the development of archaeological tree-ring dating, ceramic taxonomy and seriation, and archaeozoology. In this paper, I examine in particular the brilliant inductive reasoning and insights Hargrave made during the 1920s effort to bridge the gap in A.E. Doulgass' tree-ring chronology. For a variety of institutional, sociological, political, and perhaps personal reason, Hargrave never received the credit he deserved for these efforts.

**Nauman, Alissa (Washington State University) and Andrew Duff (Washington State University)**[66] *The Founding, Growth, and Decline of the Cox Ranch Community, A Chaco-Period Settlement on the System's Southern Frontier*

The Chacoan Regional System, a widespread network of communities with its center in Chaco Canyon, reached its apogee between A.D. 1050-1130. We use data from two seasons of survey and one season of excavation to develop an occupational chronology for Cox Ranch Pueblo, a multiple roomblock settlement with a Chacoan Great House, and its surrounding community. These data suggest a largely contemporaneous community was founded in an area with little previous occupation during the period of Chacoan expansion. Seriation also suggests that Cox Ranch Pueblo and surrounding settlements were depopulated as the Chacoan regional system waned in the mid-1100s.

**Nauman, Alissa [72] see Duff, Andrew****Neal, Ed (University of North Carolina) [76] Discussant****Neeley, Michael P. (Montana State University), John W. Fisher, Jr. (Montana State**

**University), James G. Schmitt (Montana State University), David F. Pac (Montana Fish, Wildlife, and Parks) and Scott J. Patterson (Montana State University)**

[75] *The Marias River Project: Cultural and Natural Landscapes*

Prehistoric sites located in valley bottom and nearby upland settings of the Marias River in northern Montana provide evidence for a wide range of human adaptive strategies. Biological and geological investigations indicate a dynamic physical environment, with correlations between landform types and plant communities. This is best represented by the continuously sculpted alluvial valley bottom and associated coulee systems that offered a changing constellation of resources not available in upland plains settings. This poster examines changes in the cultural, biological, and geological landscapes of the Marias drainage in the context of test excavations at sites 24CH887 and 24CH301.

**Neff, Hector (CSU Long Beach) and Barbara Arroyo (Del Valle de Guatemala)**

[93] *Archaic and Early Formative Human Adaptations on the Pacific Coast of Guatemala*

The first archaeologically visible (Early Formative) occupation of the Pacific coast of Guatemala shows a clear focus on resources of the lower coastal plain, especially the mangrove estuary zone. Recent research has found paleoenvironmental evidence of Archaic Period precursors of this Early Formative adaptation and provided new evidence bearing on Early Formative settlement patterns and community structure. Key results from the paleoenvironmental, archaeological, and geophysical components of this research program are summarized in this paper.

**Neff, Hector** [124] see *Freckleton, Iain*; [126] see *Benco, Nancy*; [3] see *Thieme, Mary S.*; [93] see *Kennett, Douglas*; [93] see *Tejeda, Ana*

**Neiman, Fraser (Monticello)**

[62] *An evolutionary game-theoretic perspective on slave housing in the Chesapeake Region*

Recent work in evolutionary game theory reveals how phenotypic assortment and the punishment of defectors may render cooperation evolutionarily stable. I discuss how current models can help us understand the trajectory of change in slave houses and the multiple subfloor pits that enslaved people dug beneath them in the Chesapeake Region during the 18th and early 19th centuries. The key hypothesis, evaluated here using archaeological data, is that by storing personal resources in highly visible subfloor pits, Chesapeake slaves made knowledge about access easily available to coresidents, lowering the costs of detecting and punishing defectors.

**Neivens, Nina (Holmul Archaeological Project)**

[186] *Back to Square One: Re-examining the Protoclassic Maya in Building B, Group II Holmul*

Holmul, initially excavated by Raymond Merwin in 1911, is known for its flourishing Protoclassic period. His work in Building B, Group II revealed a complex sequence of temple rooms, tombs, and other burials spanning the Protoclassic, Early Classic, and Middle Classic periods. In 2003, we began re-examining the building's remarkable architecture and uncovered further Protoclassic remains left unexcavated by Merwin. The new skeletal, ceramic, and artifact assemblage allow us a radiometric dating for the earliest Holmul I context and a refinement of the early part of the site's chronological sequence.

**Nelson, Ben (Arizona State University) [19] *Discussant***

**Nelson, Ben A. (Arizona State University)**

[60] *Monumentalizing the House in Ancient Zacatecas, Mexico*

This paper explores how the residents of one house compound at the frontier site of La Quemada (AD 500-900) sacralized their dwelling place. Adhering to a symbolic program adopted from the Mesoamerican core, they simultaneously transformed community identity, negotiated social position, and drew civilization outward from its core. These actions are visible in the selection of site location, layout, and elements replicated at varying scales in patios, houses, temples and ball courts. This compound is one case on the continua of monumentality within and among communities from central Mexico to the American Southwest. Such variation is relevant to understanding monumentalization as a proactive practice and a long-term process.

**Nelson, Katherine 'Kit' (Tulane University)**

[28] *Cooking strategies and Fishing Economies: Past and Present*

Coastal adaptations include not only food-getting strategies, but food preparation strategies as well. By exploring the types of cooking and storage of foodstuffs concerning ethnographic

literature about coastal peoples, a better understanding of prehistoric processes may be obtained. The patterning identified in ethnographic literature is then applied to coastal adaptations of Prehistoric Peru and the results used to discuss Pre-ceramic and Early Initial Period archaeological features and adaptations of the Central Coast.

**Nelson, Sarah (University of Denver)**

[157] *Gender in Archaeology--What's the Agenda?*

In the beginning, gender in archaeology had multiple agendas, from equity issues for women archaeologists to insisting that women in the past were important, to considering relationships between women and men in the past. Equity now seems to be taken for granted, although various data suggest that equity issues are not completely settled. To judge from the number of recent publications, women's roles and activities in the past are no longer being slighted. But who is reading them? What is at stake? Is there still a feminist issue? I suggest that there is, although it has become more subtle.

**Nelson, Sarah [44]** see *Pak, Yangjin*

**Nelson, Zachary (Penn State University)**

[27] *Population Estimate for Piedras Negras, Guatemala*

The intent of archaeology is to reconstruct the past. An important component of any reconstruction is knowing the number and types of buildings found within the settlement zone. Additionally, the process of mapping a landscape opens the way to estimate the number of people that the landscape could support anciently with particular reference to Piedras Negras, Guatemala.

**Neme, Gustavo Adolfo [86]** see *Gill, Adolfo Fabian*

**Nepstad-Thornberry, Curtis (University of Colorado) and Steve Lekson (University of Colorado)**

[135] *Tracing 13th Century Anasazi Migrations into Southwestern New Mexico*

Despite renewed interest in the use of migration as an explanatory tool in the Southwest, some researchers remain reluctant to accept the possibility that San Juan communities moved into southwestern New Mexico after the abandonment of the Mesa Verde region. The convergence of evidence from Gallinas Springs and Pinnacle Ruin points to a migration of non-local groups into southwestern New Mexico. The evidence, comprised of carbon-paint pottery, coursed masonry architecture, kivas and faunal and floral remains, supports the assertion. Moreover, the migration may have been in the context of the collapse of a semi-complex society at Chaco and, perhaps, linked to the rise of Casas Grandes.

**Neri, Lee Anthony (University of the Philippines)**

[8] *Obsidian in Philippine Archaeology: Artefacts, Distribution, and Sourcing*

Obsidian study is new in Philippine and Southeast Asian archaeology. This paper will survey all known and possible obsidian sources in the Philippines and obsidian materials recovered in an archaeological context. Chemical analyses of the identified obsidian sources in the Philippines, particularly in the Luzon area, were done using X-ray fluorescence spectroscopy (XRF), and are used as a database for obsidian trade chemical studies. The paper shows the significance of obsidian analysis as a good indicator of cultural and human movement in antiquity.

**Nesbitt, Mark [108]** see *Savard, Manon*

**Netherly, Patricia J. (University of Kentucky, Lexington)**

[120] *Andean Archaic States: The Regional Polities of the Jequetepeque and other Valleys of the North Coast of Peru*

Archaeologists have long recognized the presence of archaic or pre-modern states in the Andean region including the Peruvian North Coast. However, theoretical models of the form and function of such polities and their archaeological footprint have been largely drawn from Mesopotamian and Mediterranean models. For this reason, the archaeological study of state-level polities of the North Coast has ignored the available information on the political organization of these states and has failed to consider either the functions they fulfilled or the institutional organization of these functions. A reexamination of the information available will explain apparent gaps in the archaeological data and establish the Andean contribution to the worldwide record on pre-modern states.

**Neuzil, Anna (University of Arizona/Center for Desert Archaeology) and Barbara J. Mills (University of Arizona)**

[135] *The Baby Learns to Walk: Modeling the Scale and Social Consequences of Migration*  
Although numerous scholars have participated in the reinvigoration of migration research in archaeology in the last 15 years, this research has focused almost exclusively on refining methods for detecting migration in the archaeological record. As a result of this research, particularly in the Greater Southwest, migration studies can now be taken a step further to understand the social consequences of migration on both migrant and indigenous populations. In this paper, we present a model of the social scale of migration and its results impacts, building on previous and current research over much of the Southwest.

**Neves, Eduardo (Universidade de Sao Paulo) and James Petersen (University of Vermont)**

[132] *Pre-Colonial Warfare in the Amazon and Orinoco*  
Ethnologists working in the Amazon proposed that warfare among local Amerindian societies would be related to the European conquest. Archaeological evidence of pre-colonial warfare in different parts of the Amazon and Orinoco basins falsifies such claim. We propose that warfare in pre-colonial Amazon is correlated to the socio-political changes that happened there from ca. 3000 BP on, including the emergence of chiefdoms. However, contrary to some of the classical models of chiefdom development, warfare here can also be seen as reactive mechanism against political centralization, since other factors than territorial expansion or slaving seem to be related with it.

**Neves, Eduardo G.** [168] see Arroyo-Kalin, Manuel A.; [168] see Petersen, James B.; [168] see Pinto Lima, Helena; [168] see Machado, Juliana Salles; [168] see Bartone, Robert N.

**Neves, Walter** [168] see Araujo, Astolfo

**Newell, Gillian (University of Arizona)**

[3] *Excavating memory: How Mexican archaeological tour guides negotiate and disseminate national identity and archaeological history.*

A strong relationship exists between archaeological remains and a nation-state's symbolic, political power. In my dissertation research, I explored how tour guides at the Mexican archaeological sites of Teotihuacán and Tula negotiate and disseminate national archaeological history and national identity. I researched: 1) how tour guides' local, everyday knowledge articulates with the professional knowledge; 2) how visitors receive the tour guides' narratives and interact with the official messages presented at archaeological sites. These objectives open a window onto larger questions into the role of archaeological remains and the discipline of archaeology in Mexican nation-state formation and identity politics.

**Newlander, Khori S. (Hamilton College), Kaylan A. Hubbard (Hamilton College), David G. Bailey (Hamilton College), Charlotte Beck (Hamilton College) and George T. Jones (Hamilton College)**

[31] *Biased or Neutral Lithic Procurement by Great Basin Paleoarchaic Foragers?*  
Paleoindian archaeologists commonly use geologic source provenance of stone tools to infer patterns of material conveyance and territory size based on the assumption that the transport cost and quality of raw material exert significant constraints on mobility options. Brantingham (2003) argues instead that empirical patterns often demonstrate that foragers were relatively indifferent to procurement constraints and that patterns of source representation are better accounted for by random encounters with stone sources. Focusing on a Paleoarchaic lithic artifact record from the central Great Basin, we evaluate if source representation suggests neutral or biased selection patterns.

**Newman, Bonnie (New Mexico State University) and Lawrence Loendorf (New Mexico State University)**

[187] *Deterioration of Paints Derived from Mineral Sources, Pinon Canyon Maneuver Site, Colorado*

Pictograph paint color depends upon pigment grain size and the orientation of the inclusive minerals' crystal structure. Change in the appearance of paint over time from factors such as water and light-induced fading is examined. Experimental paint samples derived from mineral sources within the Pinon Canyon Maneuver Site, Colorado, are mixed with various binders and applied to sandstone. Changes in paint color resulting from exposure are measured with a standard Munsell Color Chart. Results of this on-going research will provide data applicable to the

conservation of rock art images.

**Newman, Lynn (ADECCE, Fort Drum), David Babson (Syracuse University Department of Anthropology) and Laurie Rush (Cultural Resources, Public Works, Fort Drum)**

[100] *The Spillway and the Brickyard: Discovery of an Industry in the Abandoned Village of LeRaysville at Fort Drum, New York*

Construction monitoring discovered a brickyard in LeRaysville, a village abandoned when Fort Drum was established in 1940. This industry is not mentioned in any historical documents or maps. Analysis of bricks recovered connects the site to the LeRay Mansion and other 19th century structures. In addition to its potential as a commercial facility, this brickyard may have been used by local residents who needed bricks to line their chimneys, ovens, and hearths. This poster presents results of architectural analysis of the brickyard archaeological site and its relationship to early brick construction throughout the region.

**Newman, Margaret [75]** see *Pelly, Lorine*

**Newsom, Lee A. (Penn State University) [161]** *Discussant*

**Newsom, Lee (Penn State University)**

[136] *Caribbean maize: current research on the archaeology, history, and biogeography.*

Well-preserved archaeological cob fragments and morphologically distinct types of kernels of *Zea mays* have been recovered from two locations in the Caribbean Islands, in both cases associated with cultural materials of a style characteristic of the relatively late, fully developed Taino Indian culture (ca. 800 A.D. and later). Recent analyses of plant microremains from the Caribbean provide tentative additional evidence for the presence of maize in the region, possibly extending the time range for the plant's presence into earlier periods. This paper reviews the present archaeological evidence for maize in the archipelago and compares this information with relevant ethnohistoric records.

**Newsom, Lee A. [136]** see *Oyuela-Caycedo, Augusto*

**Ng, Tommy (Hardlines Design Company/University of Leicester)**

[30] *The Study of Fire-cracked Rock and its Archaeological Research Potential, A Case Study From Site 33Ro616, Ross County, Ohio, U.S.A.*

In the Mid-Ohio Valley, fire-cracked rock (FCR) is an ubiquitous artifact class that is thought to have little research potential. However, FCR studies from Alberta (Brink et al. 1986) and experiments conducted by Papaoulatos (1992) demonstrated the additional research potential of FCR in terms of procurement strategies and occupation duration. This project reviews various FCR studies and experiments and examines whether they are applicable to the Eastern Woodland archaeology of the Mid-Ohio Valley. Data from 33Ro616, a multi-component site located near the confluence of Salt Creek and the Scioto River in Ross County, Ohio, will serve as a case study.

**Nials, Fred [33]** see *Galm, Jerry*

**Nicholas, Linda M. [133]** see *Underhill, Anne P.*

**Nichols, Deborah (Dartmouth) [179]** *Discussant*

**Nichols, Deborah [102]** see *Hendrickson, Lauren*

**Nicholson, Bev (Brandon University), Dion Wiseman (Brandon University), Scott Hamilton (Brandon University) and Sylvia Nicholson**

[187] *When Gardening Failed in a New Land: Challenges and Changes*

Vickers Focus people practiced a mixed foraging/gardening economy in the Tiger Hills in southwestern Manitoba. Small seasonal sites were identified and interpreted as satellites of the Lowton site. These people emigrated to the area circa A.D. 1400. They left the Tiger Hills and reappeared further west in the Lauder sandhills 100 years later, following an intensive foraging lifeway. They began to exploit bison more intensively and this trend is intensified in the Sanderson site in southeastern Saskatchewan. Relocation and an altered lifeway appears to result from drastic acceleration of the little ice-age cooling trend.

**Nicholson, Christopher (Washington State University)**

[94] *Small-Game Utilization Among the Ache of Eastern Paraguay: A Study of Taphonomy in Ethnoarchaeology*

Taphonomic evidence from ethnoarchaeological faunal assemblages constitute an important frame of reference for the analysis of cultural damage displayed in zooarchaeological assemblages. Thus, a faunal assemblage collected from the Ache foragers represents a unique opportunity to document and quantify small-game taphonomy in an ethnoarchaeological setting. This research investigates taphonomic trends associated purely with humans. Because Ache hunters return small-game intact to campsites, it is possible to ignore selective transport arguments and focus upon the effects of human consumption (i.e. toolmarks, burning, fragmentation) on skeletal elements. A highly significant, positive correlation exists between taphonomic attribute and the average weight per animal.

**Nicholson, Sylvia [187]** see *Nicholson, Bev*

**Nicodemus, Amy (Florida State University)**

[123] *Animal Economy and Social Change during the Late Neolithic-Early Copper Age Transition on the Great Hungarian Plain*

The transition from the Late Neolithic to the Early Copper Age on the Great Hungarian Plain is marked by a number of significant changes in social organization, including household structure, settlement patterning, trade networks, and mortuary practices. However, concurrent changes in the animal economy have not been explored previously in detail. An examination of the faunal remains from the Early Copper Age settlement of Vésztő-Bikeri sheds light on the relationship between animal management strategies and other social changes occurring during this period. The analysis highlights changes in the relative importance of species, herd structure, and spatial patterning.

**Nicolay, Scott (Easter Island Foundation) and James Brady (California State Los Angeles)**

[158] *Footsteps in the Dark Zone: Ritual Cave Use in Southwest Prehistory*

Ethnographic accounts associate caves in the Southwest with group origins and the concept of fertility. Numerous archaeological reports have documented caves as shrines or ceremonial sites. Artifacts associated with Pueblo ritual activities have been recovered but a ritual cave assemblage has yet to be identified. Comparison of the assemblages recovered at ritual cave sites suggests a range of activities took place within these features. This paper represents a preliminary attempt to synthesize the cave data to present a comprehensive overview of Southwestern ritual cave use.

**Nielsen, Axel (CONICET, Argentina)**

[132] *Warfare and Social History in the South Andes AD 1200-1450*

The pre-Inka era was a time of endemic warfare in the South Andes. Drawing on archaeological and ethnohistorical evidence, this paper analyzes the consequences of these conflicts for the peoples of the Circumpuna highlands (southern Bolivia, northern Chile, northwest Argentina), seeking to understand how cultural frameworks influenced the practice and social effects of war. It is argued that warfare provoked a shift toward corporate modes of political action that combined feasting and ancestor veneration, endowing ancient practices with new political significance. The resulting social formations achieved integration in an unprecedented scale for the region.

**Niemi, Karen (Panamerican Consultants, Inc.)**

[81] *Contextualizing developments in the prehistoric social organization of Rivas Nicaragua*  
Social complexity emerged within the Rivas region of Pacific Nicaragua between 300 and 800 AD, followed by a restructuring of this organization from 800 to 1522 AD. This paper examines Rivas within a greater sociopolitical and economic context and explores the extent to which interregional relationships were a factor in the sociopolitical development of the region. The difficulties encountered when comparing data concerning social organization from the surrounding regions of Pacific Nicaragua and northwest Costa Rica is also discussed.

**Nieto, Davis [66]** see *Waseta, Jeffery*

**Niquette, Charles (Cultural Resource Analysts, Inc.) [171] *Discussant***

**Nisengard, Jennifer (OU and Los Alamos Nat'l Lab), Kimberly Henderson (University of Denver and Los Alamos Nat'l Lab) and John Isaacson (Los Alamos National Laboratory)**  
 [185] *Ground Penetrating Radar on the Pajarito Plateau, Northern New Mexico: Survey Results and Future Directions*

Archaeologists from Los Alamos National Laboratory (LANL) conducted eighteen Ground Penetrating Radar (GPR) surveys at sites scheduled for excavation across the Pajarito Plateau in northern New Mexico. These data were used to guide excavations at these sites. The surveys produced varying results and we found that data quality is impacted by conditions including ground moisture, the architecture at sites on the Plateau (specifically masonry rubble), natural topography, and user error. This paper provides an overview of three years of GPR surveys at LANL, the difficulties we have encountered, and some recommendations for others using GPR.

**Nishida, Masaki (Inst. of History and Anthropology, Tsukuba Univ.)**

[182] *Jomon as a stable society*

The oldest village site appeared in Japan Islands around 10000 years ago. There are the following characteristics in the Jomon society. 1) Most of villages are small. 2) Various food resources, which took by hunting/gathering/fishing/incipient cultivation, were used through the period. 3) Basic subsistence technology and village size during the period are almost same. This means that the Jomon society was highly stable. In comparison with west Asia and China continent, this is a unique character of initial domiciliation society in Japan Islands. So we have to ask how homeostasis of society was maintained during the Jomon period.

**Nissley, Claudia (CN Enviro Consultants)**

[89] *Consultation under ARPA, NAGPRA and Section 106 of NHPA*

Consultation with Native American tribes under the three federal statutes is problematical for both the federal employees who must comply with United States federal law and implementing regulations and the Native Americans who are attempting to protect their sacred sites. Is there an effective way to consult for the three laws with a mutually agreeable outcome for all parties? This paper explores a few case studies and interview results to provide some answers for those parties involved in protection and management of ancestral and sacred sites.

**Niu, Hung-jen (Harvard University)**

[154] *The Mongol Oboo- the Cairn: its Religious and Social Functions*

Oboo, a Mongol term, is the sacred stone mound on an elevated place, dedicated to heaven and local deities. Regions where oboo have dotted the landscape include Mongolia, Kalymk Mongol regions in Kazakhstan, Russia's Buryat Republic, and many Mongol areas in China. Different opinions have been expressed as to the origin and nature of oboo worship. In general, oboo is believed to protect the inhabitants in the vicinity and their herds. This paper focuses on the religious and social functions of oboo and the its changing forms in accordance with the Mongol society whose mobility patterns have changed over time.

**Niu, Hung-jen [44] see Pak, Yangjin**

**Niven, Laura (Universitaet Tuebingen)**

[2] *Carnivore-Hominid Interaction during the Middle and Upper Palaeolithic at Vogelherd Cave*  
 Carnivores make up a substantial portion of Middle and Upper Palaeolithic faunal assemblages from Vogelherd Cave, Germany. Competition between large carnivores and hominids for both prey and living space in caves makes it difficult to distinguish the role of each predator in the accumulation of faunas. Evaluation of age profiles, element frequencies, and bone modifications of carnivore and prey taxa from Vogelherd reflects intensive carnivore activity in the Middle Palaeolithic but less presence during the Aurignacian. Although primarily background fauna, small carnivores are also well-represented with some human utilization of fox evident in the Aurignacian.

**Njau, Jackson (Rutgers University) and Robert Blumenschine (Rutgers University)**

[42] *Crocodylian Damage On Large Vertebrate Bone Assemblages*

We present new diagnostic features for identifying crocodile damage to large mammalian bones under controlled observations of captive and free ranging Nile crocodiles. The study was conducted to understand crocodylian feeding behavior and patterns of bone modification. This paper provides taphonomic methods of distinguishing the mammalian carnivore bone destruction

behavior from that of crocodylians in archaeofaunal record. The results suggest that some of the fossil bones from Plio-Pleistocene archaeological sites at Olduvai Gorge, Tanzania, were tooth-marked by crocodiles. Their association suggests that crocodiles may have played important role in the formation of faunal assemblages during Oldowan times.

**Noble, Vergil (U.S. National Park Service)**

[156] *Managing National Historic Landmark Archaeological Sites: A View from the American Midwest*

National Historic Landmarks are cultural properties of paramount significance in illustrating broad themes related to American heritage, yet only about 17% of the nearly 2,500 NHLs are on Federal lands. Under authority of the Historic Sites Act of 1935, the National Park Service is charged with monitoring the condition of NHLs and providing their stewards with technical assistance for their continued preservation. In the Midwest, there are approximately 400 NHLs, or which about 70 are major prehistoric and historic archaeological properties. This paper outlines some of the critical management issues that pertain to NHLs, with particular reference to Midwestern cases.

**Nocerino, Eric [2]** see *Giesler, Jennifer*

**Noll, Michael [32]** see *Royer, Danielle*

**Nordt, Lee [15]** see *Hayashida, Frances*

**Norris, Susan (Fordham University)**

[189] *Aztec Obsidian Blade Production and Distribution: Evidence from Household Assemblages in Yauhtepec, Morelos*

Late Aztec period obsidian core-blade industries were part of a highly organized and integrated system, as indicated by the effective procurement and exchange of raw materials and the movement of finished goods through market networks. A technological analysis of over 20,000 obsidian blades and debitage excavated from houses in the urban center of Yauhtepec demonstrated that Aztec artisans employed diverse strategies in the organization of obsidian production and exchange. Household industries intensified through time, beginning in the Middle Postclassic and continuing into the Colonial period. Obsidian production traversed social classes and household organization.

**Norton, Christopher J. (William Paterson University, USA), Kidong Bae (Hanyang University, Korea), Jack Harris (Rutgers University, USA) and Bongwon Kang (Kyungju University, Korea)**

[24] *Hunter-Gatherer Lifeways in Korea during the Terminal Pleistocene - Early Holocene*

The current state of archaeological research in Korea that deals with the geological periods of the Terminal Pleistocene and Early Holocene will be reviewed. In particular, the transition from blade to microblade technology on the Korean Peninsula will be examined. Archaeological materials recovered from a number of Late Paleolithic Korean sites serve to shed light on the nature of this behavioural transition. The related subjects of subsistence and hunter-gatherer mobility strategies will be discussed as well, particularly in light of the marked paleoenvironmental changes that occurred between the Last Glacial Maximum (ca. 20-18 ka) and the advent of the Holocene Epoch.

**Nowell, April (University of Victoria), Michael Bisson (McGill University) and Carlos Cordova (Oklahoma State University)**

[59] *The Middle Paleolithic of the Wadi al-Koum, Jordan*

A survey of Middle Paleolithic sites was conducted in the Wadi al-Koum region in NW Jordan resulting in the identification of 8 open-air sites. Collected assemblages are attributable to Tabun B and C industries. Preliminary analysis of the collected material suggests a highly mobile technology where virtually all core reduction beyond preliminary testing seems to have taken place while hominids were on the move. Further investigation of low density open-air scatters of lithic knapping debris will be necessary to determine if the patterns observed at Wadi al-Koum are found elsewhere.

**Nystrom, Kenneth (University of New Mexico)**

[147] *Bioarchaeology of the Chachapoya region, Perú*

This paper begins with an overview the current state of knowledge concerning the bioarchaeology

of the people referred to ethnohistorically as the Chachapoya. Both the archaeological and ethnohistorical data are reviewed as they inform upon the characterization of the people and the region. Following this, I present new results based upon genetic heterogeneity modeling that captures shifts in population heterogeneity across space and time. These results are articulated with the former data sources, providing a clearer picture of the biological and social changes concomitant with Inka conquest of the Chachapoya region.

**O'Brien, Michael (University of Missouri-Columbia) and R. Lee Lyman (University of Missouri)**

[38] *Archaeological Systematics on the Great Plains*

Time, space, and form are the three most fundamental considerations in archaeology. Throughout the first half of the twentieth century, Americanists created a dizzying array of frameworks and units to control for time, space, and form. Some were short-lived, whereas others are still around in variant form. One framework was the Midwestern Taxonomic Method, proposed and developed largely through the efforts of W. C. McKern of the Milwaukee Public Museum. Despite its early promise to solve some of archaeology's thorny classificatory problems, the method was misused from the start, primarily because archaeologists did not understand what McKern was proposing. Nowhere was this more evident than on the Plains, where attempts were made to tie the MTM to the direct historical approach.

**O'Connell, James (University of Utah) [62] *Discussant***

**O'Connell, James F. (University of Utah) and Karen D. Lupo (Washington State U)**

[55] *Explaining Hadza Transport Patterns: Equifinality in Economic Measures of Selective Body Part*

Within the last few decades, research has challenged the usefulness of utility indices based solely on the nutritional yield of different skeletal parts. Ethnographic research implicates field processing and transport costs as important determinants shaping human transport decisions. However, it is not clear how these costs should be measured or applied to archaeological analysis in meaningful and measurable ways. Some economic measures that account for these costs correlate with part utility and have limited explanatory potential. Transport data of female impala and zebra derived from observations of contemporary Hadza huntergatherers are used to identify values with explanatory value.

**O'Connor, Susan [158] *see Pannell, Sandra***

**Odegaard, Nancy [130] *see Moreno, Teresa***

**Oetelaar, Gerald (University of Calgary)**

[63] *Lost Landscape, Lost Culture: Understanding Blackfoot Perceptions and Uses of the Landscape on the Northern Plains*

For Blackfoot communities, landscapes include the names, oral traditions, stories, and ceremonies associated with the natural features of a region. This cultural landscape is thus an archive that establishes the continuity between ancestral beings, social groups, resources, and the land. The archive also includes codes of ethical conduct toward the land, the people and the resources. At the time of contact, Euro-canadian explorers appropriated the places but did not incorporate the associated myths, oral traditions, and stories. In the process, Blackfoot communities lost not only a series of place names but also a critical link to their culture.

**Ogburn, Dennis (UC Berkeley)**

[137] *Human Trophies in the Late Prehispanic Andes: Display, Propaganda and Reinforcement of Power among the Incas and Other Societies*

The use of human trophies in the late prehispanic Andes (Late Intermediate Period to Late Horizon in Peru) is examined via ethnohistorical data. The taking of human trophies by the Incas is situated within the context of its manifestation among other late prehispanic Andean societies. The Incas created a variety of trophies, including heads, skull cups, and skin drums, the display of which served as propaganda intended to send messages to Inca elites as well as to non-Inca elites and commoners in the conquered provinces. Evidence also suggests that non-elite soldiers collected and displayed trophy heads to enhance individual status.

**O'Gorman, Jodie (Michigan State University), Megan McCullen (Michigan State University), Shaun Phillips (Michigan State University) and Amy Roache (Michigan State University)**

[30] *Application of GIS to Delineate Space, Time and Ethnicity at the Contact Period Marquette Mission*

Great Lakes contact period communities were often of relatively short duration with variable ethnic groups and shifting site use patterns. It can be extremely difficult to decipher the resulting archaeological palimpsest. However, comprehensive understanding of cultural interactions is hindered without the ability to identify ethnically-linked space and material remains over time. Such difficulties plague interpretation at the Marquette Mission site at the Straits of Mackinac. Here Tionontate Huron, Odawa, French Jesuits and military inhabitants are documented historically and may be represented in the material remains, but spatial and temporal factors are problematic. We present results of our GIS-based preliminary study.

**O'Hara, Michael (SWCA Environmental Consultants)**

[140] *Basketmaker II Occupation of the Carrizo Wash Drainage in East-Central Arizona*  
SWCA excavated five sites with Basketmaker II components along Carrizo Wash. These sites varied from limited activity sites with thermal features and processing pits to habitation sites with multiple pit structures and large storage pits. All of the sites had abundant macrobotanical maize remains. AMS dates obtained from maize indicated occupation and use of these sites between 800 B.C. and A.D. 130. The sites suggest a Basketmaker II settlement pattern that was focused on the agricultural lands of the Carrizo Wash floodplain and consisted of seasonal habitations and limited activity sites associated with maize agriculture.

**O'Hear, John W. (Mississippi State University) and Jay K. Johnson (University of Mississippi)**

[64] *European Trade Items from Chickasaw Sites*  
Items of European manufacture are commonly found on Chickasaw village sites in Mississippi. While hundreds of pieces, excluding beads, are present in collections from the 1939 to 1941 National Park Service excavations, the assemblages differ from most contemporary assemblages in the southeast by a virtual absence of European ceramics and glass. These 18th assemblages primarily consist of metal tools, copper containers and their by-products, and heavily salvaged and reworked gunparts. This paper presents the results of an analysis of these materials that shows significant trends through time in the amount and character of assemblages within and between individual village locations.

**O'Hear, John W. [64] see Johnson, Jay K.**

**Ohnersorgen, Michael (Arizona State University)**

[60] *New Investigations into Aztatlan Social and Economic Organization Field Research at Chacalilla, Nayarit, 2003*

The nature of social relations and economic interactions within the Postclassic Aztatlan tradition of West and Northwest Mexico has been the subject of much prior speculation but has received little systematic investigation. It is argued that a better understanding of West Mexican community-level sociopolitical and economic organization is required to provide further insights into the nature of wider regional and interregional Aztatlan interactions. Recent reconnaissance, mapping, and test excavations at the center of Chacalilla, Nayarit, have identified evidence of craft production and a complex community social hierarchy, providing a foundation for the future testing of models of Aztatlan interaction.

**Ohnstad, Arik [119] see Barrientos, Tomás**

**Ojeda Gastelum, Samuel (Universidad Autonoma de Sinaloa), Bruce F. Benz (Texas Wesleyan University) and Lorenza Lopez Mestas C.**

[181] *La tradicion Teuchitlan, el maguey y el tequila. Un debate acerca de su confluencia espacial, historica y cultural. Integracion o destruccion?*

Se destacara el rol que jugaba el maguey en la tradicion Teuchitlan y se realizara un ligero recorrido historico sobre su papel hasta tiempos actuales. Para ponderar que los sitios arqueologicos de esta tradicion y el agave se entrelazan en distintas temporalidades con las configuraciones sociales de los jaliscienses. El rescate y conservacion de ambas tradiciones debe ser confluyente e integrador, como partes del paisaje natural, historico y cultural de la region. Resaltara que practicas mas recientes, como la elaboracion de tequila, no pueden destruir vestigios antiquisimos que son raices de nuestro pasado y simbolos de cultura e identidad.

**Oka, Rahul (Field Museum), Chapurukha Kusimba (Field Museum) and Sibel Kusimba**

**(Northern Illinois University, Dekalb)**[44] *Leadership in East African Societies: Technology, Interaction and Political Economy*

Archaeologists have viewed the appearance of hierarchy as a transition from egalitarianism to ranked societies and beyond. In the African context, however, the association of emergence of inequality with migration, expansion and colonization processes has minimized archaeologists' attempts to analyze internal processes of transformation. Consequently, theorizing about the emergence of leadership in small-scale and middle-range societies is underdeveloped in African archaeology. Our paper will explore leadership in East African societies during the past two millennia. We examine leadership in various communities, by focusing on the means through which elites acquire power and institutionalize sociopolitical inequality.

**Oland, Maxine H. (Northwestern University)**[50] *Maya Resistance and Spanish Authority at Chanlacan, Northern Belize*

The early Colonial Maya settlement at Progresso Lagoon, northern Belize, is thought to represent the remnants of the 16th-17th century encomienda community of Chanlacan. Chanlacan is known for a leading role in the 1546 rebellion against the Spanish, but other evidence suggests that the community was forced to negotiate between the interests of the Spanish, and the unconquered and rebellious Maya to the south and west. This paper will discuss the results of excavations at Colonial Maya households and public/ritual areas at Chanlacan, in which material remains were used to evaluate the effectiveness of Maya resistance and Spanish authority.

**O'Leary, Beth (New Mexico State University ) and Leslie Brown (Connecticut College)**[104] *One Giant Leap: Legal issues in preserving cultural resources on the moon*

This is a discussion of the legal aspects of the ownership of objects, structures and features left by astronauts on the Moon at the Tranquility Base site. The focus is on how to best document, evaluate, legally protect and preserve in situ the first lunar landing site as a significant cultural resource for people on earth. The current lack of commitment to preservation planning on other celestial bodies will adversely affect this site and other important U.S. and Russian lunar sites in the near future.

**Ollendorf, Amy L. (Peterson Environmental Consulting), James L. Arndt (Peterson Environmental Consulting), David Maki (Archaeo-Physics) and Geoff Jones (Archaeo-Physics)**[125] *Evaluation of the Shea Circle (32CS0046): A Small, Anomalous Feature in the Shadow of the NRHP-Listed Shea Site, Cass County, North Dakota*

The Shea Circle Site (32CS0046) is very near the NRHP-listed Shea Site, a fortified village overlooking the Maple River in eastern North Dakota. 32CS0046 was originally recognized as a small, circular depression with a smaller rise in the center. The past function of this site had been interpreted by archaeologists as a possible collapsed earthlodge, and by Native Americans as a woman's grave. Through high-resolution, state-of-the-art methods the NRHP-eligibility of 32CS0046 was evaluated and the working hypotheses were tested. An alternative interpretation is suggested for the occurrence of this feature in an active livestock pasture.

Olsen, Jan [4] *see Henderson, Matthew***Olsen, Nancy (De Anza College/West Valley College)**[48] *Mapping Pajarito Rock Art Using GIS*

Data systematically collected by UCLA and Bandelier National Monument surveys indicates that certain petroglyphic and pictographic motifs seem to be distributed in significant patterns relative to the archeological site types. To investigate earlier statistics using the large data base of pooled Bandelier and Pajarito Archaeological Research Project (UCLA) data, the information is re-entered into a GIS data system which can illustrate the rich relationships between archeological site types, motifs and geological context. This is another test of the proposition that the site context is the causal factor for communicating ideas.

Olsen, Sandra (Carnegie Museum of Natural History) [79] *Discussant***Olsen, Sandra (Carnegie Museum of Natural History)**[47] *Wings, Horns, and Claws: Fabulous Beasts in Kazakh Prehistory*

Fabulous beasts first appear in Kazakhstan in the Bronze Age in the form of unicorns associated with sun gods in the Tamgaly petroglyphs. They reach their zenith in the Iron Age, when the region is heavily influenced by external forces. At that time, horned horses, bird and feline griffins,

sphinxes, and winged ibexes emerge as salient motifs in kurgan burials, like the frozen tomb of Berel and the Gold Man of Issyk's grave. Their roles as regal symbols and apotropaic devices will be explored. The process of merging foreign symbols with indigenous animal species will also be discussed.

**Olsen Bruhns, Karen (San Francisco State Univ)**

[136] *Modern Myths and South American Maize*

Western understanding of plant domestication and the nature of Native American agriculture has always been seen through the lens of what prehistorians thought had happened in the Near East. When investigations into the New World Neolithic began in Mexico it was evident that there was great time depth, at least in central Mexico, to grain as the main staple. A tendency to homogenize "the Indian" and "his" culture then led to the assumption that native South American agriculture must have also had a grain - Zea mays - basis. Studies of the origins of agriculture since struggle with this erroneous assumption.

**Olson, Jan [163]** see *Acuna, Freddy*

**Olson, Jan (Grant MacEwan College)**

[153] *Cooking Classes: elite and Commoner Household Food Preparation Activities in Postclassic Central Mexico*

Differences in food preparation occur between generations, societies and socio-economic groups. Determining why differences occur depends on using a variety of artifact classes. Groundstone, chipped stone, and ceramic artifact frequencies are used to compare differences in food preparation between elite and commoner households to try to understand strategies used by the groups. This paper will compare materials excavated from household midden deposits from three varying sized communities in Postclassic Central Mexico.

**Olszewski, Deborah (University of Pennsylvania), Harold Dibble (University of Pennsylvania) and Shannon McPherron (George Washington University)**

[5] *High Desert Paleolithic: Results of the ASPs 2002/03 Season in Middle Egypt*

West of historic Abydos, we surveyed using a landscape approach in the high desert surrounding the Wadi Umm al-Qaab, which extends from the plateau to the Nile valley. In eight square kilometers, 60 high density clusters were recorded; we additionally collected 178 units spaced at 100 meter intervals. Middle Paleolithic artifacts are most common; we also located three Early Neolithic clusters. The densest distributions are east and south of the wadi. Easy access from the Nile valley through the wadi explains the heavier use of its southern reaches, but not that of the eastern area, which has deeply entrenched tributaries.

**Olvera, Priscilia (ENAH) and Catherine Good (ENAH)**

[166] *Ceremonial Life and Cultural Identity: A Nahua Case from Guerrero, Mexico*

This paper describes a ritual cycle related to agriculture with historical roots in prehispanic religion still practice today in many regions of Mexico. The paper is based on ethnographic and ethnohistorical data and demonstrates the importance of ceremonial life for indigenous cultural identity in the Balsas river basin. This paper includes comparative from a Nahua community in the Huasteca.

**O'Mansky, Matt (Vanderbilt University), Arthur Demarest (Vanderbilt University), Nicholas Dunning (University of Cincinnati) and Timothy Beach (Georgetown University)**

[119] *The End of Classic Maya Civilization from a Western Perspective: Politics, Economy, Ideology, and/or Catastrophism?*

Evidence and interpretations on the nature, processes, and chronology of the end of Classic Maya civilization is briefly reviewed for the many subregions of the Maya lowlands. Comparative review contradicts interpretations of a profound and chronologically and causally aligned 'collapse.' The earlier and better-documented collapse of the western kingdoms affected changes elsewhere, yet cannot be projected as a universal template. Instead, beginning with the detailed western data and chronologies, we argue for careful construction and linking of regional culture-histories to accurately portray the mosaic of regional changes across the Maya lowlands that ended the Classic Maya political order.

**O'Mansky, Matt [119]** see *Barrientos, Tomás*

**O'Neil, Megan [119]** see *Miller, Mary*

**Onken, Jill (Statistical Research, Inc.), Richard Ciolek-Torrello (Statistical Research, Inc.),**

**Jeffrey A. Homburg (Statistical Research, Inc.) and Michael R. Waters (Texas A&M)**

[15] *Geoarchaeological Investigations in the Phoenix Basin: Implications for Explaining Hohokam Irrigation Systems*

Hohokam farmers in the middle Gila and Salt River valleys of central Arizona depended on an extensive system of irrigation canals. Recent geoarchaeological investigations suggest that the landscape histories of the middle Gila River and lowest Salt River reach are similar. Landscape changes, especially channel down-cutting and widening, and changes in channel stability, would have damaged canals and headgates and increased the maintenance required to keep them operational. The Hohokam may have mitigated the effects of these geomorphic changes along the lower Salt River by preferentially placing canal headgates in locations less prone to down-cutting.

**Ono, Akira (Tokyo Metropolitan University)**

[58] *Recent Studies of the Late Palaeolithic Industries in the Japanese Islands*

Some recent developments in the Palaeolithic research in Japan will be discussed. First, on-going modification of the chrono-stratigraphic framework, with reference to MIS and ice and/or non-glacial varve sediment, as well as AMS radiocarbon measurements, will be evaluated. Second, recent developments in the lithic analysis based on conjoining artifacts with debitage, that began in the mid-1960s in Japan, will be presented, with some examples. Third, several case studies, illustrating contribution of source identification of lithic materials, such as obsidian, glassy-textured andesite and silicious hard shale, to formulating interpretive models for procurement and transportation of raw materials will be discussed.

**Onuki, Yoshio (The Little World Museum of Man)**

[96] *The Kuntur Wasi Museum and Participation of the Local Community*

The Kuntur Wasi Museum is built at the foot of the Kuntur Wasi archaeological site in north highland Peru. Among the most representative artifacts exhibited in the museum, such as pottery and stone objects, it is about 200 gold objects that make the museum famous. The uniqueness of the museum is not only its collection but also the administration system managed by the local peasant organization. Now that the site has been partly restored and reconstructed, there exists a new possibility of village development but not without problems. The history and problems of the Kuntur Wasi Site Museum are analyzed as a case study.

**Orchard, Trevor (University of Toronto) and Natasha Lyons (University of Calgary)**

[57] *Changes in Haida economy in the European contact period: Ecofactual evidence from Xo'tdjihoa's Inaga'-i (hair-seal low-tide town)*

European contact brought dramatic changes to Haida populations of the Queen Charlotte Islands of North America. The maritime fur trade shifted Haida economic focus, decimated regional sea otter populations, and precipitated other ecological changes, in turn producing reverberating effects on Haida economy, settlement patterning, and social organization. The present project examines cultural and environmental correlates of these changes using archaeological data from Haida village contexts. This paper describes faunal and floral assemblages in pre-contact to contact period assemblages at a site in Gwaii Haanas National Park Reserve/Haida Heritage Site that provide insight into changing Haida society in this dynamic period.

**O'Reilly, Dougald (Royal University of Fine Arts)**

[167] *The Origins of the Angkorian Empire: Recent Research in Northwest Cambodia*

Cambodia is famed for its magnificent jungle-clad temples but little is known of the rise of the state that created these architectural masterpieces. Recently, villagers in Banteay Meanchey Province in Northwest Cambodia discovered the remains of a Pre-Angkorian settlement. The discovery sparked an episode of looting which led to the near destruction of the site. In an effort to salvage some information from the site, the Banteay Meanchey Archaeological Project has excavated the cemetery of Phum Snay. The excavations, revealing a militarised cemetery, are of great interest to those studying the development of hierarchical societies.

**O'Rourke, Dennis R.** [62] *see Coltrain, Joan Brenner*

**O'Rourke, Laura (SCS, Inc.)**

[189] *The Color of Early Formative Olmec Architecture*

This paper explores the color symbolism of Olmec architecture. Excavations in the regional center of San Lorenzo and a hinterland site called Las Galeras have found that structural elements of some Early Formative domestic and ceremonial structures were colorfully pigmented.

In this paper, I suggest that the Early Formative Olmec of the Gulf Coast possibly established the importance of symbolically significant colors, particularly red and yellow, on a monumental architectural scale, a pattern which pervaded later Mesoamerican cultures.

**Ortiz-Diaz, Edith (IIA-Universidad Nacional Autonoma de Mexico)**

[84] *Ancient roads along the Sierra de Juárez, Oaxaca during the late Post-classic times: archaeology and history*

The existence of contacts between the central valley of Oaxaca and the Gulf coast plain of Mexico has been amply documented for the Pre-classic period. Archaeologists have proposed that the Cañada de Cuicatlan was the main route to connect both regions. Nevertheless, what happened after this period? the Cañada de Cuicatlan was the only route?. The purpose of this paper is to determine the routes and paths that the ancient zapotecs used to connect to the Gulf coast plain during the late Post-classic period along the Sierra de Juárez based on archaeological and historical information.

**Ortloff, Charles (United Defense)**

[120] *Chimu Hydraulics Technology For Farfan Aqueduct Systems in the Jequetepeque Valley, Peru*

Computational Fluid Dynamics(CFD)methods are applied to analyze Chimu canal and aqueduct systems supplying water to field systems near Farfan in the Jequetepeque Valley, Peru. Results indicate use of complex choke, water bypass and overflow weir hydraulic controls in canals ahead of major aqueducts that regulate flow rate to limit El Nino flood damage. New engineering insights are presented to detail Chimu hydraulics technology advances from complex water distribution and control problems solved by Chimu engineers.

**Ortman, Scott [54] see Varien, Mark**

**Ortmann, Anthony (Tulane University)**

[159] *The Poverty Point Earthworks: An Intrasite Perspective*

The circular arrangement of earthworks is a common characteristic of many Archaic mound sites in and around the Lower Mississippi Valley. Recent research at the Poverty Point site may provide some insight into the nature of circular community patterning. The circular layout of earthworks is interpreted as a reflection of the integration of sacred and secular domains. Comparisons of stratigraphic and artifactual data from excavation of the mounds and ridges at Poverty Point are used as the basis for this analysis.

**Ortoli, Taryn [23] see Mentzer, Susan**

**Ossa, Alanna (Arizona State University) and Barbara Stark (Arizona State University)**

[21] *Ancient Gulf Garden Cities*

We examine material and symbolic dimensions of garden city concepts, historically, currently, and archaeologically. Our empirical focus is the western lower Papaloapan basin, Veracruz, Mexico, in Mesoamerica. Dispersed occupation and a preference for proximity to locations for recessional agriculture characterize settlement patterns. Kitchen gardens and fields could have used recessional techniques as part of the landuse repertoire.

**Otis Charlton, Cynthia L. [142] see Charlton, Thomas H.**

**Ousley, Steve (Smithsonian Institution), R. Eric Hollinger (Smithsonian Institution) and Charles Utermohle (State of Alaska)**

[141] *Northern Arctic Prehistory II: The Thule Migration in Light of New Morphometric Data*

Since 1916, physical anthropologists have been analyzing skeletal measurements to ascertain interrelationships among ancient and modern arctic populations. The analyses have become more sophisticated due to advances in anthropology, statistics, population genetics, and computers. Statistical advances include multivariate distances, clustering algorithms, and the application of population genetics models to quantitative traits. Craniometric analyses of over 500 individuals using the latest methods show similarities between Birnirk and Greenlandic populations, supporting a Birnirk source for eastern Thule groups. Additionally, the Historic Barrow population is more similar to the Tigara population near Point Hope.

**Ousley, Steve [141] see Hollinger, R. Eric**

**Outram, Alan (University of Exeter)**

[55] *Penetrating the veil of equifinality within skeletal part abundance studies: the use of detailed fracture and fragmentation analyses in conjunction with indicator elements.*

Element abundances frequently contribute to important archaeological interpretations, but patterns potentially derive from several different processes. The applications of single taphonomic indices is rarely sufficient to penetrate this veil of equifinality. This paper addresses how fracture and fragmentation analyses can resolve some of this taphonomic equifinality. The methodologies behind such analyses are briefly outlined in conjunction with a few examples. The possibility that the presence and condition of particular elements may be key interpretative indicators is discussed. It is argued that many interpretative objections relating to taphonomic equifinality are actually far less applicable to some elements, making them particularly informative.

**Owczarek, Jolanta (Grant MacEwan), Caroline Andriashek (Grant MacEwan), Amy Budinski (Grant MacEwan) and Florencio Delgado (Universidad San Francisco del Quito)**

[4] *Environment and Survey in the Julcuy Valley, Ecuador*

The modern country of Ecuador is divided into tight Environmental zones. Near the coast is the dry forest of the Julcuy Valley. Archeological material in this valley dates from the Valdivia phase to the Colonial period making it an important valley to identify changes and settlements. The Environmental reality of a dry forest allows for data collection to investigate such research. In this poster we describe some of the challenges and solutions of survey work in a dry forest and offer initial ideas about settlement pattern.

Owen, Pamela R. [138] see *Timperley, Cinda L.*

**Owoc, Mary Ann (Mercyhurst College)**

[78] *Earthy intimacies: dwelling, community and archaeological practice in the making of the Cornish Bronze Age viewscape.*

Embodied, sensual engagements between people and earthy elements during focused, periodic acts of ritual construction and artifact deposition in the Cornish Bronze Age resulted in the remaking of identities, local communities, symbolic/mythical knowledge, and the landscape itself. To appreciate how the mineral world was employed to define the criteria by which people understood both themselves and their world necessitates both an archaeological envisioning and a focus upon particular past rules of engagement with the environment that employed shared human perceptions. "Agency" appears in this encounter as central in the construction of both shared social memory and perception.

Owoc, Mary Ann [2] see *Manske, Kelly*

**Oyuela-Caycedo, Augusto (University of Kentucky), Renee M. Bonzani (University of Pennsylvania Museum of archaeology and anthropology) and Lee A. Newsom (Pennsylvania State University)**

[136] *Spatial-Temporal Context for the Early Use of Maize (*Zea mays* L.) in Tropical America: The Case of San Jacinto 1 (6000-5300 bp), Northern Colombia, South America*

New evidence of maize (*Zea mays* L.) at the site of San Jacinto 1 in northern Colombia indicates that its early use was on a seasonal basis and that it was planted and utilized along lowland stream banks in the tropics. The recovery of carbonized kernel fragments of maize is reported for the site of San Jacinto 1. Dates for the site range from 5940 ± 60 to 5300 ± 75 bp. The archaeological evidence indicates an early use of maize during the beginning of the dry season from approximately November to February in this region of the world. The site is located along a seasonally flooded stream bank (quebrada de San Jacinto) at approximately 210 msl. The maize was most likely planted along the stream after the rains and floodwater receded in the area in November and was collected three to four months later. Probable uses for sugar as a fermented drink and for food in the form of bollos or tamales are discussed based on other artifactual evidence collected from the site.

Pääbo, Svante [86] see *Deprés, Viviane*

Pac, David F. [75] see *Neeley, Michael P.*

**Pace, Brenda Ringe (Idaho National Engineering and Environmental Lab) and Konnie Wescott (Argonne National Laboratory)**

[103] *Eyes of the Beholder: GIS as a Tool to Understand and Manage Diverse Landscapes on the Northeastern Snake River Plain*

To understand and manage diverse landscapes effectively, one must move beyond routine uses of GIS for predictive modeling and mapping and encompass underlying social and ideological values that define the landscape. The authors are developing information layers to reference areas of significance to local stakeholders in Idaho that reflect those values (i.e., trail systems, inspirational vistas, traditional cultural properties, and areas of commercial value). Subsequent GIS analyses may assist in emphasizing the geographic commonalities that such diverse perspectives of the desert landscape share; enhance education, cultural preservation, and land management; and foster a deeper appreciation for the importance of landscape.

**Pacheco, Larisa [25]** *see Gladwell, Randi*

**Pacheco, Paul J. (SUNY - Geneseo) and William S. Dancey (Ohio State University)**

[180] *Ohio Hopewell Sedentism Revisited*

In this paper, we revisit current arguments concerning the residential mobility of Ohio Hopewell populations. Our Ohio Hopewell settlement pattern model interprets these populations as composed of communities of dispersed sedentary households associated with mound/earthwork centers. Instead of rehashing the arguments and evidence for our model, we will address recent challenges to our interpretation, focusing especially on the lithic assemblage arguments raised by Frank Cowan. After reviewing these arguments, our conclusion concerning the Ohio Hopewell settlement pattern remains essentially unaltered. We emphasize that residential stability, and its corollary sedentism, remains the key to understanding Ohio Hopewell dispersed communities.

**Padró, Johanna (UNAM) and Linda Manzanilla (UNAM-Mexico)**

[142] *Attire Manufacture at Teotihuacan: a possible tailor's shop at Teopanazco*

Teotihuacan was a huge crafts center during the classic. Craft production at Teotihuacan has been addressed mainly through obsidian and pottery production, but little is known of the development of minor crafts. An ongoing extensive excavation at the apartment compound of Teopanazco has provided an opportunity to study an area possibly used for the production of elite attires through the analysis of bone tools, butchered animal remains, pottery and shell buttons, and mural paintings. Archaeological evidence points to a close relationship between this compound and the gulf coast, a region well known for the manufacture of cotton cloths.

**Pak, Yangjin (Chungnam National University), Sarah Nelson (University of Denver) and Hung-jen Niu (Harvard University)**

[44] *Pigs, Jades, and the Emergence of Leadership in Northeastern China*

Both pigs and jades have been implicated in the emergence of leadership in the Hongshan culture of northeastern China, 4000-3000 BCE. Early stages are mostly simple villages, but by 3500 BCE a three-tier hierarchy had formed, with elaborate burials and ceremonial centers. Jade emblems and artifacts, found only in elite burials, constitute evidence of craft specialization and long distance trade. Elites may have monopolized pigs, since pig symbolism is prominent. Probably pigs and jades, emphasized as jade 'pig-dragons,' along with other factors, helped to form the Hongshan hierarchy, arguably the first complex Neolithic society in China.

**Palka, Joel (University of Illinois-Chicago)**

[50] *Unconquered Maya in the Rainforest: Nineteenth-Century Lakandon in the Southern Lowlands*

In the jungles of Chiapas, Mexico, and Peten, Guatemala, beyond the frontier of the Spanish colonies lived the Lakandon Maya. Complete conquest of this area and the Lakandon began in the 19th century following the development of the new Republics and the migration of settlers, explorers, and missionaries. The outsiders brought changes seen earlier in Mesoamerica - disease, conflict, conversion, and relocation. However, many Lakandon retained their political autonomy and they pursued native interests. As a 'non-complex' society living in small, scattered settlements in a vast zone of refuge, the Lakandon were able to manage interaction with foreigners through flight, control over trade, resistance, and accommodation. This paper examines culture contact and Lakandon responses to change through ethnohistoric and archaeological data.

**Palumbo, Scott (University of Florida)**

[25] *Ancient Landscapes and Lost Cities: Results from a Preliminary Survey of the Locumba Valley, Peru*

This paper presents the preliminary results from the first archaeological reconnaissance survey conducted in the Locumba valley of southern Peru. Comparison of the settlement patterning

between Locumba and its neighboring valley, Moquegua, has revealed dramatic differences. Settlement patterning will be discussed in light of both neofunctionalist concerns and archaeological landscape approaches. The discovery of a large well-preserved complex in the lower valley promises to improve our understanding of southern Peru. Discussion will focus specifically upon new evidence concerning the Tiwanaku terminus, and the subsequent florescence of the Late Intermediate Period.

**Pannell, Sandra (James Cook University) and Susan O'Connor (Australian National University)**

[158] *Where the Wild Things Are: An Exploration of Sacrality, Danger, and Violence in Confined Spaces, East Timor*

In East Timor caves are often said to be, or have, *tei*. *Tei* is linked to powerful beings which take a material form and their presence is marked by physical structures; usually stone platforms. *Tei* is often translated as sacred. However, implicated as it is in a discursive topography of danger, violence and power, the notion of *tei* represents an ambivalent form of the sacred or a kind of impure sacred. *Tei* is also linked to local histories and national narratives of political resistance. Here we explore the meanings and manifestations of *tei* in the social and physical landscape.

**Papalas, Christopher (Arizona State University)**

[68] *Spatial Patterning at Pincevent: Unconstrained Clustering, Contiguity, and Interpretation*  
This paper reexamines spatial data from the controversial Upper Magdalenian strata of Pincevent using Robert Whallon's Unconstrained Clustering (U.C.) procedure. U.C. is designed to identify joint distributions of artifact classes on living surfaces "unconstrained" by a priori assumptions about cluster size, shape, and density. Here, I introduce a Monte Carlo method that can assess the strength of spatial patterning detected by U.C. The analysis supports the excavators' original interpretation, indicating the presence of several ephemeral structures surrounded by specialized activity areas and refuse.

**Paradis, Louise Iseult (Université de Montréal)**

[166] *Archaeological Synthesis of the Alto Balsas; Guerrero, Mexico*

Archaeological and ethnohistorical data are used to reconstruct the ancient history of the Alto Balsas region from 300 B.C. to the Conquest. Among the topics discussed: the Olmec Presence, The Mezcala style and the Aztec colonization.

**Paredes, Blanca (INAH)**

[19] *The Possible Connections between Central Mexico and the Southeast*

The migrations of the prehispanic groups of Mesoamerica was more extensive and frequent than many scholars think. Some of these migrations have important repercussions in Central Mexico. This paper presents one example, the city of Ancient Tollan, in Hidalgo, Mexico. I analyze the possible relations between Tollan and the Southeastern United States. The archaeological materials add new questions and perspectives to discussions, and reflects strong evidence for extensive mobility and multi-ethnicity in ancient Mesoamerica.

**Paredes, Federico (Proyecto Chicolá), Cristina Vidal (Universidad de Valencia), Jonathan Kaplan (University of New Mexico), Juan Antonio Valdés (Proyecto Chicolá) and Diana Belchás-Luín (Proyecto Chicolá)**

[93] *Evidence of Water Management at Chocola, Guatemala*

Surrounded by rivers, with a high degree of runoff surface water and abundant natural springs, Chicolá was a spectacular settlement that was constructed using the natural topography of the Guatemalan piedmont. In its first season, the Proyecto Arqueológico Chocola (PACH) located a complex system of water control that used selected cobblestones and well-cut *laja* type coverings. A similar construction system beneath taxcal floors is evident at neighboring Abaj Takalik which, together with other evidence already gathered, indicates distinct Preclassic connections in the seminal Southern Maya Zone between these two giant centers.

**Paredes Eyzaguirre, G. Rolando (National Institute of Culture, Peru), Graciela Fattorini Murillo (Museo Lítico Pukara, INC, Peru) and Elizabeth Klarich (University of California-Santa Barbara)**

[96] *Proyecto de Circuito Turístico Pukara, Peru: Models and Perspectives*

The Museo Lítico Pukara is the site museum for Pukara, a prehistoric regional population center dated to the Late Formative Period (200 BC- AD 200) in the northwestern Lake Titicaca Basin, Department of Puno, Peru. Since 1999, the National Institute of Culture has invested a great deal

of time and resources into the restoration of both the exposition spaces and the research facilities for national and international visitors and researchers. The goals, progress, and challenges of the restoration project will be outlined with special emphases on the roles of community involvement, continuing research, cultural resource management, and development for tourism.

**Parezo, Nancy [37]** *see Fowler, Don*

**Park, Robert W. (University of Waterloo)**

[46] *All Quiet on the Eastern Arctic Front?*

Given the Eastern Arctic's remote location, it's fascinating that archaeologists have recently begun to perceive it as a locus of complex interactions in the period AD 1100-1350 between people coming from three very different cultural traditions: the Paleoeskimo Dorset, the Neoeskimo Thule, and the Norse Vikings. The evidence for such interactions comes from instances of apparent exchange of diagnostic objects between cultures, instances of apparent acculturation between cultures, and even from the absence of instances of acculturation or exchange. This paper will explore some of the available evidence for such interactions and offer an alternative scenario.

**Parker, Bradley (University of Utah)**

[80] *Domination and Resistance: Archaeological and Historical Considerations*

This introduction will explore how indigenous communities reacted to imperialism. Such reactions may come in many forms. Indigenous communities may have been completely oppressed, deported, destroyed and etc. They may also have prospered under imperial rule by playing imperial authorities off against rivals, tapping into imperial economic or social networks or joining the imperial administration. Indigenous communities also have various means of resistance. Resistance may take the form of all-out rebellion, or, indigenous communities may have resisted imperial domination by various other, more subtle, means. This paper will serve as a backdrop against which to consider the specific case studies given in this symposium.

**Parker Pearson, Michael (University of Sheffield)**

[160] *The Ups and Downs of Status and Authority in Pastoralist Societies: an Archaeological Case from Southern Madagascar*

A thousand years have seen dramatic transformations in elite authority and its various representations amongst the pastoralist societies of southern Madagascar. After social collapse in the 14th century relatively egalitarian social relationships replaced a more hierarchical structure. By the 17th century a system of kingship had formed but with continuous disputes and feuds amongst an ever-increasing pool of royal descendants. By the 19th century royal authority declined, collapsing before 1900. Elites were not particularly distinguished from the rest by lifestyle or even by economic wealth; the role of kinship was paramount in the constant creation and reworking of social status.

**Parkington, John (University of Cape Town (South Africa) and John W. Fisher, Jr. (Montana State University)**

[36] *Small Mammal Bones on Later Stone Age Sites from the Cape (South Africa): Consumption and Ritual Events*

The Dunefield Midden Site (DFM), on the Atlantic coast of South Africa, contains large quantities of bone, marine shell, and stone artifacts representing several short occupations some 400 to 1000 years ago. Mammals, ranging from mongoose through eland, dominate the bone assemblage. Among the small mammals, striking contrasts in skeletal element representations (NISP) and spatial distributions between carnivores and non-carnivores indicate that non-carnivores had been consumed by the site occupants, while carnivores served some other purpose(s). Three deliberate burials of mongoose and polecat at DFM indicate that carnivores figured importantly in ritual activities.

**Parkinson, William (Florida State University), Attila Gyucha (Békés County Museum) and Richard Yerkes (Ohio State University)**

[123] *The Körös Regional Archaeological Project, 2003*

In 2003, the Körös Regional Archaeological Project continued excavations at the Early Copper Age (Tiszapolgár Culture) settlement site of Vésztő-Bikeri and conducted regional geophysical investigations in the Körös Region of southeastern Hungary. This introductory paper outlines the history and research goals of the project, and presents the results of the excavations and geophysical research.

**Parkinson, William [123]** *see Yerkes, Richard*

**Parks, Danielle (Brock University)**

[97] *Funerary Landscapes of Roman Cyprus*

While the archaeological investigation of Roman cemeteries in Cyprus has often been piecemeal, a picture of the funerary landscape of the province now begins to emerge. Analysis of the distribution, organization, and aesthetic of necropoleis, how they looked and how they functioned, reveals that they do not seem to be aligned along ethnic, religious, or gender divisions, but rather according to family groups and occasionally on the basis of age. These cemeteries comprised visual statements of ownership, both on the part of the adjacent settlements and the individuals interred within, one of the public aspects of Roman Cypriot society.

**Parry, William (Hunter College - CUNY) and Shigeru Kabata (Universidad Nacional Autonoma de Mexico)**

[118] *Chronology of Obsidian Artifacts from the Moon Pyramid, Teotihuacan, Mexico.*

Numerous obsidian artifacts were incorporated into the construction fill of 7 sequential substructures of the Moon Pyramid (and adjacent Complexes 6 and 22) in Teotihuacan, Mexico. Although these samples are redeposited (and probably mixed chronologically), they provide evidence of general trends and changes in raw material procurement and tool typologies. Additional evidence comes from 3 obsidian offerings associated with the 4th, 5th, and 6th substructures. Typological changes permit cross-dating with other offerings, both in Teotihuacan and in the Maya region. Finally, abundant debitage from obsidian bifaces provides evidence of specialized production in the vicinity of the Moon Plaza.

**Parslow, Carla (University of Toronto)**

[103] *Modeling the Social Environment: Employing GIS to Understand Natufian Social Relations*

Previous research on the Natufian has revealed much about their past environment in the their core and periphery areas, as well as their technology and settlement/subsistence strategies. Within the core area, there is overall consistency, while variability is much greater in the periphery. This variability is primarily explained from an ecological perspective, with little attention to social relations or the role of production, maintenance and transformation of social institutions in this variability. Unlike previous ecologically focused work, this paper focuses on the interactions of individuals and groups of individuals who made, used, and exchanged artifacts at the regional scale.

**Parsons, Jeffery R. (University of Michigan)**

[172] *Critical Reflections on Forty Years of 'Systematic Regional Survey'*

This paper is a self-critique of fieldwork I have participated in since the early 1960s in Mexico, Peru, Guatemala, the U.S., Iceland, Argentina, Australia, Mongolia, and Italy. I note the methodological roots of my archaeological work in geological mapping. I consider the linkages, explicit and implicit, between objectives, methodology, and results at different points over the decades. I reflect on the great challenges posed by 'off-site' archaeology at the regional level. I ask myself what I did right and what I did wrong, and I conclude by offering some advice for practitioners of regionally oriented archaeology.

**Pasquale, Catherine (Drew University) [128]** *Discussant*

**Patel, Shankari (University of California, Riverside)**

[50] *Religious Resistance and Persistence on Cozumel*

As an important religious sanctuary marking the eastern boundary of the Maya realm, Cozumel hosted both pilgrims and conquerors. The Spaniards stopped at Cozumel for supplies rarely interfering with the islanders who could simply disappear into the interior. Attempts at Christianization often met with resistance from Spaniards as well as Indians. It appears that one priest who became too meddlesome was drowned by his Maya boatmen. The sources suggest that the Maya were steadfast in their adherence to native beliefs. Colonial accounts and archaeological evidence document religious activity continuing into the eighteenth century.

**Patou-Mathis, Marylene (Institut de Paleontologie Humaine) and Victor Chabai (Institute of Archaeology (Kiev, Ukraine))**

[122] *Kill and butchery sites: the example of Kabazi II (Crimea, Ukraine).*

The site of Kabazi II is located on the second range of the Crimean Mountains. This paper presents archaeological material from Units II and III. Levels within these Units were excavated after 1986 and are dated between 36,000 and 100,000 years Before Present. The lithic tools discovered in Unit II are attributed to the Western Crimea Mousterian and, for Unit III, to the Staroselian. In each level, *Equus hydruntinus* dominates, representing more than 80% of identified remains. Combined analysis of the lithic and bone data allow us to clarify the technical and subsistence behaviours of the Neandertals of Kabazi II and the function of this site.

**Patou-Mathis, Marylene [79]** see *Vercoutere, Carole*

**Patterson, Scott J. [75]** see *Neeley, Michael P.*

**Patterson, Thomas C. (UC-Riverside)**

[36] *Sue Kent's Vision of a Genuinely Integrated Anthropology*

Sue Kent advocated a holistic anthropology at a time when some practitioners championed fragmentation. Her anthropology was a critical, engaged one that recognized the importance of class structures constituted in economic terms and their articulation and interplay with socially and culturally constituted gender, ethnic, and racial hierarchies. This paper explores how she conceptualized this critical anthropology--theoretically, methodologically, and practically. It also explores how the traditional subfields were integrated into and constituted the larger whole.

**Pauketat, Timothy (University of Illinois) [132]** *Discussant*

**Pauketat, Timothy (University of Illinois) and Susan Alt (University of Illinois)**

[78] *Lessons in Physicality and Process (or, Agency in a Postmold?)*

Architecture embodies human agency in all of its dimensions and effective scales. Specifically, the wooden posts of Mississippian peoples in the American mid-continent were simultaneously spatial, material, and corporeal dimensions of the process of cultural construction (a.k.a. "social reproduction") that led to the genesis of regional-scale orthodoxies. Our reconsideration of the lowly postmold reveals the principle of physicality that, in turn, alters the way we pose research questions and the way in which we interpret archaeological data. The principle unifies distinct spheres of theoretical archaeology into a practical "historical-processual" archaeology for all.

**Pauketat, Timothy [175]** see *Alt, Susan M.*

**Pauls, Beth (University of Iowa)**

[157] *An Exploratory Essay on Feminist Practices in Academic and CRM Archaeology*

Feminist archaeologists are concerned not only with creating better models of the past, but also with feminist practices in archaeology today--a sort of 'feminist project' that encompasses all aspects of archaeology. Although a few intriguing articles have hinted at a wider arena for analysis, the scholarship on feminist practices within our discipline remains thin and uneven, emphasizing feminist pedagogy rather than the full range of practices enacted in the archaeological endeavor. This essay attempts to broaden feminist archaeology's scope of analysis by comparing and contrasting its influence on academic and CRM work and workplaces.

**Paz, Jose Luis (Department of Anthropology UCLA) [77]** *Discussant*

**Peabody, Joshua (University of California, Santa Cruz) and Diane Gifford-Gonzalez (University of California, Santa Cruz)**

[74] *How and Why the Quadratic Method of Age Estimation from Dental Crown Heights Does Not Work*

We present evidence on age estimate errors using dental crown heights and the quadratic equation developed by Klein and associates. Known-age specimens from bison, a high-crowned bovid species, and duikers, a low-crowned bovid species, are used to explore aspects of enamel attrition that undermine this method's accuracy and precision. We demonstrate why lumping quadratic-derived age estimates into 10%-of-lifespan age groups does not counteract the problem. We discuss Pike-Tay et al.'s parallel study of the method in caribou in light of our research. We present recommendations for alternative age estimation methods, according to research objectives.

**Peacock, Evan (Mississippi State University)**

[56] *Land Snails from the Mississippi Black Prairie: Ecology and Archaeological Applications*

Land snails were gathered from modern litter samples in the Black Prairie physiographic province

of Mississippi. Significant differences in species makeup exist between different microhabitats. These are related to soil and vegetation characteristics. These data are useful for modeling past environmental conditions at Late Prehistoric and Protohistoric sites in the region. In particular, archaeological snails provide evidence for springs that once existed, an important contribution to settlement pattern studies in the area. Past and present human environmental impact may also be assessed via the snail data.

**Pearce, Robert (London Museum of Archaeology), Robert MacDonald (Archaeological Services Inc.), David Smith (University of Toronto in Mississauga), Peter Timmins (Timmins Martelle Heritage Consultants) and Gary Warrick (Brantford Campus, Wilfred Laurier University)**

[105] *Bruce Trigger's Impact on Ontario Iroquoian Settlement Pattern Studies*

Bruce Trigger's profound influence on Iroquoian archaeology is amply exemplified by the theses topics and research projects of some of his graduate students. This paper, co-authored by five of Bruce's former doctoral students, provides an update on the current state and understanding of southern Ontario Iroquoian studies and archaeological settlement patterns most notably in regard to his articles *The Determinants of Settlement Patterns* (1978), *The Strategy of Iroquoian Prehistory* (1980) and *Prehistoric Social and Political Organization: An Iroquoian Case Study* (1981).

**Pearsall, Deborah M. (University of Missouri)**

[39] *Modeling Agriculture through the Paleoenvironmental Record: Methodological Issues*

Early indications of prehistoric agriculture in forested environments are often environmental disturbances identified in paleoenvironmental records. Among the indicators are particulate charcoal concentrations, changes in species composition, and appearance of fossil indicators of domesticated species. I discuss methodological issues associated with utilizing such indicators to model the onset and intensification of agriculture. Specifically, I consider how different types of "natural" disturbances and processes can be distinguished from human-induced landscape changes, both intentional and unintended, and discuss approaches to identifying mode of cropping from paleoenvironmental records. An example from the Jama River valley, Ecuador, illustrates how human-landscape interrelationships may be modeled.

**Pearsall, Deborah [136] see Holst, Irene; [70] Discussant**

**Pearson, Georges [99] see Hatfield, Virginia**

**Pearson, Georges A. (University of Kansas) and Richard G. Cooke (Smithsonian Tropical Research Institute)**

[92] *A Fluted Point Occupation at Cueva de Los Vampiros, Panama*

Cueva-de-Los-Vampiros is part of a complex of caves at the base of Cerro El Tigre near the Pacific Coast of Panama. Vampiros is the third locality between the Rio Grande and Colombia where fluted points have been discovered in a buried/datable context. Test excavations indicated that humans occupied the cave between 11,500 and 9000 RCYBP. Significantly, the lithic assemblage at Vampiros displays a combination of technological characteristics associated with both North American Clovis and South American fishtail industries. Ongoing investigations hope to determine if this peculiarity represents an evolutionary transition or contact between culturally-distinct groups.

**Pearson, Osbjorn [55] see Lam, Yin**

**Pearson, Richard [182] *Lacquer Ware and Fine Pottery: Jomon Archaeological Contexts and Stratified Society.***

Watanabe Hitoshi, in his book, *Jomon Style Stratified Society (Jomonshiki Kaisoka Shakai)* (1990) proposed that Jomon society is part of a group of North Pacific coastal stratified societies, in which rich people participated in the hunting of large creatures such as bear and swordfish, consumed valuables from distant environments, organized collective rituals and possessed refined goods. This paper explores the archaeological contexts of two kinds of refined goods, fine pottery and lacquer objects (now dated at around 7000 BC in Hokkaido) to assess the nature of their production and circulation.

**Peck, Shannon M. (University of South Florida), Brian Hesse (Pennsylvania State University) and Robert H. Tykot (University of South Florida)**

[5] *Animal Husbandry in the Early Bronze Age Levant: Results from Zooarchaeology and Isotope*

*Analysis at Tell el Hesi (Israel)*

The faunal remains from Early Bronze Age contexts at Tell el Hesi were analyzed and interpreted in order to provide a detailed view of subsistence practices and animal husbandry in Israel during this period. The results are compared with those for later periods at Tell el Hesi, and for other sites in the region to document chronological change and geographical variability. Stable isotope analysis of faunal remains was also used to provide information on animal fodder and seasonal variation in feeding practices. The relationship of animal husbandry practices to economic and social development in the region is also discussed.

**Pederson, Jennifer (National Park Service)**

[180] *Using Non-mound Space at the Hopewell Site to Examine Ceremonialism and Settlement*

Ohio Hopewell earthworks functioned as community centers for a variety of activities.

Archaeological evidence recovered from 'big houses' under mounds indicates that many activities were staged within these structures. The earthwork areas bounded by enclosures but not containing big houses and/or mounds also contain the remnants of activities. This paper examines how non-mound activities reflect Hopewellian ideas concerning ceremonialism and settlement. Particular attention will be focused on the accretional nature of earthworks and its effects on the use of non-mound space through time.

**Pellegatti, Paolo (University of California, Berkeley), Nena Galanidou (University of Crete) and Preston Miracle (University of Cambridge)**

[122] *Adaptations in the Balance? Scales of Action across the Pleistocene-Holocene Boundary in Istria, Croatia*

High-resolution lithic and faunal data from cave occupations straddling the Pleistocene-Holocene transition in the northern Adriatic basin allow us to query hunter-gatherer actions across multiple scales and axes of variability. Integrated analyses of animal remains (species representation, butchery practices, seasonality indicators, etc) and lithic artifacts (raw material procurement, lithic reduction, retooling strategies, etc) from Pupicina Cave, Sebrn Abri, and other sites allow us to examine shifts in the use of "local" and "exotic" resources, and the ways in which hunter-gatherer mobility structured past decisions and created new landscapes.

**Pelly, Lorine (University of Calgary - Department of Biological Sciences), Margaret Newman (University of Calgary - Department of Biological Sciences), Brian Kooyman (University of Calgary - Department of Archaeology) and Howard Ceri (University of Calgary)**

[75] *PCR/DNA analysis of archaeological faunal remains from Rocky Mountain House and Morleyville (1834-1861, 1875-1896), Alberta, Canada*

Two settlements in Alberta, Rocky Mountain House fur post and Morleyville mission, were occupied at the same time and were situated in close proximity in similar geographical areas. Both settlements contained substantial quantities of fragmentary bone unsuitable for traditional methods of species identification. It was hypothesized that PCR/DNA analysis would be an appropriate method to determine the species of origin of a large sample of the bone. The results of ancient DNA analysis will be presented along with a discussion of the advantages and disadvantages of the method.

**Peltier, Richard** [74] *see Dyke, Arthur*

**Pepper Henry, James (National Museum of the American Indian)**

[151] *Collections Management of American Indian Human Remains and Funerary Objects: Acknowledging and Addressing Cultural Sensitivities*

Over the past century and a half, tens of thousands of indigenous human remains and funerary objects have been removed from burial sites and battlefields, and relegated to institutional and agency repositories throughout the U.S. Native peoples are concerned with the treatment and maintenance of human remains, funerary objects, and other culturally sensitive collections in the possession of these repositories. Frequently, standard collections management practices conflict with cultural protocols. This presentation will explore the differences between institutional and Native perspectives and practices regarding the care of culturally sensitive collections, and suggest ways and methods to mitigate many of these incompatibilities.

**Peraza, Carlos** [50] *see Milbrath, Susan*; [67] *see Hare, Timothy*

**Peraza-Lope, Carlos** [67] *see Masson, Marilyn*

**Perdikaris, Sophia [148]** *see McGovern, Thomas*

**Peregrine, Peter (Lawrence University)**

[19] *Introduction: What's the Evidence for Southeast-Mexican Interaction?*

Clear parallels in settlement, subsistence, technology, and iconography exist between Mesoamerica and the Southeastern United States. Are these parallels the result of convergent evolution? Of simple trait diffusion? Or rather of long term interactions between the two regions? The papers presented in this symposium together suggest the latter, and in this introduction I offer some background to put those papers in context. I discuss work undertaken in the 1940s suggesting systemic interaction between Mexico and the Southeast, the onset of amnesia about those results sometime in the 1970s, and current research providing new evidence that should reawaken our interest Southeast-Mexico interactions.

**Pereira, Carlos M. (Camara Municipal de Rio Maior)**

[53] *From Microdebitage to Manuports: High Resolution Excavation and Stratigraphy at Vale de Obidos*

The depositional history of the Sesmarias hillslope and the postdepositional processes that impacted the Gravettian occupation levels at Vale de Obidos are explored in this paper. High resolution excavation techniques allow the discrimination of three Gravettian occupations and a Late Prehistoric level at the site. Analysis of microdebitage patterning and geological studies of the sand sediments indicate that the Gravettian artifacts were buried primarily through aeolian deposition. Surprisingly, the displacement of artifacts through pedoturbation is limited at VdO. Refitting studies of flaked stone tools and fire-cracked rock demonstrate cultural site maintenance activities and the integrity of associated activity areas.

**Pereira, Carlos [53]** *see Thacker, Paul*

**Pereira, Gregory (UMR 8096, CNRS, France), Michael W. Spence (University of Western Ontario, Canada) and Christine D. White (University of Western Ontario, Canada)**

[118] *Analisis preliminar de los restos humanos encontrados en el Entierro 5 de la Piramide de la Luna, Teotihuacan.*

En esta ponencia presentaremos los resultados obtenidos tras los estudios de los restos humanos encontrados en el Entierro 5 de la Piramide de la Luna, Teotihuacan. Los datos obtenidos en el campo, a traves del analisis contextual de los restos oseos, nos permiten reconstruir varios aspectos relacionados con el tratamiento mortuorio de estos individuos. Por otra parte, los datos osteologicos y quimicos (isotopos de oxigeno) nos informan sobre la edad, el sexo, las caracteristicas bio-culturales y el posible origen de estas personas. Finalmente, se comparara el Entierro 5 con los demas entierros encontrados en la piramide y se cuestionara el delicado problema de la identidad de los personajes que fueron colocados en uno de los entierros mas importante de Teotihuacan.

**Perez Rodriguez, Veronica (Northern Arizona University)**

[84] *Terrace construction and household labor in the Mixtec cacicazgo*

Landscape transforming monumental construction has long been considered the result and reflection of state-level power and socio-political organization in Prehispanic Mesoamerica. Recent excavations at a Postclassic rural settlement part of the Mixtec cacicazgo of Teposcolula revealed that impressive terracing projects may have been constructed through community and household-level labor organization. Trench profiles of residential and agricultural terraces show a mode of construction consisting mostly of rock piling and the later addition of a rock wall façade. Ethnographic information from present day Mixtec farmers indicates that cooperating family work groups can quickly transform the natural terrain through terracing.

**Periman, Richard (USDA Forest Service, Rocky Mountain Research Station)**

[102] *Visualizing the Past: Simulating Archaeological Landscapes of New Mexico*

Understanding how people interacted with and influenced environmental development in the past has been limited by our ability to model past landscapes. In this poster, current research in New Mexico's Rio del Oso and Rio Puerco valleys is presented that uses archaeological information, paleoenvironmental data, and the study of past wildland fire dynamics to model past environmental conditions. These data are utilized in a three-dimensional GIS to develop models of archaeological landscapes during specific periods. Producing such models can provide new insight into human-environmental dynamics in the past, as well as how continuing cultural

interactions shape the landscapes of today.

**Perles, Catherine (Université de Paris)**

[152] *The Effects of the Younger Dryas: Gradual Change or "Revolution"*

Prehistoric research is anchored in time and changes through time, and O. B. Y. is one of the few prehistorians to have explicitly stated his conception of change. Rejecting a gradualistic view for phases of transformation in human societies, he opts for ½ radical and rapid change. This position necessitates a major initial "catalytic change", which Bar-Yosef, in the case of the Neolithic, tends to search in environmental changes, and more precisely in the effects of the Younger Dryas. This paper asks the question, if Bar-Yosef is correct, why were the effects not cause the same phenomena in Greece?

**Perry, Jennifer (Pomona College)**

[69] *Becoming Maritime: Interpreting Temporal Trends in Settlement and Subsistence on Santa Cruz Island*

Along with previous studies, recent research on Santa Cruz Island, California, provides opportunities for generating a testable island-wide model of temporal shifts in prehistoric settlement and subsistence. In this paper, a synthesis of regional data is presented, with emphasis on results from survey and site testing on the eastern end. Major trends identified represent the transition from inhabitants as seasonal terrestrial and marine foragers to maritime-oriented collectors relying on fishing and exchange. These insights serve as the basis for developing a theoretical framework in which to conduct further investigations in undocumented regions, which will contribute to understanding island adaptations holistically.

**Perry, Kirk (Administrator of Heritage Preservation, The Chickasaw Nation) [64] Discussant**

**Perry, Linda (Southern Illinois University) [70] Discussant**

**Petersen, James [1] see Tremblay, Roland; [132] see Neves, Eduardo; [168] see Machado, Juliana Salles; [168] see Pinto Lima, Helena; [168] see Bartone, Robert N.; [168] see Arroyo-Kalin, Manuel A.**

**Petersen, James B. (Univ. of Vermont), Eduardo Goes Neves (Univ. of Sao Paulo), Robert N. Bartone (Binghamton) and Manuel A. Arroyo-Kalin (Cambridge University)**

[168] *An Overview of Amerindian Cultural Chronology in the Central Amazon*

Research in the area of Central Amazon Project (CAP), situated near the confluence of the Negro and Solimoes rivers, has been ongoing since 1995. This research has documented extensive evidence of Ceramic-Age occupations at more than 60 sites and enigmatic evidence of Pre-ceramic-Age occupation at several others. The CAP has over 71 radiocarbon dates for Amerindian occupations, spanning from 5500 B.C. to A.D. 1500. Two major ceramic complexes are recognized, including the Barrancoid tradition (200 B.C.-A.D. 800) and the Guarita/Polycrome tradition (A.D. 800-1500). This paper outlines this chronology and its implications for discussion of Amazonian prehistory.

**Peterson, Christian E. (University of Pittsburgh) and Robert D. Drennan (University of Pittsburgh)**

[172] *Identifying Communities: Data Collection and Analysis Strategies for Archaeological Survey*

The study of developing complex societies can fruitfully focus on the human interactions that define communities, which have always been at the heart of settlement pattern research. Yet little attention has been paid to how communities of varying scales can actually be identified in archaeological survey data. Most often sites have simply been assumed to correspond to communities, although this practice has been criticized. Methods are offered to delineate communities systematically in survey data, and their implications for field data collection strategies are explored comparatively for cases from northeast China, Mesoamerica, and the northern Andes.

**Peterson, Jane (Marquette University)**

[85] *Around the house: the use of space in Late Pre-Pottery Neolithic B villages in the southern Levant*

Excellent architectural preservation at a number of Late Pre-Pottery Neolithic B (LPPNB) sites in

southern and central Jordan documents an intriguing development in household organization. By roughly 8,500 b.p., many houses begin to be built in an aggregated, pueblo-style form. These new, agglutinated forms represent a significant departure from what was viewed as the 'classic' free-standing form of PPNB domestic structures. The interpretation of LPPNB domestic architecture that emerges considers inheritance patterns, the organization of household work, and precedents of contiguous wall architecture at some MPPNB sites in the region as relevant to understanding how prehistoric families organized their homes and communities.

**Peterson, Polly A. (Boston University)**

[146] *Sacred Geography of the Xibun Maya*

A regional approach to settlement in the Sibun River valley of central Belize allows a study of past interaction between people and their landscape which promises to demonstrate how the Xibun Maya manipulated, and were in turn influenced by, the world in which they lived. The karstic geography of the region makes it rich in caverns, and so a key component of the Xibun Archaeological Research Project is a cave site study from the Formative to Colonial periods: placing individual cave sites into the larger Xibun Maya settlement context is revealing information concerning ancient trade networks, environmental strategies, and cosmology.

**Peterson, Ryan (AMEC Earth & Environmental) and Duane Simpson (AMEC Earth & Environmental)**

[102] *A Pilot Study Using Geophysics to Attempt to Locate Rockshelter Burials at Fort Hood, Texas*

Geophysical techniques including resistance and magnetometry were used to attempt to delineate prehistoric burials in rockshelters. This pilot study was conducted at Fort Hood, Texas, in late 2003/early 2004. Additional comparative data collected at rockshelters in Kentucky will also be presented. Both rockshelters with known burials and those without previously documented burials were investigated. As a source of comparison, the same geophysical techniques were applied to known open burial sites. To further verify that observed anomalies represent human burials, soil testing including total phosphorous, will be conducted. Unfortunately, the soil data will not be available at the time of this presentation.

**Peterson, Ryan [183] see Simpson, Duane**

**Peterson, Staffan [30] see Wells, Joshua**

**Petraglia, Michael (Univ. of Cambridge)**

[11] *Raw Material Use in the South Asian Paleolithic: Human Responses and Evolutionary Change in the Pleistocene*

Our knowledge of raw material use in the Palaeolithic of South Asia has been rapidly advancing. A number of Paleolithic localities have recently been investigated in India, providing new insights into Lower, Middle, and Upper Palaeolithic behaviours and evolutionary processes. Raw materials of many types were differentially exploited for chipped stone manufacture. Large biface manufacture, prepared core industries, and blade technologies are examined relative to the selection, procurement, use, and spatial distribution of raw materials. The examination of changes in raw material use and artifact form provide insights into hominin preferences, landuse practices, cognition, sociality, and dispersals.

**Peuramaki-Brown, Meaghan (University College London)**

[95] *Excavations of a Low Level Patio Group at Minanha, Belize*

A relatively new focus in the exploration of Maya sites is the excavation of lower strata residential remains. This paper will recount one such excavation at the Group T patio group, located within the Minanha site core. Excavations were undertaken to understand the architecture, function, and occupation of this small group, as well as to further develop our understanding of the manner in which many small residential groups and associated households may have been integrated within Minanha society.

**Pevny, Charlotte (Texas A&M University)**

[138] *Lithic Debris at the Gault Site: Tools and Patterns*

Analyses of flake debris and flake tools incorporated several strategies including aggregate and individual analyses of the debitage, as well as macro- and microscopic examination of edge-modified flakes. Central to these studies is the ability to differentiate between post-depositional modification - due to human, animal or erosional processes-and intentional retouch or usewear.

Using Edwards chert, replication experiments tested the proposition that post-depositional, or lithonomic, processes can create edge damage on flakes that mimics intentional retouch and/or usewear. The breakage patterns on edges helped establish criteria to differentiate between fractures caused by deliberate use and those produced by other factors.

**Pfertsch, Jack E. [139]** *see Horn, Jonathan C.*

**Phillips, David [102]** *see Larralde, Signa*

**Phillips, David (Maxwell Museum, UNM), Carla Van West (Statistical Research, Inc.), Judy Brunson-Hadley (BCRS Consulting, Phoenix) and Richard A. Anduze (Salt River Project, Phoenix)**

[140] *Introduction to the Fence Lake Data Recovery Project: History, Goals, Accomplishments*  
The Fence Lake Coal Mine project was canceled in 2003, but not before years of archaeological and historical studies including massive data recovery effort. In this paper we review the convoluted history of the project, examine the goals of project research, and briefly review the results of data recovery fieldwork and analysis in light of the stated research goals.

**Phillips, George Harwood [173]** *see Schneider, Joan S.*

**Phillips, Shaun (Michigan State University)**

[30] *Pattern Recognition GIS in Archaeology*

Patterns exist in the archaeological record, but are often obscured by the enormous quantity of data present. One of the strengths of a GIS is its ability to analyze datasets too large for manual manipulation. This capacity for data analysis and pattern recognition will be shown with several case studies, consisting of several sites in Michigan and Illinois of varying ages. Postmolds and feature distributions will be examined to determine if any recognizable patterns can be found.

**Phillips, Shaun [30]** *see O'Gorman, Jodie*

**Phillips Jr., David A. [62]** *see VanPool, Todd L.*

**Philpot, Simone [95]** *see Griffith, Cameron*

**Picha, Paul (State Historical Society of North Dakota)**

[38] *If we think it appropriate, we shall let these names remain until we give others: Joseph N. Nicollet and the Genesis of Northeastern Plains Ethnohistory*

The genesis of Northeastern Plains ethnohistory is traced to the 1838 and 1839 explorations of Joseph N. Nicollet. Nicollet's hydrographic surveys, field notes, and journal entries transmit early knowledge about prehistory and early history of American Indian peoples in the James and Sheyenne valleys of east-central North Dakota. His application of early nineteenth-century French science and German Humboldtian traditions made lasting contributions to the foundations and methods of historical cartography and culture history. Northeastern Plains ethnohistory remains in his debt to this day.

**Pickering, Travis Rayne [55]** *see Marean, Curtis W.*

**Piehl, Jennifer (Tulane University)**

[116] *Household Ritual at Baking Pot, Belize.*

The study of the material remains of ritual within dwellings is one way that archaeologists can approach questions of household and community organization. This paper presents a comparative analysis of Late and Terminal Classic ritual deposits from dwellings of various socioeconomic status and from the civic core of the site of Baking Pot, and explores the importance of discussion of such material remains from a medium-sized site with a settlement pattern focusing on isolated structures to a more thorough understanding of the variation in ancient Maya household and community organization.

**Pike-Tay, Anne (Vassar College) and Laszlo Bartosiewicz (Lorand Eotvos University)**

[55] *Effects of uneven body-part representation on inferring seasonality and mobility*

Assessments of seasonality have increasingly relied upon three methods: 1) marking the presence or absence of seasonally available fauna, the oldest and still most widely-used approach; 2) the population structure method, which relies upon the seasonal variation in the age and sex composition of hunter-gatherer prey species and of domestic stock; and 3) by skeletochronological or dental growth-increment studies. With all three methods, issues of

equifinality arise as a result of differential body-part representation. Cultural actions such as differential transport of anatomical parts, modes of butchering, storage, and culinary practices, in addition to several taphonomic agents result in uneven bodypart representation, which can lead to false seasonal patterns.

**Piló, Luís [168]** *see Araujo, Astolfo*

**Pimentel, Victor (Université de Montréal)**

[51] *Comparing Mochica Households from Moche and Santa Valleys, North Coast of Peru*  
The Moche Civilization of the North Coast of Peru (0-800 AD) was a complex society with highly contrasted social classes. In recent investigations in residential sectors at the mochica capital of Huacas de Moche and at Guadalupito, the regional center in the Santa Valley, we have identified different types of architectural organizations. The variability in form and size of these constructions, the kind of materials and quality of construction, and the related artifacts reflect the status level of their occupants and the different strategies of the social household reproduction developed by the members of this urban society.

**Pinard, Claude (Avataq Cultural Institute)**

[46] *The Dorset occupation on the south shore of Hudson Strait: how late?*

It is thought that the Dorset occupation on the south shore of Hudson Strait, specifically on the northwest portion of Ungava Bay, survived well into the second millennium A.D. This paper will take new look on the Late Dorset occupation of the south shore of Hudson Strait in Nunavik.

**Pinard, Claude [87]** *see Langlais, Amelie*

**Pintal, Jean-Yves (Consultant)**

[88] *A Mari Usque Ad Mare: Prehistory of the Strait of Quebec*

Between 12,000 and 7500 BP, the Quebec City area was occupied by a narrow strait of land where waters from two seas, namely, the Champlain and the Goldthwait seas, met. Paleoenvironmental studies have shown that this strait contained an archipelago inhabited by numerous sea mammals and various species of birds. Archaeological studies, for their part, have revealed the presence of Early Paleoindian, Recent Paleoindian, Early Archaic occupations. While research is still in its infancy, preliminary data suggest that this unique maritime environment may have play a key role in the evolution of these groups.

**Pinto Lima, Helena (Museu de Arqueologia e Etnologia / USP), Eduardo Góes Neves (Museu de Arqueologia e Etnologia/ USP) and James Petersen (University of Vermont)**

[168] *Continuity and Change: New Perspectives on the Ceramic Sequence of the Central Amazon*

Many attempts have been made to explain the ceramic sequence of the central Amazon. The chronological development of the Manacapuru Phase (Barrancoid Tradition) and the processes that led to its replacement by the Guarita Subtradition (Amazon Polychrome Tradition) are the subject of considerable debate concerning the mobility pattern of prehistoric settlements, and the relationship between these two ceramic complexes. We present recently collected data from two different contexts, which bring new perspectives to competing models. These data also provide an opportunity for the understanding of the formation process of anthropogenic soils, the so-called Terras Pretas de Índios.

**Piperno, Dolores (Smithsonian Institution) [70]** *Discussant*

**Piperno, Dolores (Smithsonian Institution), Anthony Ranere (Temple University), Enrique Moreno (Smithsonian Institution), Jose Iriarte (University of Kentucky), Irene Holst (Smithsonian Tropical Research Institute) and Mattew Lachniet**

[136] *Preliminary Results of Investigations into Maize History in the Central Balsas Watershed, Mexico*

This paper reports on preliminary results of paleoecological and archaeological work in the Valley of Iguala, Central Balsas River Valley, Mexico. Numerous molecular and cytological studies indicate that maize (*Zea mays* L.) was domesticated in the Central Balsas region. Results to date from pollen, phytolith, and charcoal analysis of lake sediments provide information on natural- and human-induced changes in vegetation and climate from the Late Pleistocene until the modern era. Archaeological foot survey documents prehistoric human occupations of lake-edge settings, and caves and rock shelters nearby the lakes going back to the preceramic period.

Piperno, Dolores [136] *see Holst, Irene*; [136] *see Pohl, Mary*

**Pipes, Marie-Lorraine (Zooarchaeologist Consultant) and Stephen Cox Thomas (Bioarchaeological Research)**

[73] *Zooarchaeology of the East Steubenville Site: A Panhandle Archaic Site in West Virginia*

The faunal assemblage is composed primarily of mammal and fish remains. The best represented species are white-tailed deer and channel catfish. The deposits, including most feature contents, were midden-like in nature. Issues explored include faunal resource exploitation, seasonality, and carcass reduction and waste disposal. The faunal data suggest a pattern of two major occupations during the year, and possibly others lesser in scale. Body part representation studies of the deer and catfish remains suggest carcass processing and off site transportation of meat.

**Pitblado, Bonnie (Utah State University)**

[125] *Finding the Paleoindian Record in the Northern Utah Rocky Mountains*

In summer 2003, Utah State University undertook archaeological survey in the northern Utah Rocky Mountains to ascertain whether or not the Paleoindian record (ca. 12,000 – 7,500 B.P.) is represented in the region. In this paper, I first present the results of the survey, which indicate that Paleoindians did indeed occupy the area. Next I highlight the presence of a projectile point type identified as "Deception Creek" and dated elsewhere to ca. 8,000 B.P. Finally, I report the results of radiocarbon analysis of a buried soil that serves as a stratigraphic indicator of buried sites pre-dating the middle Holocene.

**Pitblado, Bonnie [75] *see McFaul, Michael***

**Plager, Sharon (Idaho State University), Richard Holmer (Idaho State University) and Brenda Ringe-Pace (Idaho National Engineering and Environmental Laboratory)**

[31] *Testing a GIS Predictive Model of Archaeological Sites for the Upper Snake River Basin in Eastern Idaho*

In 2002, the Idaho National Engineering and Environmental Laboratory (INEEL) and Idaho State University constructed an automated GIS predictive model to enhance management and research interests for the protection of the INEEL's cultural resources. Fieldwork conducted on the INEEL in 2003 focused on survey of nearly 550 randomly selected 100 x 100 m quadrats. Information was collected to test the validity and integrity of the preliminary model constructed from nearly 20 years of compliance work. The number of sites recorded within each of the probability zones was very close to predicted and indicates a significant level of model accuracy.

**Plank, Shannon (Boston University) [143] *Discussant***

**Plank, Shannon (Boston University)**

[27] *Questioning the Popol Nah: Issues in the Attribution of Function to Monumental Maya*

*Buildings* This paper exposes problems with identifying certain buildings as "council houses" in ancient Maya sites by reanalyzing epigraphic, iconographic, and archaeological evidence and invoking principles of inductive reasoning. Hieroglyphic emic architectural categories are brought to bear upon the difficulties of classifying ancient structures; a new synthesis for the Copán Structure 22A "popol nah" and its role in the city's political life is suggested; and directions for future research proposed. Though this work critiques some results of previous researchers, it relies heavily and consciously upon their successes, and is offered as a natural outgrowth of a long research tradition.

**Plescia, Sara (Northern Arizona University)**

[25] *Changes in Diet: Analysis of Food Remains at El Brujo*

El Brujo, a multi-component site situated on North Coast Peru, remains one of the most spectacular archaeological sites in the New World. The incredible preservation factors yield a rich inventory of desiccated plant remains. Recent excavations of late Chimu-Inca households at El Brujo have revealed changes in diet as compared to previous prehistoric cultures. Paleoethnobotanical analysis of food remains indicates an abundance of wild plants, many not indigenous to the area. The highly varied diet of the Chimu suggests a different access to food as a direct result of influence from the encroaching Inca.

**Pletka, Nicole (LSA Associates, Inc.)**

[34] *A Nearest Neighbor Analysis of Newport Coast Archaeological Sites, Orange County, California*

The purpose of this study is to understand the distribution of archaeological sites in the Newport Coast area of Orange County, using a nearest neighbor analysis in a geographic information system (GIS). According to ethnographic accounts, the Gabrielino and Luiseno undertook organized trade of specialized resources. Maximizing trade efficiency may have been a strategy to cope with a variable environment. This study will show that clusters of sites are situated in such a way to be closest to clusters in different ecological zones and furthest from clusters in the same zone, thereby facilitating trade, minimizing subsistence risk, and minimizing competition.

**Pletka, Scott (LSA Associates)**

[34] *Responses of Southern Californian Stone Tool Makers to Environmental Variability*

This poster explores the ecological and economic conditions that may have influenced the procurement of lithic raw materials and the production of stone tools in coastal Southern California. Fluctuations in the Holocene environment altered both the social and physical landscape. This research focuses on how tool makers responded to these changes through strategies of raw material conservation and selection for functional tool traits. Through quantitative analyses of debitage and tool forms, the research addresses whether periods of increased environmental variability transformed access to key raw materials and changed tool makers' tolerance for technological innovation and variability in tool performance.

**Plog, Stephen (University of Virginia) [150] Discussant**

**Plourde, Aimee (UCLA) [77] Discussant**

**Plourde, Aimee (UCLA)**

[117] *Evolutionary theory and prestige good economies*

How can we best incorporate Darwinian evolutionary theory into archaeological practice? I argue we must not only develop theory about selection at the level of cultural variants, but also articulate such theory with evolutionary psychological bases of behavior. Here, I apply this approach to the topic of prestige goods. I present a model of the evolved psychological basis for prestige goods, drawn from costly signaling theory, and discuss the role of a prestige good economy in the emergence and elaboration of social ranking and hierarchy, using a case study from the Titicaca Basin of the south-central Andes.

**Pluckhahn, Thomas J. (University of Oklahoma)**

[159] *Round and Round: Kolomoki (9ER1) and the Circular Communities of the Middle Woodland Period in the American South*

The predominant community pattern in the Middle Woodland period of the American South consisted of a small circular village surrounding an open plaza, sometimes with one or two earthen mounds. At a select few sites, this pattern was repeated on a far grander scale. Recent research at Kolomoki (9ER1), in the lower Chattahoochee Valley, documented a circular village more than a kilometer in diameter, flanking a huge open plaza and surrounded by an earthen enclosure. Like its smaller contemporaries, Kolomoki presumably served as the center for regional ceremonies. However, it likely attracted a larger number of participants from a broader area.

**Plunket, Patricia (Universidad de las Americas, Puebla) and Gabriela Uruñuela (Universidad de las Americas, Puebla)**

[3] *Non-Residential Buildings at Tetimpa, Puebla*

Ten field seasons at the Formative village of Tetimpa in Central Mexico have uncovered many examples of village architecture. Although most buildings are clearly dwellings, two structures differ from the residential pattern and appear to have served more public functions. We illustrate how these two buildings differ from both the highly standardized houses and from each other, and we explore their significance as diagnostics of the settlement's social organization.

**Plunket, Patricia [3] see Uruñuela, Gabriela**

**Pobiner, Briana (Rutgers University) and David Braun (Rutgers University)**

[42] *Strengthening the Inferential Link Between Cutmark Frequency Data and Oldowan Hominid Behavior: Results from Modern Butchery Experiments*

Cutmark frequencies are often cited in discussions of Oldowan hominid behavior, yet their interpretation remains enigmatic. To strengthen inferences derived from cutmark data, we

conducted experiments with Turkana butchers. We test three hypotheses: (1) cutmark number is related to the size of the bone/carcass being butchered; (2) cutmark number is related to the amount of meat present; (3) cutmarks represent a butchery error because they dull tool edges. Neither hypothesis 2 nor 3 is supported. We document a positive correlation between bone/carcass size and cutmark frequency. We therefore advocate treating bones/carcasses of different sizes as analytically discrete units.

**Pobiner, Briana [42]** see *Behrensmeyer, Anna K.*

**Poe, Bill (Sonoma State University)**

[116] *Where in the World is Baking Pot?*

Dual frequency GPS receivers capable of recording in kinematic mode and laser rangefinders increase dramatically the speed with which researchers can record precise spatial data. This capability is exploited in the relatively open conditions of the site of Baking Pot to construct both very fine grained topographic maps and three dimensional plans of structures. These tools expand greatly the capability of the archaeologist to analyze spatial relationships.

**Pohl, Mary (Florida State University) [164]** *Discussant*

**Pohl, Mary (Florida State University), Kevin Pope (GeoEcoArc Research), Bruce Benz (Texas Wesleyan University), David Lentz (Chicago Botanic Garden) and John Jones (Washington State University)**

[136] *Maize in Southeastern Mesoamerica*

Good preservation in wet environments in the Lowlands of Southeastern Mesoamerica indicate the introduction of cultivated Zea in Gulf Coast Mexico and perhaps Belize beginning ca. 5000 B.C. Multiple lines of evidence include size and morphology of pollen grains accompanied by a distinctive signature of disturbance vegetation and particulate charcoal suggesting the early use of swidden-style agriculture. Later macrobotanical and microbotanical remains together with carbon isotopes demonstrate the evolution of maize during the Formative period. The role of maize in early Olmec and Maya culture will be examined.

**Pohl, Mary [136]** see *Piperno, Dolores*; [164] see *von Nagy, Christopher*

**Polaco, Oscar J. (Instituto Nacional de Antropología e Historia)**

[118] *Animal remains of the Moon Pyramid Project*

During the Moon Pyramid Project's excavations carried out in 1998-1999, two burials with offerings were found. They contained, among others, animal remains that show the use of the fauna with ritual purposes. The study of these remains showed a discrete diversity that included wolf, cougar, jaguar, golden eagle, peregrine or prairie falcon, great horned owl, and rattlesnakes. The identified species are local and the evidence suggested that these animals remain captive for a time. Also, marine shells were used as offering, and the identified species are from the Caribbean Sea, indicating relationships with this area.

**Pollack, David [159]** see *Henderson, A. Gwynn*

**Pollard, Helen (Michigan State University) [60]** *Discussant*

**Pollock, Adam (Trent University)**

[95] *Terrace Agriculture at Minanha*

This paper presents the results of the first of two seasons of archaeological investigations in the periphery of Minanha. Research focused on a series of inter-connected terrace walls and associated settlement situated roughly two kilometres from the site's core. A preliminary tape and compass map showing intensive terracing, associated settlement and natural features was completed, as well as the excavation of one terrace wall. Early indications are of short-term construction phases dating to the Late Classic period supporting a relatively low population, suggesting a degree of labour organization above that attributable to the level of the family/household.

**Pollock, Stephen [100]** see *Hamilton, Nathan*

**Pollock, Susan (Binghamton University)**

[175] *Consent and Coercion: Burial Ritual in Early Dynastic Southern Mesopotamia*

Theorists of the state have long been concerned with how states create consent to their

domination. Bourdieu has drawn attention to the salient role of routine, mundane practices and "bodily dispositions" in this regard. Drawing on Bourdieu's insights and David Kertzer's work on ritual in politics, I contend that focus on the mundane must be balanced by attention to less usual practices. I examine state burials in Early Dynastic Mesopotamia, known for their lavish ritual including "human sacrifice," arguing that they involved "coerced consent" of direct participants and onlookers, achieved by combining routine practice with unprecedented displays of wealth and violence.

**Ponciano, Erick [119]** see *Eberl, Markus*

**Ponomarenko, Elena [100]** see *Van Nest, Julieann*

**Pool, Michael (Austin Community College)**

[102] *Agriculture and the Mimbres Collapse*

Why the Mimbres culture collapsed around A.D. 1150 has been a continuing research problem. Most researchers have attributed this collapse to either overpopulation or to a deteriorating climatic situation. In either case, the assertion is that agricultural production could not sustain the population. This paper examines this problem, using a crop production model (DDSAT 3.5), GIS, and dendroclimatological data to estimate maize production from A.D. 950 to 1200 and compare this production to the estimated population of the study area (the San Lorenzo segment of the Mimbres Valley).

**Pope, Kevin [136]** see *Pohl, Mary*; **Pope, Kevin [164]** see *von Nagy, Christopher*

**Pope, Melody (Glenn A. Black Laboratory of Archaeology), Ken Mohney (Skelly and Loy, Inc.) and Renee Sobota (GAI Consultants, Inc.)**

[73] *Bridging Technology and Tools Using Activities of the Panhandle Archaic*

Archaeological data recovery at the East Steubenville Site yielded a large sample of chipped stone bifacial and unifacial tools, and a variety of implements made of bone, antler, and mussel shell. Utilizing technological and microwear methods, this study provides the first comprehensive characterization of Panhandle Archaic technology. Strategies for making bone and antler tools, and for selecting particular raw materials and implements to process wood and animal byproducts, provide a detailed glimpse of life at an Archaic shell midden site. Some implications for interpreting artifact variation when attributes are either too narrowly or too broadly specified are also revealed.

**Porter, Benjamin W. (University of Pennsylvania)**

[175] *Elite Strategies of Dominance in Iron Age Levantine Polities*

Modern typological definitions of the (nation-)state, Middle Eastern and otherwise, inform scholars' conception of Iron Age Levantine polities as weak, secondary, tribal, and identity-bound phenomena. Yet, few efforts to engage the individuals and factions as well as the practices and discourses that crafted these polities have occurred. When examining the case of Edom, located in southern Jordan, we gain broader insight into the strategies of domination and discipline Levantine elites employed to consolidate disparate identities under singular rubrics and motivate subsequent collective acts. Resultantly, a framework acknowledging the unique nexus of acts and actors that produced each Levantine polity is achieved.

**Post, Stephen (Office of Archaeological Studies)**

[90] *Archaeology, History, and Cartography in Pre-Statehood New Mexico: A View from the Backyard of the Palace of the Governors*

Touted as the longest continuously used non-Native American public building in the United States, the Palace of the Governors occupies a unique position in New Mexico culture history. A former seat of Spanish, Mexican, and American civilian and military power, its archaeology, history, and cartography offer compelling and sometimes competing interpretations, accounts, and depictions. Most studies focus on the building and people, while treatment of the surrounding space is commonly anecdotal. This paper presents preliminary results from an archaeological study of the Palace peripheral space that substantively informs on and integrates new and existing archaeological, historical, and cartographic perspectives.

**Potter, Ben (Northern Land Use Research, Inc.)**

[18] *Modeling Intersite Variability in Interior Alaska: Overcoming Conceptual Ambiguity through Pattern Recognition*

Traditional cultural historical methods of identifying and mapping the temporal and spatial distribution of so-called diagnostic artifact types have been relatively unproductive in Subarctic Alaska. Archaeological assemblage variability must be understood in the context of other independent variables. This paper presents results from modeling exercises that (a) use data from a large number of dated components in Interior Alaska, (b) provide a system for testing hypotheses about assemblage variability, site function, and cultural change, and (c) enable an exploration of the data from a framework of recognizing patterns as they relate to subsistence and settlement strategies mediated by technology.

**Potter, James (SWCA)**

[174] *Feasting in the American Southwest*

In the American Southwest, communal feasting is a metaphorical extension of the domestic meal. As a consequence, material correlates of feasting are elusive because the same artifacts and food resources were generally used for the preparation of both communal and domestic meals. In addition, it is suggested that the responsibility of political leaders to redistribute or "serve" surpluses to community members during communal feasts is conceptually linked to mothers preparing and serving food to the household. The political ramifications of feasting are discussed in light of these observations.

**Potter, Sheridan (Colorado State University)**

[42] *The Physics of Cutmarks*

Cutmarks on bones are the most direct yet ambiguous evidence of butchery occurring on carcasses. To better understand the processes that result in their formation, this research project was designed to measure the amount of force required to create a cutmark on bone in relation to the amount of force required to cut through muscle, tendon and ligament tissue. Bovine appendicular elements, and obsidian and chert stone tools served as the research specimens. Force was measured using digital dynamometers, and cutmark depth was measured using light microscopes. Preliminary results indicate that less force is required to cut through muscle than bone.

**Potter, Stephen [56] see Fiedel, Stuart**

**Potts, Richard [32] see Royer, Danielle**

**Potts, Rick [10] see Brooks, Alison S.**

**Powell, Melissa (National Park Service)**

[20] *The Path to Pecos: Ceramic Production, Exchange, and Community Formation at the Early Pueblos*

This paper examines the development of ceramic specialization in the context of increasing population aggregation in the Pecos area of the Rio Grande during the Coalition period. The organization of ceramic production at the earliest aggregated settlements in the Upper Pecos Valley is investigated through mineralogical and chemical materials analyses, techniques of pottery manufacture, and whole vessel variability. Utility and white ware ceramics provide a means of understanding prehistoric social and economic organization at Pecos, and reflect the intensity and extent of regional exchange relationships.

**Powis, Terry (Brockington & Associates), Sal Mazzullo (Wichita State University) and Elizabeth Graham (University College London)**

[67] *An Archaeological and Geological Assessment of an Ancient Maya Harbour at Lamanai, Belize*

Riverine transportation and trade played a critical role in ancient Maya society, however little direct evidence of harbor or port facilities has been found. A possible harbor feature was identified in the 1970s at the site of Lamanai, located on the New River Lagoon in northern Belize, but extensive excavations were not conducted until the late 1990s. This paper reports on the archaeological and geological testing that was conducted to determine whether this feature was the remains of a port facility or if it ever contained a body of water sufficient for large, seaworthy trading canoes or smaller riverine traffic.

**Pozorski, Shelia [136] see Pozorski, Thomas**

**Pozorski, Thomas (University of Texas-Pan American), Shelia Pozorski (University of**

**Texas-Pan American), Donald Ugent (Southern Illinois University-Carbondale) and Aimee Trojnar (Southern Illinois University-Carbondale)**

[136] *Archaeological Evidence for Maize Agriculture Among the Fremont*

Maize first appears in the archaeological record of the Casma Valley, Peru during the Early Horizon (1000-200 B.C.), a date that is significantly later than the Late Preceramic Period (3000-2100 B.C.) maize reported from some other coastal valleys. The appearance of maize in Casma is accompanied by the introduction of llamas and guinea pigs, along with new ceramic and artifact types. Introduced architectural patterns suggest a decentralized form of government, in contrast to the centralized polity that characterized the preceding Initial Period (2100-1000 B.C.). Unlike in Mesoamerica, maize in the Central Andes did not usher in civilization, but rather was incorporated into an already varied subsistence inventory dating back to the Late Preceramic Period.

**Prasciunas, Mary M. (University of Wyoming)**

[170] *Evaluating Bifacial and Amorphous Core Technology: An Experimental Test of Efficiency*

This paper describes an experiment to test the assumption that bifacial cores are more efficient carriers of flake cutting edge than amorphous cores. Ten bifacial and ten amorphous cores were reduced to exhaustion. The total amount of flake edge produced by each core was calculated and compared to the core's initial weight. While bifacial and amorphous cores do not differ significantly in the amount of flake edge they can produce, they do differ significantly in the amount of usable flake edge they can produce. Bifacial cores are shown to be more efficient sources of flake cutting edge than amorphous cores.

**Premo, Luke (University of Arizona)**

[3] *Local Spatial Statistics and Classic Maya Monuments: New Methods, Refined Interpretations*

Previous analyses have applied tests of global spatial autocorrelation to Classic Period stone monument terminal long-count dates from the southern Maya Lowlands. However, because local spatial autocorrelation can exist independently of any global-scale structure, these studies could not identify neighborhoods of spatially dependent values. To quantitatively characterize spatial autocorrelation of terminal monument dates at the local scale, I introduce and apply two local spatial statistics,  $I_i$  and  $G_i^*$ . The results of this analysis confirm that the combined local spatial statistical method can contribute to novel interpretations of distributional data.

**Prettiss, William (The University of Montana) and Michael Lenert (UCLA)**

[57] *The Bridge River site: 2003 Investigations at a Complex Hunter-Gatherer Village in Interior British Columbia*

This paper provides a review of 2003 archaeological research at the Bridge River site, Mid-Fraser canyon, southern interior British Columbia. The Bridge River site is a large village containing 74 housepits and over 150 external cooking features. Variability in house size and artifact and feature contents at Bridge River suggests a similar pattern of past socio-economic complexity to that recognized by Brian Hayden at the nearby Keatley Creek site. The Bridge River site differs from other Mid-Fraser villages in some areas of subsistence and lithic technology.

**Presta, Ana Maria [184] see Van Buren, Mary**

**Price, Bonnie [79] see Klippel, Walter**

**Price, Douglas (University of Wisconsin)**

[152] *First Farmers in Europe: the Isotopic Evidence*

Recent developments in isotopic tracing permit the investigation of questions regarding the identity of the first farmers of Europe. Strontium and oxygen isotopes are used to distinguish local and non-local individuals at a number of sites dating to the Early Neolithic. Examples from the Iron Gates region, the Linearbandkeramik, and Scandinavia are used to discuss the nature of the transition from the Mesolithic to the Neolithic. Some of the sites involved in these studies include Lepinski Vir, Vlassac, Schela Cladovei, Flomborn, Schwetzingen, Muhlhause, and Dragsholm.

**Price, Neil (University of Uppsala)**

[45] *Bodylore and the archaeology of embedded religion*

Past religions are commonly projected as essentially orthodox, formal and familiar. Ancient spirituality can also be seen as something fluid and socially situated, with concepts of worship and cult replaced by rituals of embodied learning, gesture and action articulated through material culture. In this light the explicitly archaeological study of religion becomes imperative, with a

unique research agenda that alone addresses the total social context that gave meaning to such embedded beliefs. The archaeology of indigenous religions provides a model for such approaches, and examples are considered from the border-crossing Nordic and Sami cultures of Viking Age Scandinavia.

**Price, T. Douglas (University of Wisconsin)** [13] *Discussant*; [182] *Discussant*; [13] *see Burton, James H.*; [13] *see Wright, Lori E.*; [147] *see Knudson, Kelly*; [61] *see Boric, Dusan*

**Primrose, Ryan (Trent University)**

[95] *The Ancient Maya Water Management System at Minanha, West Central Belize*  
Ancient Maya water management is of concern to archaeologists investigating ecology, subsistence, and sociopolitical organization. Field research at Minanha has uncovered sufficient data to analyze its water management system. The large Mayo Aguada was the most important supply of water for Minanha. However, the existence of various other water management features suggests that many different water sources were exploited in and around Minanha. Despite this composite nature, the water management system was relatively centralized because most of the available water would have been contained within the Mayo Aguada, which could have been easily monitored and controlled by the Minanha elite.

**Prince, Paul (Trent University) and Amanda Marshall (ECOFOR Consulting)**

[57] *Recent Investigations of Large Cultural Depressions in Northern British Columbia: Implications for Regional Archaeological Interpretations and Inventories*

The upper Skeena River marks the inland extent of Northwest Coast culture, including plank houses as represented at Historic and Late Prehistoric sites. Recently, large cultural depressions suggestive of pithouses have also been recorded. Excavation at one of these sites (GiTa 2) confirms the presence of pithouses dated to 490 +/- 70 BP. Comparison are made to other upper Skeena sites, exploring variability in the form of depressions and alternative interpretations of their functions. Assuming some are also housepits, their implications for designing archaeological inventories in the area and understanding boundaries, frontiers and migration are considered.

**Prior, Christine (Consultant)**

[173] *Weapon of Mass Deduction - Radiocarbon's Contribution to Archaeology and Paleoenvironmental*

The past thirty years have seen profound changes in the science of radiocarbon dating. In 1974 measurement was by conventional decay counters, samples weighed several grams, analyses took several weeks, and the MASCA calibration summary had just been published. By 2004, state-of-the-art radiocarbon dating includes AMS technology, microgram-sized samples and computer programs, which automatically perform Bayesian calibrations of data sets. This presentation will examine the developments of the last three decades and describe the contributions radiocarbon is making to archaeology, paleoclimate and paleoenvironmental studies through the application of compound-specific analyses, direct dating of microfossils, and continued advances in calibration.

**Prizer, Kaethin (UC Santa Barbara), Jacqueline Eng (UC Santa Barbara), Per Holck (Department of Anatomy, Anthropological Laboratory, University of Oslo ) and Phillip L. Walker (UC Santa Barbara)**

[112] *Stature as an Indicator of Nutritional Status in Viking Age Iceland*

Because of the sensitivity of human growth to the environment, assessment of stature has become central to the study of human adaptation in archaeological populations. Measurements of subadult growth and adult stature provide important indicators of nutritional status and environmental stress. A comparison of the statures of the early conversion period burials at Hrisbrú and contemporaneous skeletal remains from Norway, provides new evidence concerning regional variation in quality of life and health status in the Viking Age.

**Prizer, Kaethin** [112] *see Eng, Jacqueline T.*; [112] *see Walker, Phillip L.*

**Procter, Rebecca (RedVine Consultants, Inc.)**

[102] *Lessons Learned: An Archaeologist Tackles Historic Preservation*

What happens when archaeologists, accustomed to working with mute stones and dead societies, must use their skills to help a living community? This project involves a grant for research and public outreach for a potential historic district relating to the Santa Fe Trail in New Mexico. Three questions are addressed: What must an archaeologist know in order to undertake a multi-disciplinary project in historic preservation? What archaeological perspectives can be

applied to enhance historical research? Can archaeological correlates be derived from historical documents, and can these be tested on the ground to enhance supporting data for a National Register district?

**Pross, Dave [176]** *see Tacon, Paul S.C.*

**Proue, Molly (University of Arizona)**

[102] *Examining the Introduction of Sheep at Zuni Pueblo through Organic Residue Analysis of Cooking*

A significant impact of Spanish contact on the cultures of the Southwest was the introduction of European domesticated plants and animals, such as wheat, cattle, and sheep. Sheep were, from the outset, the most important Zuni grazing animal, becoming an important meat source; mutton stew became one of the most widespread dishes in the Pueblos during the historic period. The incorporation of sheep into the diet at Zuni is examined through the analysis of organic residues, using Gas Chromatography/Mass Spectrometry, from 120 samples extracted from cooking vessels dating from the late prehistoric to post-contact periods.

**Proulx, Donald A. (University of Massachusetts)**

[51] *Panamarca and the Moche Presence in the Nepeña Valley Revisited*

It has been over twenty years since the author conducted his research in the Nepeña Valley on the north coast of Peru; very little additional work on the Moche occupation of this valley has been accomplished since that time. This paper will attempt to update the role of Nepeña in the Southern Moche realm, especially the site of Panamarca, based on work accomplished in neighboring valleys as well as new data collected from selected sources. Although Nepeña can no longer be considered the southern limit of the Moche realm, Panamarca remains the southernmost ceremonial/administrative center.

**Prufer, Keith M. (Auburn University)**

[49] *Reevaluating the role of "Domestic" Ceramics in Ceremonial Cave Contexts*

Cave ceramic assemblages provide insights into the role of pottery in Maya ritual. Because cave contexts are often relatively undisturbed these assemblages provide functional data on placement and use rarely obtainable from surface sites. Although ritual assemblages are generally conceived of being composed of polychrome and fine ceramic wares, cave assemblages tend to be dominated by unslipped and monochrome slipped ceramics, often described elsewhere as domestic wares. Clearly the role of these undecorated ceramics needs to be reevaluated. The data was collected from 52 caves in the Maya Mountains of southern Belize. Comparative examples from elsewhere in Mesoamerica are also discussed.

**Prufer, Keith [158]** *see Prufer, Olaf H.*

**Prufer, Olaf H. (Kent State University) and Keith M. Prufer (Auburn University)**

[158] *Caves and Rockshelters in Ohio*

Caves and rockshelters in Ohio are legion. Many contain prehistoric sequences since at least the Archaic. This study is based on 38 such sites investigated by the author and his associates since 1964. Almost all evidence reflects mundane occupational activities. Nevertheless, during Archaic times, systematic ritual burial practices were common, sometimes on a massive scale. By Late Prehistoric times, we have evidence for one important ceremonial cache in Northern Ohio. Comparative evidence is discussed.

**Pugh, Timothy [50]** *see Cecil, Leslie*

**Pyburn, K Anne (Indiana University) [96]** *Discussant*

**Pyburn, K Anne (Indiana University) and Erin Kuns (Indiana University)**

[76] *Introducing the MATRIX Project*

The MATRIX is the culmination of over 15 years of research and development by many members of the Society for American Archaeology. It is intended as a resource to serve needs arising from changes in archaeology that bring new responsibilities and require new skills. I will provide a brief introduction to the MATRIX Project and introduce the participants.

**Pye, Mary (NAAF) and John Clark (BYU/NAAF)**

[93] *Development of Rank and Chieftdom societies in the Pacific Coast area,*

Clark and Blake presented a model for the development of rank and chiefdom societies for Pacific Coastal Chiapas, Mexico. They theorize the presence of aggrandizers who acquire and motivate followers through feasting, gift-giving, and ritual public display; these leaders also used external alliances to obtain prestige items that displayed their participation in wider interaction networks. This paper presents recent findings from the Early Formative Project of Coastal Chiapas, particularly Paso de la Amada, in the context of their model.

**Pyne, Lydia [2]** *see Ritzman, Terrence*

**Quilter, Jeffrey [21]** *Discussant*

**Quilter, Jeffrey (Dumbarton Oaks)**

[21] *New World Garden Archaeology: Problems and Prospects.*

In this paper I will review the issue of Garden Archaeology, in general and from the perspective of New World archaeology, particularly in the prehistoric era. Gardens range from small plots next to humble dwellings to large fields of mixed plants for subsistence, to Inca ritual spaces, to Aztec pleasure places. Gardens are distinct spaces where culture manipulates nature to create settings for specific kinds of social interactions. I will explore some of the problems and potentials of identifying prehistoric gardens and investigating them, in light of such research in archaeological investigations in American Archaeology.

**Quinlan, Angus (xx) and Alanah Woody (Nevada Rock Art Foundation/NSM)**

[43] *Inscribing Praxis: Rock Art and Identity Construction in the Western Great Basin*

Rock art is one of the most visible monument forms made by hunter-forager groups serving a variety of functions, including socialization of the landscape and identity construction. Rock art's landscape context is potentially an extension of site meaning with social routines recurrently performed in or near rock art locales becoming inscribed in its interpretation and associated practices. We examine the rock art of the western Great Basin and its changing relationship to modes of social legitimating, comparing its role in the construction of social and group identities with those of other art forms.

**Quinn, Colin (University of Notre Dame) and Ian Kuijt (University of Notre Dame)**

[2] *Transforming Celtic Cultures*

The transition from the Iron Age to the Early Christian Period is an important period of change in ideological, ritual, and subsistence practices in Ireland and Northern Europe. The convergence of the indigenous, pagan, Celtic societies with the Christian missionaries resulted in the emergence of new types of culture and belief structures. Changes in archaeological data in the early centuries A.D. at Billown, Isle of Man, Knowth Site 'M', Ireland, and Poulton, England, illustrate how Celtic culture was transformed from the Iron Age to the Early Christian Period.

**Raber, Paul [29]** *see Chiarulli, Beverly*

**Raby, Dominique (SUNY-Albany)**

[166] *Healers, sorcerers and supernatural beings in 17th Century Guerrero*

Ruiz de Alarcon's *Tratado de las Supersticiones* (1629) is both a document of prime importance for the understanding of Guerrero Native history and the principal ethnohistorical source on magic practices in ancient Mexico. This paper will focus on one aspect particularly well documented in the *Tratado*: the privileged relationships existing between the specialists using spells and some mythological characters and supernatural beings. These relationships are to be analyzed in terms of gender: activities that require the use of spells are predominantly male or female, and the set of supernatural allies (or enemies) varies according to the gender mainly associated with the performed activity.

**Raczek, Teresa (University of Pennsylvania) and Namita Sugandhi (University of Chicago)**

[149] *Chronological conundrums: some thoughts on early South Asian sequences*

In recent years many questions have been raised about the way in which early South Asian chronologies have traditionally been based on local culture-historical interpretations. This paper will discuss some important examples of chronological difficulties and their implications for archaeological practice in South Asia today. We will especially highlight issues surrounding the incorporation of localized sequences into broader and more wide-ranging perspectives. Our review will also examine how existing chronologies have been critiqued in recent scholarship and some of the ongoing research programs that are now attempting a revision of some of these

questionable dates.

**Rafferty, Janet (Mississippi State University)**

[170] *Delineating Occupations Using Lineage Continuity*

Archaeologists conceptualize occupations as representing continuous use of a site by one group of people, coupling dating methods with spatial analysis to delineate them. Occupations usually are treated either as assemblage-scale artifacts or as behavioral remnants. In the latter framework, one difficulty is addressing site reuses that may be invisible to spatio-temporal analysis; the palimpsest problem. If occupations are treated as artifacts, seriation can be used to establish which assemblages contain all the chronologically important styles that compose a lineage segment. This demonstration of continuity helps delineate the occupation, providing a more theoretically coherent warrant for common archaeological practice.

**Rahemtulla, Farid (University of Northern British Columbia)**

[57] *Design of early chipped stone technologies on the central coast of British Columbia*

Most studies on lithic technological organization have focused on terrestrial situations, while fewer such works focus on maritime settings. Maritime settings may evoke a different suite of constraints on technological design options. Recently an analysis was completed on a collection of Early Period chipped stone tools from the coast of British Columbia. Using principles borrowed from Design Theory, results suggest that access to watercraft as well as the nature and availability of coastal raw materials, played major roles in the design of early Holocene technologies in this area.

**Railey, Jim (TRC - Albuquerque)**

[72] *Digging In: New Discoveries of Middle and Late Archaic Occupations in the Albuquerque Area*

Recent investigations by TRC in the Albuquerque area have uncovered remains of substantial Middle and Late Archaic occupations. Sponsored by the Public Service Company of New Mexico, the investigations demonstrate that Albuquerque's West Mesa was intensively occupied by Archaic groups, but was then mostly abandoned during the subsequent Pueblo periods. Middle Archaic remains are identified by radiocarbon dates associated with pit structures and evidence for early agriculture at several sites. The apparent antiquity of these remains suggests that developments involving reduced mobility and food production may have begun in the Albuquerque area earlier than was previously thought.

**Rainey, Katharine (Arizona State University) and Katherine Spielmann (Arizona State University)**

[111] *Protohistoric and Contact Period Salinas Pueblo Maize: Trend or Departure?*

Colonial Spanish demands on Pueblo labor, time, and subsistence products suggest we can expect a considerable departure in Pueblo maize production patterns from the pre-Contact period. Macrobotanical remains from the Salinas pueblos of central New Mexico provide an excellent source of data with which to evaluate such change. We examine late prehistoric Salinas maize data for the 300 year period prior to Spanish colonization to address the following question: Is the known intersite variability in Contact period maize the result of a long-standing trend of increasing diversity, or a departure from pre-Contact similarity in corn varieties across the Salinas area?

**Rains Clauss, Lee**

[179] *Tribology: Reconciling Professional Standards and Cultural Prerogatives Within Tribal Archaeology*

The discipline of archaeology has been generally unprepared for the entrance of the other into the profession. For native practitioners of archaeology, especially those working for and within native communities, this unwillingness to incorporate the other is no more unapologetically reflected than in the regulatory-mandated and self-imposed professional standards of the discipline. This paper will discuss the inherent differences and friction between these standards and the various Native American views and uses of archaeology, as well as highlight ways in which we can work together to reconcile these unnecessarily disparate perspectives.

**Rainville, Lynn (Sweet Briar College)**

[59] *Micro-Matters: An Assessment of Micro-Archaeological Techniques and Results from Four Upper Mesopotamian Sites*

Micro-archaeology involves the collection and quantification of artifactual remains which are too small to be collected by standard dry sieving techniques. Instead, sediment samples are collected from surfaces and features and micro-artifacts (defined as under 1 square centimeter) are recovered in the residual heavy fractions after flotation. Micro-archaeology provides information on in-situ artifacts and their distribution within houses. This, in turn, provides information about domestic technologies, family composition, and household activities. A better understanding of domestic production, craft specialization, and daily activities will allow us to create more accurate models to explain domestic economy and social organization in Mesopotamian cities.

**Ramenofsky, Ann (University of New Mexico)**

[90] *All About Discard at San Marcos Pueblo: Implications for the Organization of Metallurgy*

There is historical disagreement regarding the importance of metallurgy in the founding of the New Mexico colony. Opinions range from metallurgy as one cause of the Pueblo Revolt to metallurgy as insignificant. The scantiness of the pre-Revolt historical record precludes resolving the disagreement and determining the nature, extent, and organization of pre-Revolt metallurgy in the colony. Archaeology, however, is changing historical understanding. Using trash deposits from San Marcos Pueblo, I document differences in discard behavior between ceramics and lethics, and metallurgical debris. Implications of these differences for the organization of metallurgical production during the post-contact occupation of the pueblo are explored.

**Ramey, Bryan [100]** see *Rush, Kimberly*

**Ramirez, Alvaro [116]** see *Woodfill, Brent*

**Ramirez, Luis (Cal State, Los Angeles) and James Brady (Cal State, Los Angeles)**

[145] *Ulama and the Mesoamerican Ballgame: An Introduction*

Proyecto Ulama 2003, an interdisciplinary research program by the Art and Anthropology Departments at California State University, Los Angeles, seeks to understand the modern game of Ulama and to assess whether insights from the study might inform our reconstruction of the Pre-Columbian ballgame. Areas of similarity between the two games are explored. Observations of an exhibition game between two widely separated communities showed that more regional differences in rules existed than suggested in the literature. The resulting disputes elicited behaviors not described in normative statements by informants. Disputes provided insights into the role of judges.

**Ramirez, Nicole A. (University of New Mexico) and Judith van der Elst (University of New Mexico)**

[48] *Reconstructing Prehistoric Landscapes Using VRGIS and Remote Sensing Technologies for the Analysis of Past Land Use in Northern Mexico*

Virtual Reality Geographic Information Systems and Remote Sensing techniques are used to reconstruct the ancient landscape around Paquime in Northern Mexico. How people used their landscape in the past can be addressed only if we have spatial coverage and insight into change through time in that landscape. By using a GIS framework an endless number of spatial relationships between people and their environment can be calculated. This pilot study investigates the relationships of site location and landscape features. This will facilitate future target areas for archaeological investigation, put inaccessible areas on the prehistoric map and be useful for public outreach.

**Ramos, Jorge (UC Riverside)**

[143] *Ancestors and the Consecration of Space in the Copan Acropolis, Honduras*

Temple 16, the last building on the sacred axis of the Acropolis, displays iconographic themes accentuating the cult of the founder of the Copan dynasty, as well as the site of Teotihuacan, to perpetuate both royal power and the conceptual center of the Copan people. As discussed here, ancestral royal dedicated spaces in Maya cities became sacred places for later generations of rulers and community members. These spaces were pivotal centers for the subsequent construction of buildings, monumental imagery and ritual activities reflecting the significance of the founder in maintaining both identity and the ideological tenets of the polity.

**Ramos, Maria (Cal State, Los Angeles) and Cesar Espinosa (Cal State, Los Angeles)**

[145] *Evidence for the Active Participation of Women in Ulama*

Ethnographic studies by Leyenaar suggest that women were not permitted to touch the ball or enter the ballcourt, let alone play Ulama and most studies of the ancient game treat it as an exclusively male pastime. Our data appears to document that women have played ulama and

there have been women's teams for as long as our oldest informant can remember. The fact that the role of women has been minimized in the ethnographic situation should alert researchers to the probability that a similar bias has occurred in the reconstruction of the ancient game.

**Randazzo, Perry [100]** *see* *Randazzo, Rudy*

**Randazzo, Rudy (Rutgers Univ., UC), Perry Randazzo (Rutgers Univ., UC) and Holly Flood (Rutgers Univ., UC)**

[100] *Taphonomic Effects of Modern Fertilizers on Metallic Battlefield Artifacts*

The taphonomic effects of modern fertilizers on battlefield artifacts are irreversible. They significantly increase the rate of decay on copper, bronze, lead and iron artifacts thus destroying their diagnostic value. The use of chemical fertilizers results in irreparable damage to the archaeological record as it relates to American Revolutionary and Civil War History.

**Rands, Robert [119]** *see* *Bishop, Ronald*

**Ranere, Anthony [3]** *see* *Hansell, Patricia*; [136] *see* *Holst, Irene*; [136] *see* *Piperno, Dolores*

**Rankin, Lisa (Memorial University of Newfoundland)**

[18] *Negotiating the Human Landscape in Subarctic Labrador*

In previous critiques of hunter-gatherer studies, it has been wryly noted that whereas farmers have social and political relationships with their neighbors, hunter-gatherers have ecological relationships with the environment. As elsewhere, archaeologists in Labrador have thoroughly explored the complex web of opportunities and constraints that the natural environment afforded both the Amerindian and PaleoEskimo hunter-gatherers and yet the social landscape which these groups inhabited remains elusive. This paper will situate recent research in southern Labrador within the premise that the human environment also influenced the structure of Labrador's pre-contact hunter-gatherer societies.

**Rapoport, Amos (University of Wisconsin-Milwaukee)**

[36] *Archaeology and Environment-Behavior Studies*

Two topics of current archaeological interest, domestic architecture and landscapes must be studied together, as systems of settings for human activities. This is the domain of environment-behavior studies (EBS). Archaeology is also increasingly concerned with making inferences about past human behavior, including cognitive and symbolic behavior. In doing so, it must rely on controlled analogy. This is not news, and archaeology has responded in a variety of ways. These responses would benefit from collaboration with EBS which, in turn, also needs archaeology. Some implications of such closer collaboration are traced.

**Rapson, David [187]** *see* *Hill, Matthew G.*

**Rausch, Donna (University of Mississippi)**

[64] *Glass Trade Beads Among the Early Historic Chickasaw*

A large collection of glass trade beads recovered from Chickasaw sites in northeastern Mississippi can be documented to date from the beginning of the 18th century into the early 19th century. Many of the site assemblages appear to represent a relatively short span of time and it is also possible to identify chronologically distinct components within the sites on the basis of the beads. These collections will be used to refine the bead chronology for the region and measure the changes that occurred among the Chickasaw during this dynamic period.

**Rautman, Alison (Michigan State University) and Marjorie Heyman (Michigan State University)**

[20] *Dimensions of Continuity and Change during Aggregation: Evidence from the Salinas Region of Central New Mexico*

Population aggregation is often associated with increased political and economic competition—changes that might well affect subsistence strategies and inter-group relationships. In the Salinas area, a change in site location to upland settings during aggregation is often cited as evidence for hostile competition between groups. A study of projectile point morphology from three sites spanning this time period tests the extent to which proposed political and economic changes affected hunting technology and weaponry. Remarkable continuity in point size, shape, and material suggests that (rather surprisingly) these changes were apparently not sufficient to alter extant patterns of point manufacture and use.

**Ravesloot, John C. (Gila River Indian Community), J. Andrew Darling (Gila River Indian Community) and Michael R. Waters (Texas A&M University)**

[39] *The Prehistoric and Historic Landscapes of the Gila River: Lessons Learned from a Decade of Survey and Geoarchaeological Research*

For thousands of years the inhabitants of the Middle Gila River Valley were master farmers using sophisticated irrigation systems to transform the riparian zones and desert bajadas of the valley into highly productive, sustainable socio-natural ecosystems. The last great ecological disaster to beset the region was the destruction of the Gila River and its surrounding water table using Anglo-European dams and subsurface wells. The Pima-Maricopa Irrigation Project is a self-governance project that integrates geoarchaeological, archaeological, ethnohistoric, and ethnographic information in its designs, which will return water to the desert for agricultural, municipal, and recreational use.

**Rawlings, Tiffany (Simon Fraser University)**

[174] *Anthropophagic Feasts*

This presentation will define and differentiate between actual and symbolic anthropophagy and discuss the forms they take. In addition I will discuss where and when anthropophagy is found in the ethnographic record, its cultural significance, how it is associated with feasts, and the archaeological correlates.

**Ray, Jack [38]** see *Lopinot, Neal*

**Raymond, J. Scott (University of Calgary) and Warren DeBoer (Queens College)**

[136] *Maize On The Move*

Maize has been regarded as the basis of settled life in the America and a hallmark of civilization. Archaeological evidence of maize has been used to infer intensive agriculture and sedentism. Without denying the importance of maize as a staple, in this paper we examine an alternate role for maize as a portable, nutritious food used strategically by mobile foraging / trekking populations. We suggest that such use of maize maybe very ancient and may account for an early dispersal of maize out of its natural center of distribution.

**Rays, Maureen (College of Charleston)**

[53] *A Functional Analysis of Selected Lithic Artifacts from Vale de Obidos*

A sample of stone Artifacts from several spatially distinct areas of the Vale de Obidos site were selected and analyzed for microtraces due to use. Among the materials selected for analysis were both retouched and unretouched pieces. High magnification microwear techniques were used to assess damage produced through use. These methods utilize optical microscopy at a range of magnifications from 50x to 400x to assess polishes and striations that develop on the edges of stone tools as the direct result of use. The results of this analysis address tool use and site function at this Gravettian camp site.

**Reber, Eleanora (UNC Wilmington)**

[86] *A Hard Row to Hoe: Changing Maize Use in the American Bottom and Surrounding Areas*

The adoption of maize and the evolution of its use in the American Bottom serves as a model of the complex relationship between cultural practice and plant use. Maize was adopted differentially in this relatively small region based on socioeconomic status, gender, geographic location, and potential ritual/political factors. Maize use evolved rapidly, beginning as a low-status supplemental food, but changing into a nutritionally and ritually important part of the diet. Combining paleoethnobotanical studies, carbon stable isotope data and residue analysis can help disentangle some of the complexity of maize adoption and evolution, but more data is needed.

**Rebnegger, Karin (Michigan State University)**

[60] *Determining Workshop or Household Obsidian Reduction at Erongaricuaro, Michoacan*

Within an empire we expect to see restricted access to particular goods and materials. These items were traded into and within the empire and possibly controlled by particular groups at certain sites. The control of these materials may have resulted in isolated craft production. The Tarascan Empire presents a venue to investigate trade and craft production. Recent survey and excavation at the site of Erongaricuaro have revealed a Late Postclassic occupation. An analysis

of the obsidian collection allowed for the isolation of possible workshop or household reduction locations. The reduction sequence, material, and distribution of artifacts used will be discussed.

**Redman, Charles (Arizona State University) [39]** *Discussant*

**Redmond, Brian [156]** *see Eren, Metin*

**Reed, Alan D. (Alpine Archaeological Consultants, Inc.)**

[139] *Sampling Strategy for the Kern River Expansion Project's Archaeological Excavations*  
Like many large-scale archaeological projects, the Kern River Expansion pipeline project's archaeological inventory yielded far more significant sites than practical to mitigate through standard archaeological excavations. A sampling scheme was, therefore, implemented, wherein sites within various archaeological units were ranked. An effort was then made to assemble agency archaeologists to define the scope of the excavation effort and to finalize selection of sites for excavation. The methods employed and the effectiveness of the sampling approach will be examined.

**Reents-Budet, Dorie (Smithsonian Institution)**

[143] *The Ritual Space of Ancient Maya Ceramics: Form, Function, Contents and Imagery*  
The ancient Maya created pottery vessels as containers for foods and offerings. Some vessels encapsulate ritual space via their shape and/or carefully composed pictorial contents. They comprise a primary source of emic dioramas of ritual space, both natural and constructed, and their frequency of depiction and imagery contents may indicate relative importance to ancient elite ritual behavior. This paper explores Maya renderings and encapsulation of ritual space on the Classic and Postclassic period (A.D. 250-1500) pottery to shed light on the nature and psychology of ritual environments in ancient southern Mesoamerica.

**Rees, Charles [168]** *see Seelenfreund, Andrea*

**Rees, Mark (University of Louisiana at Lafayette)**

[127] *The Plaquemine Mounds Archaeological Project in South-Central Louisiana: Report on the 2003-2004 Investigations*  
The Plaquemine Mounds Archaeological Project (PMAP) is a three-year study of Mississippi period mound groups along the western margin of the Atchafalaya Basin in south-central Louisiana. The preliminary results of the first year of investigation are presented in this paper. Instead of Mississippian influence or cultural hybridization, extralocal continuity with Woodland traditions in the Lower Mississippi Valley is indicated by ceremonial landscapes and pottery assemblages. Greater temporal and spatial resolution regarding mound construction and use, site habitation, and abandonment form the basis for the refinement of a regional chronology.

**Reeves, Douglas [127]** *see Baggett, Klint*

**Regnier, Amanda [170]** *see Dumas, Ashley*

**Reid, Melissa [112]** *see Erlandson, Jon M.*

**Reid, Mike (Simon Fraser University) and Suzanne Villeneuve (University of Victoria)**

[174] *Primate Origins for Feasting Behavior?*  
The importance of food in establishing social bonds between human beings is arguably a universal trait. Feasts represent one extreme expression of this behavior. Given this universality, it is reasonable to look for the roots of food-based social bonding in adaptations at a more general level. We argue that food sharing among non-human primates constitutes a strategy developed to create and maintain social bonds similar to those seen in feasting systems among humans. Food sharing among higher primates appears to represent a fundamental adaptation related to food consumption and the feel-good emotions associated with close social ties and physical pleasure.

**Reilly, Kent [19]** *see Walker, Chester*

**Reilly, Kent (Texas State University, San Marcos)**

[143] *The Realization of a Cosmic Vision: the Function of Architecture at the Middle Formative Period Site of La Venta, Tabasco, Mexico*

The function of architecture at the Middle Formative Period site of La Venta was to provide a constructed space on which elites could perform those ceremonial functions that served as visual manifestations of the ruler's ability to achieve cosmological balance through ritualized access to supernatural power. Evidence for this claim can be seen in the relationship of a pyramid and enclosed court or sunken patio located constructed in close proximity. At La Venta, ceremonial architecture provided a cosmic stage on which the theater of elite ceremony visualized a symbolic and ritually proclaimed supernatural legitimacy for Middle Formative rulership validation.

**Reinhard, Karl [48]** *see* *Martinson, Elizabeth*

**Reisner, Tanya (University of Arizona)**

[149] *The stupa-pagoda tradition in East Asia*

It is widely recognized that the East Asian pagoda originated from the Indian stupa. The Indian stupa and East Asian pagoda are monuments to commemorate or entomb a relic of a Buddhist sage. However, the form of the Indian stupa and East Asian pagoda do not resemble each other. A few scholars have made attempts to explain the development of the East Asian monument, however, these theories have problems with chronology and ignore symbolism inherent in each culture. I will present a theory that explains the development of the East Asian pagoda, supported by archaeological finds, that looks at form, function, chronology and symbolism.

**Reitz, Elizabeth [163]** *see* *Sandweiss, Daniel*

**Reitze, William (Colorado State University), Lawrence Todd (Colorado State University) and Paul Burnett (Colorado State University)**

[187] *Alpine Archaeology: High Altitude Landscape Use, and Raw Material Procurement*

The Absaroka Mountains of Northwestern Wyoming have received limited archeological investigation. In 2003 archaeological survey was conducted in a high mountain environment with elevations between 3040m and 3350m. Seventeen sites were located and subjected to intensive in-field analysis. Projectile points associated with both the Early and Late Archaic were recorded. Two of these sites represent historic mining activities; the remaining prehistoric sites consisted of extensive lithic scatters. This group of sites provides an opportunity to investigate a range of lithic raw material procurement, reduction, and transport activities in a high elevation setting.

**Rendu, William (IPGQ)**

[23] *Zooarchaeology and Cementochronology at Pech-de-l'Azé I: A consideration of Neanderthal subsistence strategies*

The faunal analysis of the unpublished materiel from Pech-de-l'Azé I (Dordogne, France) excavated by F. Bordes in 1970 provided an important opportunity to study the last Neanderthals' subsistence behaviors. The zooarchaeological study showed a standardized and intensive carcass treatment which includes meat and marrow use. This research was completed by a cemento-chronological analysis of the most represented preys (*Cervus elaphus* and *Bison priscus*) emphasizing the seasonal using of the cavity. It is the first time that a complete faunal study has been made on Mousterian of Acheulian Tradition type A and B succession.

**Renouf, M.A.P. (Memorial University) and Trevor Bell (Memorial University)**

[46] *Contraction and Expansion In Newfoundland Prehistory: 900-1500 AD*

AD 900 marks the final disappearance from the Newfoundland archaeological record of the large and successful Dorset Palaeoeskimo populations that had inhabited almost all the Island for the seven previous centuries. It also marks the beginning of a shift in the material culture and settlement pattern of the Recent Indian populations of Newfoundland. Because of the increase in number of Recent Indian sites known for this time, and their appearance in new areas, it has been characterized as a period of expansion. By the late sixteenth century descendants of these Recent Indians were named Beothuk by Europeans, newly arrived in Newfoundland. This paper explores the exit of the arctic-adapted Dorset and the expansion of more temporal-adapted Recent Indians in the context of the changing cultural and physical environment during 900-1500 AD.

**Reyna, Rosa Maria (I.N.A.H.)**

[166] *Recent discoveries in the Mezcala Region of Guerrero*

The Mezcala region and culture, recently defined, receive strong reinforcement with the new discoveries in a site of Central Guerrero.

**Reynolds, Robert (Wayne State University), Ziad Kobti (Wayne State University) and Jon Brewster (Wayne State University)**

[54] *Learning in Dynamic Multi-layered Social Networks: A Mesa Verde Example*

In this paper we take a multi-agent model of agricultural subsistence in the Mesa Verde region between 900 A.D and 1300 A.D. and allow the emergence of a set of overlaid social networks over time in response to environmental dynamics. These overlaid networks include kinship, economic, political, and religious networks. Agents are able to participate in each of these networks and strategies for participation are learned using a framework for Cultural Evolution, Cultural Algorithms. It is shown that changes in the environment can differentially affect the various layers and affects can ripple through to other networks. Thus, certain networks may be less resilient to environmental fluctuations than others and require additional maintenance from the population in order to maintain them. The extent to which the social system is able to learn strategies to adjust the network in response to environmental stress will be discussed.

**Reynolds, Robert G. [129] see Whallon, Robert**

**Rhode, David (Desert Research Institute)**

[31] *Was Danger Cave a Center of Paleoarchaic Small Seed Use in the Great Basin?*

Danger Cave, on the western edge of the Bonneville Basin, contains one of the earliest well-dated human occupations in the Great Basin (~10,300 RCYBP). Evidence from coprolites and abundant groundstone artifacts have suggested substantial use and processing of small seeds from 10,000-9000 RCYBP, a very early record of small seed use that stands out as anomalous in the Great Basin. A re-assessment of the dating and artifact content of Early Holocene strata at Danger Cave helps to clarify the nature and timing of small seed use in the Bonneville Basin.

**Rhodes, Stephen (University of Toronto)**

[85] *A taste for mutton in the Anti-Lebanon highlands: The PPNA fauna from Nachcharini Cave*

The majority of the material from Nachcharini Cave derives primarily from a terminal PPNA horizon, and consists mainly of the remains of wild sheep and goats. The predominance of these taxa at the site and its relative proximity to Levantine sites showing early ovicaprid domestication, in the Damascus Basin to the southeast, and in the Beka'a Valley to the west, suggest that this highland region may have been a potential source of domestic stock for these lowland settlements. Archaeological information indicates a seasonal occupation of the site during the PPNA, and suggests a carcass transport strategy focusing on logistical provisioning.

**Rice, Don (Southern Illinois University) [50] Discussant**

**Rice, Prudence M. (Southern Illinois University Carbondale)**

[50] *Pregnant Female Figurines at Zacpeten, Guatemala*

Excavations at the Postclassic site of Zacpeten, a peninsular site in Lake Salpeten, Guatemala, uncovered a small number of fragments that appear to represent pregnant female figurines. These were found in both civic-ceremonial and residential contexts; in the case of the former, they were in secondary deposits of otherwise non-ritual material. The figurines are tentatively interpreted as representations of the goddess Ix Chel, who existed in several aspects as patroness of weaving and childbirth and was the focus of an important cult in eastern Yucatan.

**Richards, Heather M. [170] see van der Elst, Judith; [22] see Santley, Robert S.**

**Richards, Julian (Archaeology Data Service)**

[155] *Digital Archives and Publication: what's the difference?*

The Archaeology Data Service (ADS) has been providing online access to archaeological digital archives since 1997. As projects are also increasingly published using electronic means the traditional distinctions between archives and publication are breaking down. Data previously relegated to archive and grey literature reports can be made accessible. Electronic indices can enhance access to museum boxes. This also gives us the chance to rethink what should go in the paper report, and what is more appropriate to disseminate digitally. This in turn raises issues such as freedom of information, IPR, looting, and editorial control. This paper will outline the UK experience in tackling these issues to date.

**Riehl, Simone (University Tubingen)**

[108] *Plant production in the Hittite state federation - examples from Troy, Emar and Alalakh*

Changing patterns of the archaeobotanical species spectra during two transitional phases will be

comparatively presented and critically discussed for their meaningfulness in view of social change. For the transition from Early to Middle Bronze Age Troy archaeobotanical results make a change in agricultural technology plausible. This seems to be apparent by an increase of crop species and a probable change in the location of the fields. The transition from Troy VIIa to Troy VIIb marks the replacement of Late Bronze Age by Iron Age cultures. Sedimentological results suggest environmental change (i.e. soil erosion) during the final phases of the LBA. At the same time there are diverse changes in the crop spectrum. In this case, compared to the transition from EBA to MBA, the change would more likely indicate the reaction on environmental change by a remaining population.

**Riel-Salvatore, Julien (Arizona State University)**

[68] *Uluzzian technology at Grotta del Cavallo and Late Pleistocene technoeconomic strategies in southern Italy*

I present preliminary results from a technological reanalysis of the Uluzzian assemblages from Grotta del Cavallo; the industry's type-site. Four main dimensions of variability are explored: raw material exploitation; tool standardization; the nature of splintered pieces; and reduction intensity in retouched tools. The patterns that emerge are then combined to present a critical reassessment of the internal variability within the Uluzzian at Cavallo. Finally, the conclusions of this study are discussed in the context of the broader technoeconomic strategies documented at this and neighboring Late Pleistocene sites using a 'whole assemblage analysis' methodology that highlights prehistoric land-use patterns.

**Rieth, Christina B. (New York State Museum) and Lisa Anderson (New York State Museum)**

[65] *The Middle Woodland in eastern New York: A new look at the Tufano site*

Robert Funk's excavations in the Hudson Valley during the 1960's are crucial to understanding the prehistoric occupation of eastern New York. Publication of the Tufano site report in 1976 not only provided important information about the development of Woodland period subsistence and settlement in the region but also suggested avenues for further research at the site. In this paper, the authors build on this earlier work by using new data derived from the analysis of archaeological and osteological collections to assess subsistence practices at the Tufano site in relation to what is currently known about subsistence and settlement change in the Northeast.

**Rieth, Christina [188] see Horton, Elizabeth**

**Rincon Mautner, Carlos A. (University of Wyoming)**

[49] *Variation and Range in the Ritual Use of Caves in the Mixteca Region of Mexico and its Vicinity*

Rock art and artifacts associated with caves from the Sierra Madre del Sur and Tehuacan Valley provide evidence as to the nature of the rituals performed in their interiors in ancient times. While some of the rituals seem to have been common to various localities, those caves used over long periods of time provide insight on changing ritual practices and specialization that seem to be time dependent and cave specific. This regional synthesis on variation and range in ritual cave use provides a chronological and contextual framework for future research on reconstruction of ancient ritual activity in caves throughout Mesoamerica.

**Ringe-Pace, Brenda [31] see Plager, Sharon**

**Ringle, William M. (Davidson College)**

[50] *"In recalling things past, I strengthen my heart": Accommodating the Past in Early Colonial Yucatan*

In addition to the physical sufferings of the indigenous inhabitants of Yucatan, the Spanish conquest also witnessed the systematic subversion of native memory, particularly the categories of name, place, time, and deed. This paper examines the efforts to reconstitute personal and social identity during the 16th century as evidenced in several native ethnohistorical documents. Particularly important are the orientation of the new order to the historical landscape and the accommodation of events to existing narratives of renewal.

**Rink, W. Jack [23] see Jones, Heather**

**Rinker, Jennifer R. (William and Mary School of Law) and James D. Bloemker (Williams Gas Pipeline)**

[139] *Mitigation Approaches on the Kern River Expansion Project*

The 719-mile-long Kern River 2003 Expansion Project pipeline crossed 218 NRHP-eligible sites in four Western states. Because each eligible site within the existing corridor was excavated during the original pipeline construction in the early 1990's, this project's goal was to build upon existing information. Conventional archaeological excavations were conducted outside of the pipeline corridor at select sites to investigate the entire site. Alternate mitigation techniques were employed, including thermoluminescence and obsidian hydration studies, development of a GIS database and historic context for linear features, studies of previous collections, reports and presentations to the public, and a synthesis of regional prehistory.

**Riordan, Robert V. (Wright State University)**

[180] *Enclosed by Stone*

Recent excavations at the Pollock Works, a Middle Woodland hilltop enclosure located in southwest Ohio, included work in both the central gateway and the exterior side of an adjacent 3m-high embankment. Stone had been employed in a pavement on the outside of the gateway, and as an exterior facing during each of the four building stages that resulted in the present appearance of the embankment. The possible reasons for employing this construction are discussed from both functional and symbolic perspectives. Additionally, the potential relationship of Pollock and the Bull Works, a neighboring enclosure a mile distant, is addressed.

**Rissetto, John (University of New Mexico)**

[11] *Magdalenian Lithic Procurement Strategies in Cantabria, Spain*

This paper will present the results of continued research into the lithic raw material procurement strategies of Magdalenian period hunter-gatherers in Cantabria, Spain. Following previous petrographic comparisons of Magdalenian lithic artifacts to sourced lithic raw materials from eastern Cantabria and western Vizcaya, this research will further investigate the causal relationship between lithic procurement radii and the geographic distribution of lithic sources through the petrographic analysis of sourced raw materials from central Cantabria. The goal of this research is to more clearly define Late Glacial hunter-gatherer mobility patterns by establishing the geographic distribution of utilized lithic raw material sources.

**Rissolo, Dominique (San Diego State University)**

[49] *Speleothem Shrines and Sculptures: Recognizing a Postclassic Tradition along the Caribbean Coast of Mexico*

The numerous miniature masonry shrines recorded along the eastern coast of Yucatán are considered a diagnostic component of the region's Postclassic architecture. The practice of placing speleothems within shrines or constructing shrines around in situ stalagmites has remained largely unrecognized in the archaeological literature of the region. Recent investigation has documented that shrines and temples may have housed stucco sculptures, which were modeled over speleothem armatures or cores. The integration of speleothems into such contexts or objects is indicative of their sacred quality and may provide clues as to the nature of the cults associated with such structures.

**Ristevski, John [25] see Ashley López, Michael**

**Ritzman, Terrence (Colorado State University), Lydia Pyne (University of Texas-Austin), Jeffrey Adams (Colorado State University), Michelle Glantz (Colorado State University) and Rustam Suleymanov (National University of the Republic of Uzbekistan)**

[2] *A preliminary investigation of the taphonomy of Anghilak Cave, Uzbekistan.*

This study provides a taphonomic analysis of the faunal assemblage recovered during 2002-2003 field seasons from Anghilak, a Pleistocene cave in south-eastern Uzbekistan. Characteristics such as surface weathering, abrasion, root-etching, and breakage patterns are examined to infer the influence of taphonomic processes on the composition and distribution of the faunal assemblage. This study (1) identifies specific taphonomic effects present at Anghilak and (2) tests for statistically significant variation of the distribution of these effects over vertical and horizontal space. Variation in taphonomic effects across space is then interpreted in relation to the site's geomorphology and depositional history.

**Rivera, Angelyn Bass [130] see Fiero, Kathy**

**Rivera, Claudia (University of Pittsburgh)**

[184] *The Inka Expansion in the Southern Chuquisaca Valleys: Forms of Imperial Control and the Negotiation of Local Autonomy in the Cinti Region.*

This paper examines the dynamics of the Inka imperial expansion in the southern valleys of Chuquisaca, Bolivia, specifically in the Cinti region. Recently gathered information at the regional scale shed light over the responses of local populations to Inka intrusion in the region. The degree to which local polities were able to negotiate and maintain local autonomy within the newly imposed state structure is explored, through the analysis of ethnohistorical sources, regional settlement patterns, and inter/intra site variability in architecture and materials.

**Rivera, Mario (Universidad Bolivariana)**

[136] *Prehistoric Maize from Northern Chile. An Evaluation of the Evidence.*

Evidence from arid Northern Chile, containing prehistoric maize is presented from sites such as Tiliviche and Camarones 14. New stratigraphic controls and C-14 dates from Tiliviche assure that maize was present there between 5255-4760 B.C., but with even more emphasis between 3235-2720 B.C. From the Pichasca site, new AMS samples of maize and Phaseolus are providing a different perspective. Additionally, new data from Guatacondo and Ramaditas, in the Atacama desert complete the report. Problems related to the homogeneity of varieties and their possible antiquity are also discussed. Overall, new hypothesis and insights are suggested for future research.

**Roache, Amy [30]** see O'Gorman, Jodie

**Robb, John (Cambridge University)**

[78] *Creativity and Inevitability: Material Culture and Social Reproduction*

All human action, even revolutionary, reproduces its cultural order in many unspoken and unspeakable ways. The relationship between consciousness and intentionality and the submerged meanings of action is often fraught and contradictory. The former is vocal and iconic; the latter is voiceless, diffuse and subtle. Significantly for archaeologists, the submerged meanings of action are normally expressed through structuring the material world. Hence by deploying diverse methodologies, we can evoke a range of cultural logics implicit in action. This thesis will be illustrated with as many archaeological examples as a rigidly imposed, arbitrary fifteen minute time limit allows.

**Roberson, Joanna (Southern Methodist University)**

[74] *Studies of the Oxygen Isotopes of Chert*

Efforts to source lithic toolstone in archaeological sites have not routinely used stable isotope composition. Studies in geology have demonstrated that oxygen isotopes can prove effective in characterizing chert types, as they reflect unique compositions of rock age, temperature, and moisture content. Whether this method can be useful at the scale demanded by archaeology is yet unclear. This study was undertaken to determine the efficacy of this method by exploring the variability of oxygen isotopic composition within and between known outcrops of chert. This study uses several Southern Plains chert sources, including Edwards Plateau chert and Alibates agatized dolomite.

**Roberts, Andrew [93]** see Kennett, Douglas

**Roberts, Heidi [48]** see Ahlstrom, Richard

**Roberts, Timothy (Florida State University)**

[123] *Size Does Matter: A Metric Analysis of Faunal Remains from Vésztő-Bikeri*

Measurements are integral to the reconstruction of herd demography and subsistence strategies, a primary consideration when investigating socio-economic organization. This paper analyzes the evidence for the domestication of aurochs and wild boar and the exploitation of ovicaprine secondary products at the Early Copper Age site of Vésztő-Bikeri. The results will help elucidate the socio-economic changes that occurred at the end of the Neolithic on the Great Hungarian Plain.

**Robertson, Elizabeth (University of Calgary)**

[125] *Geoarchaeological Identification of Stratified Archaeological Sites in the Cypress Hills of Southeastern Alberta*

Geoarchaeological investigations involving subsurface testing at multiple locations in the Cypress Hills of southeastern Alberta demonstrate that the meltwater channels running through this region frequently contain extended sequences of buried soils. Moreover, these soils often contain archaeological material. These findings suggest that the region's diverse suite of rich resources

was very attractive to precontact groups, a pattern that, when combined with its dynamic geomorphic history, generated a unusually high density of deep, stratified, multicomponent sites, a valuable resource given the relative rarity of such sites on the Northern Plains.

**Robertson, Ian G. (Brigham Young University)**

[22] *The Early Teotihuacan State.*

In spite of the high profile of Teotihuacan in the field of Mesoamerican archaeological research, the factors that underlie the growth of this city and state in the Terminal Formative remain poorly documented and poorly understood. In this paper, I summarize evidence bearing on the origin of the Teotihuacan state and contrast explanations for its early and precocious growth rooted in the environmental, political-economic, and ideational realms.

**Robertson, Ian G.** [142] see *Aldana, Gerardo V.*

**Robin, Cynthia (Northwestern University) and Chelsea Blackmore (University of California, Riverside)**

[143] *The Perils of Test-Pitting in a Plaza: The Social Memory of Ritual Space at Chan, Belize*

2003 excavations at Chan uncovered a 2000 year sequence of ritual deposits spanning the Preclassic to Postclassic periods. Across this expanse of time people congregated in the center of the plaza at Chan's main residential group to enact rituals. The earliest Preclassic deposits may represent the founding of the residential group, and perhaps community. Materially these rituals manifest the ideological significance of the area and people on the local landscape. Through repetitive ritual practices, residents established their connections with the ancestors and past. (Re)constructing those ties and the meaning of plaza space had an important legitimating role for residents.

**Robinson, Brian (University of Maine) and Susan Blair (University of New Brunswick)**

[1] *Group Relationships on the Maritime Peninsula as Viewed from Burial Ritual and Technology: 8500-2500 B.P.*

The Maritime Peninsula of Maine and Canada was the domain of hunter-gatherers until well after the arrival of Europeans. A matrix of terrestrial and coastal environments is interconnected by long rivers and portages. Between 9000 to 2000 radiocarbon years ago, technological and ritual practices provide multiple windows on social organization and local boundaries. Formal cemeteries were in use by 8500 BP, representing different social groups at seasonal aggregations among mobile people. After 3700 BP there is greater evidence of intrusive elements and systems. Some changes may be evolutionary in scale, but they are complexly integrated with local traditions.

**Robinson, Brian (University of Maine) and William Eldridge (Peabody Essex Museum)**

[88] *A Ring-Shaped Paleoindian Settlement Plan: Mapping the Bull Brook Site*

The Bull Brook site in Ipswich, Massachusetts has what may be the largest structured settlement pattern from the Paleoindian period in North America. The site was salvaged by dedicated avocational archaeologists between 1951 and 1960, in front of the bulldozers that destroyed it. A total of 42 artifact concentrations were salvaged, forming a large ring-shaped pattern on a sandy outwash plain. Although Bull Brook has inspired generations of archaeologists, the site plan has never been described in sufficient detail to allow it to be evaluated. Here we present a progress report on the mapping of Bull Brook, 50 years later.

**Robinson, David (PAL)**

[177] *Muddy Waters: Identifying, Assessing, and Managing Submerged Native North American Cultural Resources in the Northeastern United States*

Underwater archaeology is evolving to include unprecedented opportunities and challenges to study and manage submerged Native North American cultural resources. These opportunities result from growing academic research interest, historic preservation legislation compliance, and recent technological developments. The current challenges lie in establishing methodologies for identifying, assessing, and managing North America's submerged native heritage. PAL is currently involved in several offshore projects addressing ancient Native American cultural resources within the waters of the northeast. A synthesis of these investigations and conclusions that may be drawn from them are presented.

**Robinson, Eugenia (Montgomery College) and Sorayya Carr**

[169] *Fauna and Ritual at La Casa de las Golondrinas*

La Casa de las Golondrinas, the largest rock art site in the Guatemalan highlands, occupies a

sacred setting near water. Although the depictions of the fauna may represent secular themes, a comparison of the painted animals with the faunal remains supports the view that the animals are symbolic of the realms they occupy, not available food. Comal fragments, because of their context within the site, were used for ritual cooking. This behavior is one of the activities that took place at the site including caching ceramics and obsidian bifaces, and creating single and composite red paintings.

**Robinson, Hugh [72]** *see Glowacki, Donna*

**Robitaille, Benoit (Université de Montréal)**

[79] *A preliminary typology of perpendicularly hafted bone-tipped tattooing instruments: towards a technological history of Oceanic tattooing.*

Based on a worldwide survey of tattooing technology the author has identified a clear and important subgroup of tools defined by the perpendicular hafting of tattooing points. This subgroup shows an exceptionally strong correlation with Austronesian languages.

Perpendicularly hafted instruments fitted with bone points of various types form a further subgroup which is itself highly correlated with the Oceanic subgroup of the Austronesian language family. The comparative analysis of these bone tools has led to the generation of a series of hypotheses concerning the developmental sequence of Oceanic tattooing instruments and Oceanic culture history in general.

**Robrahn-Gonzal, Erika M [159]** *see De Blasis, Paulo*

**Rockman, Marcy (University of Arizona)**

[68] *Landscape Learning in the Late Glacial Recolonization of Britain: A Remarkably Short But Useful Summary of Theory, Methods, and Results*

Landscape learning is a useful explanation for patterns of lithic resource use in late glacial Britain. Britain was abandoned during the last Ice Age and recolonized from northern Europe ca. 13,000 B.P. Trace element analysis suggests that southwestern England was a key lithic source area for the colonizers. Field survey and GIS analyses further suggest that the southwestern flint region is topographically the most learnable and similar to the probable colonization source area in Europe. Radiocarbon dates suggest southwestern England remained a primary source area for several hundred years, setting a time span for the development of social landscape knowledge.

**Rockmore, Matthew (The Pennsylvania State University)**

[110] *Power, Practice and Agency: Negotiating Change in the Colonial Maya Lowlands*

Power relations, practice theory and agency each have proven useful for explaining aspects of culture change in situations of culture contact. Culture change is not a unitary process, however, and our understanding of the complicated dynamics involved is improved by combining portions of all three models. The relevance of each varies with the geographic, temporal and social scale under analysis, as well as the specific historical, environmental and demographic circumstances. Examples drawn from the history and archaeology of the Colonial Maya are used to illustrate the utility of a synthetic approach.

**Roddick, Andrew (University of California - Berkeley) [77]** *Discussant*

**Rodell, Roland L. (University of Wisconsin, Rock County) and William Green (Logan Museum, Beloit College)**

[37] *George Hull Squier: Gentleman Farmer and Scholar*

George Hull Squier (1849-1933; no relation to E. G. Squier) had life-long interests in archaeology, geology, and natural history. Exceedingly well-read but without formal training in archaeology, Squier worked briefly as a geological assistant at Harvard University. His archaeological investigations in western Wisconsin documented numerous prehistoric and historic sites. He was the first to recognize a Middle Mississippian presence in the Northern Mississippi Valley. We describe his accomplishments, review the historical context of his investigations and publications, show how his research is relevant to current archaeology, and discuss the important role of the small-town "gentleman scholar" in early midwestern archaeology.

**Rodgers III, John [136]** *see Horn, Sally*

**Rodning, Christopher B. [110]** *see Beck, Jr., Robin A.*

**Rodriguez Bejarano, Rebeca [118]** see *McClung de Tapia, Emily*

**Rodrigues, Esther [91]** see *Allsworth-Jones, Philip*

**Rogers, Hugh [90]** see *Towner, Ronald*

**Rohn, Arthur [48]** see *Carpenter, John*

**Roksandic, Mirjana [108]** see *Wollstonecroft, Michele*

**Rolao, Jose [108]** see *Wollstonecroft, Michele*

**Rolett, Barry (University of Hawaii) and Tianlong Jiao (Bishop Museum)**

[149] *China's Neolithic Revolution in Seafaring*

**Rollins, Harold (University of Pittsburgh) and Lisa Dugas (GAI Consultants, Inc.)**

[73] *Late Archaic Shellfish Use at the East Steubenville Site*

Data recovery excavation at the East Steubenville site yielded a total of 15,312 freshwater mussel valves. Shells from features were taxonomically apportioned among 26 species, dominated by *Elliptio dilatata* and *Elliptio crassidens*. Habitat reconstruction using Warren's "Unio Program" indicate that 80-90% of the recovered mussel species are entirely consistent with the extant proximal large river. This implies little geomorphic change of the major riverine environment since the time of Native American occupation of the site. There is no evidence of ritualistic behavior involving shell suggesting that the mussels at this site were used almost entirely for food. However, some culturally modified mussel valves indicate mussel shell industry during the Panhandle Archaic at the East Steubenville site.

**Romanek, Chris [101]** see *Andrus, Fred*

**Roman-Lacayo, Manuel (University of Pittsburgh)**

[81] *Blame it on the Weather: Social complexity in Precolumbian Masaya, Nicaragua*

The role of social and environmental risk factors are discussed as they relate to the development of social complexity in the Masaya Region of Nicaragua. Results obtained from a recent full-coverage, systematic regional survey of Ticuantepe, and Tisma municipalities (178km<sup>2</sup>) indicate that social change over the last 2500 years of the Precolumbian occupation sequence was more nuanced than has generally been understood. Data from previous regional surveys in adjacent municipalities is also considered in the analysis of settlement pattern changes, providing a wider comparative context.

**Romero, Alvaro [184]** see *Santoro Calogero*

**Roney, John R. [136]** see *Hard, Robert J.*; [66] see *MacWilliams, A. C.*

**Roos, Christopher [115]** see *Beck, Margaret*

**Roper, Eleanor [113]** see *Fish, Adam*

**Rosen, Arlene (Institute of Archaeology University College London), Xingcan Chen (Chinese Academy of Sciences), Li Liu (La Trobe University) and Yun Kuen Lee**

[15] *Geoarchaeological Evidence for Agricultural Intensification in Pre-State Societies of the Yellow River Basin, China*

Geoarchaeological investigations at the site of Huizui, Henan Province revealed the remains of ancient rice paddies well above the level of the modern valley floor. Today the region is too dry for large-scale cultivation of rice. The paddies date from ca. 3500-2000 BC and are contemporary with the Yangshao and Longshan periods which immediately pre-date the first states in the region. They indicate major environmental and landscape changes that coincided with growing social complexity in this region and facilitated the rise of intensive agricultural pursuits at a time when there was an increasing demand for high-status foods.

**Rosen, Arlene [36]** *Discussant*

**Rosen, Steven A. (Ben-Gurion University)**

[5] *A Sacred Landscape: Preliminary Analysis of the Shrine and Tumulus system at Ramat*

**Saharonim, Ramon Crater, Negev**

Survey and preliminary excavations at Ramat Saharonim, in the Makhtesh Ramon (Crater) in the Central Negev, have documented a sacred precinct consisting of four courtyard shrines with smaller subsidiary rectangular features, and thirty large burial cairns. Preliminary dates suggest late Neolithic through Early Bronze attribution. The shrines align with the setting sun of the summer solstice. Other components, contexts and features of the site seem to reflect a seasonal mortuary cult, associated with the early pastoral nomadic groups. Analysis of the shrine construction indicates a complexity of social organization unexpected for this early period in the desert.

**Rosen, Steven A. (Ben-Gurion University) [82] Discussant**

**Rosenberg, Michael (University of Delaware)**

[62] *Evolutionary and Adaptive Entities and the Aceramic Neolithic of Southwestern Asia* Culture is unquestionably an adaptation. But, paradoxically the same is not true for individual cultures and their sub-divisions. The general failure to recognize this paradox is central to the confusion that permeates the use of adaptive and evolutionary entities at both the level of theoretical discussion and archaeological application. This paper addresses the issue of what constitutes the proper basis for defining adaptive and evolutionary entities in the archaeological record and offers a brief application of such an approach to dealing with issues in the early aceramic Neolithic of southwestern Asia.

**Rosenfeld, Silvana (Universidad de Buenos Aires)**

[117] *Zooarchaeology in Conchopata, a Wari Urban Center*

Faunal results from the Conchopata Urban Center (Peruvian Sierra, 600-1000 AD) will be presented in order to examine the role of animals in the Middle Horizon. Animals provide many crucial components to human life. The consideration of the social context related to animal remains can enrich our knowledge of past and present societies. In the Andes, the presence of cuy (*Cavia porcellus*) and camelid (*Lama spp*) articulated skeletons in holes/tombs, or under the house floors, with no cut marks or evidence of burning suggests some special behavior. These special contexts will be examined in particular detail.

**Rosenswig, Robert (Yale)**

[93] *Three and a Half Millennia of Settlement Changes in the Cuauhtémoc Region of the Soconusco, Chiapas, Mexico*

Recent settlement survey in the Soconusco region of Mexico documents occupation from the Barra phase (1900 BC) through Late Postclassic (AD 1500) Aztec occupation of the area. Twenty-eight square kilometers were covered by systematic survey and 80 new sites documented. This work documents that Early Formative population grew, peaking at the beginning of the Middle Formative when the nearby center of La Blanca was at its height. With the collapse of La Blanca, the area was virtually abandoned as Izapa became a political nucleus and the majority of the population left the coastal plain for the nearby piedmont.

**Rosenthal, David [155] see Snyder, Lynn**

**Roskowski, Laura (University of Calgary)**

[125] *Geoarchaeology of the Below Forks site, Saskatchewan: A model for locating Mid-Holocene Archaeological sites along the South Saskatchewan River.*

Various theories have been proposed regarding the extent of human occupation on the Plains from 7,000-5000 YBP. It has been argued that altered climatic conditions caused Plains inhabitants to modify their ways of living. Recent archaeological investigations have focused on this issue, but paleoenvironmental data and site prediction modeling are still lacking. Research, including field and laboratory investigations at the Below Forks site (6,100 +/- 140 YBP) has been conducted by the author addressing these issues. Results regarding paleoenvironmental data and predictive modeling for similar aged sites along the South Saskatchewan River will be presented.

**Ross, Julie (University of Toronto)**

[17] *Archaeological sites and Palaeoclimatic variation in the Canadian Arctic Archipelago*

The Canadian Arctic Archipelago is often considered a homogeneous climatic region; however, it is possible to divide it into five major climatic areas, based on modern climate patterns. I will evaluate the climate records from each area for evidence of the Medieval Warm Period, and will use various data sets to infer climate in areas with limited documentation, such as the central

Arctic. These data will be compared to variation in archaeological site frequencies in each climate area, in order to assess the potential contribution of climate change to the major social and territorial changes which occurred during this period.

**Roth, Barbara (UNLV) and Fred Huntington (Tierra ROW Services)**

[185] *Households and Agency in the San Simon Region of Southeastern Arizona*

The Surface Structure period in the San Simon region represents a time of significant change as groups moved into aggregated multiethnic settlements along the Gila River to the north. This occurs after long-term use of the area extending back to the Middle Archaic. Recent investigations at a small Surface Structure site revealed a single household that continued to seasonally gather bajada resources. We explore the idea that this strategy was in part a symbolic statement of cultural identity, as this household sought to maintain links to past land use and assert its identity as San Simon Mogollon.

**Rothschild, Nan [90]** *see Atherton, Heather*

**Rothschild, Nan A. (Barnard College) [110]** *Discussant*; [109] *see diZerega Wall, Diana*; [109] *see diZerega Wall, Diana*; *see diZerega Wall, Diana*

**Rouse, Irving (Yale University) [135]** *Discussant*

**Rouse, Jesse [170]** *see Harris, Trevor*

**Routledge, Bruce (University of Liverpool)**

[175] *Alternative Visions of the State: Some Notes and Questions*

Recent social theory treats the state as an effect (of discourse, practice, performance etc) rather than as a "thing." This suits the modern era, where the term "state" emerges historically as a reflexive discourse on what political authority is, or ought to be. Archaeologists, however, face a problem. If one rejects the neo-evolutionary emphasis on the state as a trait-defined entity, what is left? Can there be a "pre-colonial" or "pre-modern" state in the absence of modernity's explicit state-forming discourse? This paper introduces our session by taking up these problems, arguing for the comparative importance of state-formation as an hegemonic effect.

**Roux, Valentine (CNRS)**

[16] *Constructing regularities for the interpretation of technological facts: A challenge tackled by the dynamic systems approach*

In an archaeology of techniques, cross-cultural regularities may be derived from local cultural situations. Such regularities enable us to identify chaînes opératoires involved in production, skills and use of objects, and to interpret archaeological facts in terms of socioeconomic systems. Technology and society are integral parts of a complex cultural whole, hence the concept of technological choice. Theoretically, this prevents us from constructing sociocultural regularities, since the social representations from which these facts originate are unique. According to the dynamic systems approach, we can distinguish between the formation of technological facts and the conditions within which they are actualised, the latter acting as 'cross-cultural rules'.

**Rovner, Irwin [170]** *see Sheehan, Michael*

**Rowan, Lesli [155]** *see Sullivan, Lynne*

**Rowan, Yorke (Smithsonian Institution) and David Ilan (Hebrew Union College)**

[45] *Cult, cache and the subterranean: Death's dominion in the Chalcolithic of the southern Levant*

The Chalcolithic period of the southern Levant (4700-3600 BC) is now considered to be characterized by ranked, hierarchically arranged societies (chiefdoms) rich in prestige items and evocative imagery. Chalcolithic peoples' religious beliefs and cultic practices produced material culture with a striking array of iconographic detail indicative of elaborate symbolic behavior. This iconography and its archaeological context requires further, more rigorous, more theoretically informed analysis. In this paper, we suggest that mortuary practices and other intentional cultic deposits represent a shared system of beliefs, values and symbols centered on the age-old motifs of death, fertility and rebirth.

**Rowe, Marvin (Texas A&M University), Karen Steelman (Texas A&M University) and Tom**

**Guilderson (Lawrence Livermore National Laboratory)**

[113] *Non-destructive Radiocarbon Dating of Perishable Organic Artifacts*

As an alternative to combustion, we use plasma oxidation to collect carbon from perishable organic artifacts for non-destructive AMS radiocarbon dating. We have produced accurate radiocarbon dates on previously dated charcoal, TIRI wood, and FIRI samples. In addition, multiple materials from a mummified infant burial from Hinds Cave, Texas, were dated to assess accuracy and precision. We tested different pretreatments on sub-samples from each material. Our non-destructive plasma-derived results agree with dates obtained on the same materials using combustion. Dates were obtained with no visible change in bulk artifacts exposed to the plasma.

**Rowe, Robert (TRC)**

[48] *Tales of a Blue Scorpion*

Na'Naksha'l-Kihhim, located in southern Arizona, is currently the only recorded full-scale turquoise mining and processing site from the Hohokam Pioneer Phase. Additional activities taking place involved long-range trade into west Mexico with turquoise and exotic shell as the primary commodities. As a result of this connection, the spatial layout of Na'Naksha'l-Kihhim displays a heavy Mesoamerican influence while remaining distinctly Hohokam. This paper re-examines the activities that took place there with a focus on the spatial layout of the site, it also examines why this site appears to have an isolated occurrence on the Hohokam landscape.

**Rowley, Susan (UBC Museum of Anthropology/Dept. of Anthropology and Sociology) and Ann Stevenson (UBC Museum of Anthropology)**

[155] *Designing an environment for collaborative research*

The Laboratory of Archaeology at UBC is creating a database for use in the Reciprocal Research Network (RRN) at the Museum of Anthropology. The RRN will enable researchers to break the archaeology/anthropology barrier so evident in museums and to compare materials held in different institutions across time and space. Working with three First Nations partners from the Pacific Northwest: the Sto:lo Nation, The Musqueam Nation and the U'mista Cultural Centre culturally appropriate search tools are being developed. The RRN will also allow community members and researchers to add authored information to the network thus creating a dynamic learning tool.

**Royer, Danielle (Stony Brook University), Richard Potts (Smithsonian Institution, National Museum of Natural History), Michael Noll (Smithsonian Institution, National Museum of Natural History) and Jennifer Clark (Smithsonian Institution, National Museum of Natural History)**

[32] *Lithic transport by Acheulean toolmakers, 1 million years ago, in the Southern Kenya Rift Valley*

Research reported here focuses on the spatial distribution of stone artifacts and raw materials from Olorgesailie, a Pleistocene site in southern Kenya. Our paleolandscape analysis is based on 85 excavations within one paleosol, and on the analysis of fourteen volcanic rock types mapped within the basin. By considering taphonomic factors, site-to-source distances, quantities of transported rock, raw material properties, and volume of excavated sediment, this study demonstrates that early humans invested more effort in transporting high quality than low quality lithic raw material. Artifacts made of the two highest quality rock types were favored in all areas of the paleolandscape; lower quality materials were used locally.

**Rozwadowski, Andrzej (Adam Mickiewicz University)**

[45] *Rethinking the prehistory of Central Asian shamanism: Archaeological-historical discourse*

Although shamanism in central Asia is believed ancient, its antiquity is unknown. One source on this question is rock art. I summarize first research on Central Asian shamanic rock art, considering the most diagnostic and best dated imagery. As archaeological identification of shamanic themes is determined by historic and ethnographic sources, the second issue is the extent to which archaeological interpretations depend on ethnohistorical data, and the implications of the historical record. The data suggest a divergence of shamanism from ethnic and economic perspectives, but also the presence of shamanistic-like experiences in other Asian religions.

**Rumold, Claudia (UC Santa Barbara)**

[25] *Starch Analysis Offers New Insights into Southern Andean Transition to Agriculture*

This paper presents results of starch analyses at Jiskarumoko, an open-air site in the Titicaca

Basin of southern Peru. Jiskaruimoko was occupied from approximately 5000 to 3200 years ago, thus spanning the emergence of agriculture and sedentism in the region. Starch analysis of groundstone tools reveals that a variety of tuber and seed plants were exploited during this critical transitional period, among them *Solanum* sp. This is the first paleoethnobotanical evidence for such early tuber use in the south-central Andes, the area in which tubers such as potato (*Solanum tuberosum*) were domesticated and came to dominate agricultural systems.

**Runge-Kuntz, Theresa [170]** *see van der Elst, Judith*

**Rupp, David W. (Brock University)**

[97] *The Story of Wine and Specialized Venues: The Spatiality of Grape Growing, Wine Production and Wine Consumption in Minoan Crete*

This paper explores the spatial relationships and patterning between grape growing and wine production and the specialized venues of wine consumption in Bronze Age Crete. The distribution of production facilities across the landscape and the concentration of various consumption rituals in specific architectural contexts varied during the three prime cultural periods (Prepalatial, Protopalatial, Neopalatial). These patterns are a reflection of the level and nature of sociopolitical organization, the mechanisms used by the elites for societal manipulation and aggrandizement and the dominant ideology. The distribution of activities related to wine production and consumption in Minoan Crete was not uniform and widespread but rather nucleated and hierarchical.

**Ruscavage-Barz, Samantha (Community Solutions)**

[102] *Give the People What They Want: Realizing the Public Benefits of Archaeology and History*

Since the inception of the National Historic Preservation Act, traditional document and destroy mitigation measures have produced an abundance of archaeological and historical information. The hard question we need to ask ourselves is: how does the public benefit from this plethora of research? Creative mitigation provides a valuable opportunity for sponsoring agencies to tailor their mitigation measures to particular local communities who can greatly benefit from the creation of educational tools such as popular publications, school curricula, and exhibits dealing with local archaeology/history. A case study from southern New Mexico is used to illustrate the community benefits of creative mitigation.

**Rush, Laurie [100]** *see Newman, Lynn; [100] see Wagner, Heather*

**Rush, Kimberly (Colorado State University), Kristina Rusho (Colorado State University) and Bryan Ramey (US Army, Fort Drum)**

[100] *The Mysterious Whitney Farm*

The nineteenth century Whitney Farm was excavated by Louis Berger in the 1980s as part of a Fort Drum construction Phase III Mitigation project. Curation of the collection revealed anomalies in the assemblage including St. Lawrence Iroquoian ceramics and lithics, East European fur trade beads, and early European pipe bowls. The most mysterious object is a molded bead in the shape of a Mississauga Rattlesnake head. This poster explores the possibility of extended contact and trade between Native Americans and Europeans throughout the nineteenth century in the Eastern Lake Ontario, and the St. River Lawrence Region.

**Rush, Laurie (US Army)**

[188] *A Jesuit-Native American Contact Site in Jefferson County, New York*

The Fort Drum Cultural Resources program discovered a seventeenth century contact period component on a nineteenth century farmstead site. Diagnostic artifacts include a French gunflint, Venetian trade beads, and Jesuit Rings. A hemlock structure dating to ca. 1670 AD also occurs on the site. This paper will discuss site discovery, features, and the site's anomalous location in terms of previous understanding of French and Native American occupation of the eastern Lake Ontario Region. Travel patterns during this time period and the site's information potential relative to other known sites and recorded history will be analyzed.

**Rush, Laurie [9]** *see Schulz, Margaret*

**Rusho, Kristina [100]** *see Rush, Kimberly*

**Russell, Bradley (SUNY - Albany)**

[67] *Settlement in the Rural-Urban Fringe of Mayapan, Yucatan, Mexico: Preliminary Results*

The Mayapan Extra-Muralla Survey Project has the goals of understanding the patterning of the settlement zone outside of the city wall at the Late Postclassic Maya political center of Mayapan. This research has already yielded important new data concerning the function, chronology and ethnicity of this previously unmapped portion of the site. I have completed survey and mapping of an area roughly half of the area contained within the city walls. I have also completed test excavations in a sample of the structures mapped in the first five transects surveyed. I will review my preliminary findings.

**Russo, Michael (National Park Service, Southeast Archeological Center)**

[159] *Will the Circle be Unbroken? Describing the Architectural Layout of Shell Rings*

Archaeologists don't know if shell rings are remnants of villages, ceremonial sites, both, or something else altogether. Most interpretations of rings have been ad hoc best guesses with a history of being refuted when minimally tested. Historically, studies have been so few that ring layout is all we've had to base our ideas on. A unified theory, methodology, and terminology is lacking for the descriptions of architectural aspects of rings, let alone determination of their function. I present concepts, measures, and a vocabulary designed to facilitate and focus the study of ring description and function.

**Ruter, Anthony (Center for Climatic Research, IES, UW Madison) and Reid Bryson (Center for Climatic Research, IES, UW Madison)**

[2] *Evaluating the Role of Mid-Holocene Climate Change in the Development of Prehistoric Agricultural Economies Using Multiple Site-Specific Macrophysical Models: Two Eurasian Case Studies*

We have simulated the Holocene history of temperature and precipitation for two dissimilar regions in Eurasia (South Asia and Northern Europe) using multiple macrophysical climate models to evaluate recent claims about the role of climate (or lack thereof) in the prehistory of those regions. In both cases, we argue that due to variable circulation dynamics region wide interpolations are unwarranted. Rather the initial development and subsequent evolution of agricultural economies must be investigated with site-specific models calibrated to account for the local synoptics along with regional ecological proxies and precise local archaeological sequences.

**Rutten, K. [108] see Vrydaghs, Luc**

**Ryan, Darsita [179] see Two Bears, Davina**

**Ryzewski, Krysta [100] see Gohacki, Brian**

**Sabloff, Jeremy (University of Pennsylvania Museum) [10] Discussant; [119] see Tourtellot, Gair**

**Sagawa, Masatoshi (Tohoku Gakuin University, Japan)**

[58] *Re-Excavation of the 'Paleolithic' Zazaragi and Kamitakamori Sites, Miyagi Prefecture, Japan*

The Zazaragi site in Miyagi Prefecture, northern Honshu, was designated as a National Historic Site, and regarded as the foundation for 'Early and Middle Paleolithic' studies in Japan in the 1980s. This site and the Kamitakamori site in the same prefecture were re-excavated, following the exposure of fraudulent manipulation of evidence by S. Fujimura. The re-excavation showed that archaeologists had erroneously interpreted stratigraphic contexts of 'archaeological discoveries', when some of the tools occurred in the pyroclastic flow deposits, improbable for human occupation. At the Kamitakamori site, evidence for planting artifacts was brought to light as well.

**Saidel, Benjamin (W.F. Albright Institute)**

[82] *What's cooking in the Negev highlands*

Research conducted in the Negev desert has broadly identified those areas inhabited by pastoral nomads and agricultural populations during the 6th-8th centuries C.E. Analysis of archaeological and textual data from this area has led to the conclusion that these pastoral nomads were integrated into the local economy of the Byzantine Empire. In this paper the cooking pots found at pastoral campsites in this portion of the Negev are used as a marker to determine how these economic relationships impacted the socio-economic organization of these pastoral nomads.

**Saiton, Naruya [118] see Wang, Li**

**Saitta, Dean (University of Denver)**

[132] *Agency and Warfare: Insights from the 20th Century American Southwest*

The Colorado Coal Field War occurred between April 20 and April 30, 1914. It is considered the best example of open class warfare in American history. The conflict between striking coal miners and state militiamen was precipitated by the killing of men, women, and children at Ludlow, an event known as the Ludlow Massacre. This paper examines agency in this conflict as revealed by archaeological investigations at the Ludlow tent colony and a nearby coal town. It addresses the tactical strategies used by Labor and Capital to gain advantage in the conflict, as well as the survival strategies employed by ordinary people in harm's way.

**Sakai, Sachiko (UC Santa Barbara)**

[66] *Application of Darwinian Theory to Explain the Trading Patterns and Population Aggregation among the Virgin Branch Anasazi in the American Southwest*

Investigation of ceramic circulation patterns among the Virgin Branch Anasazi population in the Southern Nevada using INAA demonstrated reduction in trading after A.D.1000. In this paper, I will explain this empirical phenomenon using Darwinian Theory to examine how natural selection acts on trading and population aggregation as risk buffering strategies associated with agriculture. Then I will propose a hypothesis to explain how natural selection acts differently on these strategies in the Mt. Trumble area, Northern Arizona in a different environment. I will hypothesize that reduction in long distance trading and increased population aggregation were selected for under increasing population.

**Saleh, Heidi (University of California, Berkeley)**

[43] *Interpreting Symbols of Identity in 1st Millennium B.C.E. Egypt: An Analysis of Stelae from the Libyan Dynasties*

Egypt's imperial might declined by the first millennium B.C.E., and long-time foreign enemies were able to rise to the position of Pharaoh. In the Third Intermediate Period (ca. 1069-715 B.C.E.), Libyans gained control of Egypt, inaugurating the "Libyan" Dynasties 22-24. The presence of ethnically different Libyans in the royal household allowed for greater flexibility in the expression of ethnic and gender identities within both the public and private artistic spheres. This presentation will analyze the iconography, style, text, and archaeological context of a corpus of stelae in order to investigate possible motivations for changes evident in self-representations during this time.

**Salgado Gonzalez, Silvia (University of Costa Rica) and Ricardo Vazquez Leiva (Museo Nacional de Costa Rica)**

[165] *Was There a Greater Nicoya Subarea During the Postclassic?*

The local sociocultural developments coetaneous with the Postclassic in northwestern Costa Rica show the region was ethnically diverse. Native Chibchan groups were prevalent along with a spotty presence of Mesoamerican derived populations. The region was an external arena to Mesoamerica both during the Classic and Postclassic periods, even when some groups in the region maintained economic and/or cultural ties to southern periphery groups in Nicaragua. This scenario calls into question the characterization by Albert Norweb four decades ago, which thought both Pacific Nicaragua and northwestern Costa Rica were part of a cultural subarea of the southern periphery of Mesoamerica.

**Salgado Gonzalez, Silvia [165] see Carmack, Robert**

**Sampson, Garth (Southern Methodist University) and Joe Saunders (University of Louisiana)**

[127] *Re-examining construction and occupation history of the early mound complex at Watson Brake, N.E. Louisiana.*

Of the 10 dated Archaic mound complexes presently known in the lower Mississippi valley, Watson Brake is the largest, most complex, and most extensively investigated. Altogether 27 radiocarbon dates show the Watson Brake earthworks were constructed between 5600-4500 cal. B.P. along a terrace rim. Six of the 11 mounds and at least two ridge segments between mounds were multi-stage constructions, but only some stages were coeval across the site. Available evidence points to accretional heightening of individual mounds, rather than the site-wide building bursts originally proposed. Down-profile oscillations in lithics and fire-cracked rock within mound fills support the alternative scenario.

**Sanchez, Guadalupe (University of Arizona)**

[162] *El Bajío: Recent Paleoindian Investigations in Sonora, Mexico*

The Clovis Paleoindian occupation of Northwest Mexico remains virtually unknown. Last summer we began systematic investigations at the El Bajío site, located in northwestern Sonora. Site survey indicates that artifacts extend over four square kilometers with at least 20 localities, including an extensively exploited quarry of a fine, vitrified basalt. Clovis points, preforms, bifaces, spurred end scrapers, side-scrapers along with the entire range of artifacts and debitage representing a blade industry have been collected from several localities. The El Bajío lithic industry appears to be related to different regions, including the southern Plains, northern Plains, and the Southwest.

**Sánchez, Guadalupe** [72] *see* Martínez Tagüeña, Natalia

**Sanders, Hanna (University of Maine School of Law)**

[40] *Incorporating Cultural Property Law into the Curriculum: A Student's Perspective*

For law students, combining an interest in archaeology with a law degree can pose a challenge. In my experience, educators in the legal community are, at best, peripherally aware of Cultural Property / Cultural Resource Law. Moreover, their knowledge of this area of law is often confined to Native American repatriation issues, or to current events such as museum looting during the War in Iraq. There is a need to incorporate Cultural Property / Cultural Resource issues into the law school curriculum. Given the concentration of materials in this area, it is an attainable goal.

**Sandgathe, Dennis (Simon Fraser University)**

[23] *New Excavations at Pech de l'Azé IV*

Recent excavations have been carried out at the Middle Palaeolithic site of Pech de l'Azé IV (Dordogne, France) by a multidisciplinary team. Following the goals outlined in the preceding paper, the excavation strategies and methodology will be presented here. The general strategy was to excavate a portion of the site which contained the entire stratigraphic sequence, from which dates could be retrieved, geologic samples taken, and samples of the intact lithic industries of the site collected. Other specific goals and strategies, such as sampling the lowest layer of the site which contains numerous burn features, will also be described.

**Sandweiss, Daniel (University of Maine), Kirk Maasch (University of Maine), Fei Chai (University of Maine), Fred Andrus (University of Georgia) and Elizabeth Reitz (University of Georgia)**

[163] *Geoarchaeological Evidence for Fish Regime Change linked to Multidecadal Pacific Climate Change*

Anchoveta- v. sardine-dominated fisheries correlate with 20th century, multidecadal climate change in the Pacific Basin. "Anchovy regimes" are characterized by cooler conditions and lower ENSO events, while "sardine regimes" are associated with warmer conditions and higher frequency ENSO. Excavations at Lo Demás, an Inca-period Peruvian fishing site, recovered evidence for a shift from an anchoveta- to a sardine-dominated fishery ca. A.D. 1500. This shift correlates with records for increasing ENSO frequency at the same time and demonstrates that changes in the fish regime can result from natural variability. Middle and Late Holocene sites have archaeofish assemblages also suggest regime changes.

**Sandweiss, Daniel H.** [170] *see* Tuross, Noreen

**Sanger, David (University of Maine)**

[88] *The Ethnoarchaeology of Swordfishing in the Late Archaic Period of Maine*

The presence of swordfish bones, bills and artifacts in Late Archaic sites in Maine indicates considerable familiarity with this species. Members of modern Native communities have no knowledge of the procedures used. Interviews with Nova Scotia fishermen formerly involved with the harpoon fishery provide insights into Late Archaic procurement practices as the technology was essentially the same. According to informants, the fishery may not be associated with as much risk as sometimes described.

**Sanger, David** [1] *Discussant*

**Sanhueza, Lorena** [168] *see* Seelenfreund, Andrea

**Santley, Robert S. (University of New Mexico) and Heather M. Richards (University of New Mexico)**

[22] *The Middle Classic Political Economy of the Tuxtlas: A Location-Allocation Modeling Approach*

Most models derived from economic geography and applied in Mesoamerican archaeology view the development of settlement systems from the top down. In other words, consumers of goods and services in settlements smaller than centers position themselves at sites to maximize access to the system functions provided by the centers. The location-allocation approach, in contrast, looks at the development of centers from the bottom up. Put another way, centers emerge to service a population situated at sites around them. In this paper we apply the location-modeling approach to the archaeological record from the Middle Classic period in the Tuxtla Mountains of southern Veracruz, Mexico. Information on ceramic production and obsidian tool production sites provides a baseline for testing various location-allocation models of system structure.

**Santonja, Manuel [122]** *see Villa, Paola*

**Santor, Calogero (Departamento de Arqueología y Museología, Universidad de Tarapaca, Chile), Alvaro Romero (Departamento de Arqueología y Museología), Daniela Valenzuela (Departamento de Arqueología y Museología), and Vivien Standen (Universidad de Tarapacá)**

[184] *Inka administration toward the south Andes. An overview from the coastal Arica valleys, and its hinterland*

The coastal valleys, the sierra and altiplano of Arica were not under indirect control by the Inka state, as it has been maintained elsewhere in the literature. We present archaeological evidence to support the idea that the coastal valleys were administered through a direct system. This direct system of control was based on ideological constraints, and implied a less invasive presence of the state, with low archaeological visibility in terms of monumental public installations. In the sierra and altiplano, instead, there was high state investment of administrative structures. Political groups of the Titicaca region played an important role in this process of state expansion.

**Sapp, William (UCLA)**

[184] *The Palace of a Lambayeque Lord under Inka Imperialism*

The palace of Cabur was built during the same period as the monumental Lambayeque center of Pacatnamu, ca. AD 1050-1100. Although Pacatnamu was abandoned after the Chimú conquest of the Jequetepeque Valley, a Lambayeque lineage continued to occupy Cabur, exercising economic and political power until the time of the Spanish conquest. Though integrated into the Inka imperial system and despite evidence of a significant Inka presence at higher order sites in the valley, the lineage of Cabur continuously expressed their power in Lambayeque rather than Inka terms: architecture and ideology.

**Sarro, Patricia Joan (Youngstown State University)**

[169] *Image/Event Ritual in the Teotihuacan Apartment Compound as Seen through Mural Painting*

The Mural Paintings of Teotihuacan include depictions of ritual procession. These most often appear in rooms surrounding apartment compound courtyards. Thus they connect the most public with the more private spaces of these residential units, the figures literally processing from one spatial realm to another. These scenes have been analyzed as depictions of ritual events that took place somewhere in the city, and as indicators of belief and social organization. In this paper I will discuss processional images as reflecting what actually took place in the rooms they adorn. This examination of the relationship between space, image and event further expanding our understanding of the ceremonial life within the walls of the residential compounds.

**Sassaman, Kenneth E. (University of Florida)**

[78] *Containers of Time and Space in Archaic Culture*

Agency theory is difficult to implement in archaeology because we cannot observe literal practice and we cannot interpret structure apart from continuous contexts of practice. However, the archaeological record is punctuated with the material consequences of practices that co-opted time (history/tradition) and space (place/landscape) to assert culture, to act as structure. And yet, even these instances of "condensed" culture remain cryptic outside of comparative context. Thus, methods to locate and interpret containers of time and space are necessarily relational, multisited, and multiscalar. Examples of monumentality in the Archaic Southeastern U.S. provide a basis for experimenting with these ideas and methods.

**Sato, Etsuo (Toyama University of International Studies)**

[118] *Preliminary Results of Ceramic Analysis of the Pyramid of the Moon*

This paper presents preliminary results from an analysis of ceramics collected during the 2000 field season of the Pyramid of the Moon Project. One of the objectives of this research was to refine the ceramic chronology using radio carbon dates, stratigraphy, architectural phases, and statistical methods. Furthermore, a reconstruction of the architectural history of the seven phases of construction of the Pyramid of the Moon will be presented from the viewpoint of the ceramics analysis.

**Sato, Hiroyuki (University of Tokyo)**

[24] *Japanese microblade technology: raw material procurement and technological adaptation*  
The microblade industries of Japan are distributed all areas of Japanese archipelago from 21000 BP to 12000 BP. In first stage they are limited in Hokkaido, but in second they dispersed to all areas. And, in third they have earliest potteries. I discuss that 1) the procurement systems of local as chert and wide-used raw materials as obsidian, and 2) their technological adaptations in relation to procurement systems or behavioral strategies.

**Satoh, Daisuke [118] see Wang, Li**

**Saunders, Joe [127] see Sampson, Garth**

**Saunders, Rebecca (Museum of Natural Science, LSU)**

[159] *Consumption Made Conspicuous: Shell Ring Communities in the Late Archaic*  
Shell rings are arc- to circular-shaped constructions built on the lower Atlantic and Gulf coast between about 4600 and 3300 B.P. Opinion on ring function has vacillated between sacred and secular since they were first described. Because shell looks intentionally mounded at some ring sites, researchers are now suggesting that rings were special facilities for the aggregation of dispersed bands for feasting, ceremony, and other social functions. The position of these rings within a community, however, is under-explored; a great deal of variation is to be expected. This paper presents available data and the questions they inevitably raise.

**Saunders, Shelley [26] see Agarwal, Sabrina**

**Savard, Manon (University of Cambridge) and Mark Nesbitt (Royal Botanical Gardens, Kew, UK)**

[108] *Archaeobotanical evidence of Late-Epipalaeolithic / Early Aceramic Neolithic subsistence and environment in the Northern Fertile Crescent*

As few archaeobotanical assemblages have been studied so far in the northern Fertile Crescent, the study of the charred plant remains from M'lefaat and Qermez Dere, both located in northern Iraq, and from Hallan Cemi and Demirkoy, located in South-East Turkey, is of great interest. It reveals the subsistence strategies, the relationship between people and their environment and the vegetal landscape at a key moment in human history. Moreover, these sites are located along an ecological transect, from the steppe to and open woodland; the comparison of their assemblages gives an insight on the role of environmental determinism, culture and taphonomy.

**Savelle, James (McGill University) and Arthur Dyke (Geological Survey of Canada)**

[46] *Palaeoeskimo Occupation History of Foxe Basin, Nunavut: Implications for the 'Core Area' Concept*

The Foxe Basin 'core area' has traditionally been considered to have been central to the development of Palaeoeskimo cultures in the Canadian Arctic and Greenland, as well as a centre of Dorset-Thule interaction. However, recent archaeological surveys in the Foxe Basin region by the authors, together with a reconsideration of previous published and unpublished data, suggest varying levels of occupation intensity by Palaeoeskimos, including some periods of apparent abandonment. This paper summarizes this occupation history, and discusses the implications for the concept of a Palaeoeskimo 'core area.'

**Sayre, Matthew (UC Berkeley)**

[25] *The domestic at Chavín de Huántar?*

The site of Chavín de Huántar, in Ancash Perú, has long occupied a pivotal role in discussions of the Early Horizon in the Andes, yet the realities of daily life at this important site have rarely been intricately described. Excavations over this past summer revealed many domestic contexts as well as units that covered broad chronological expanses. In depth analysis of the data will reveal domestic practices from pre-ceramic times up until the height of Chavín itself. Preliminary

phytolith analysis will document the importance and variability of agricultural practices at the site.

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

[35] *North Andean Sweet Potato in Polynesia? Possible Evidence for Prehistoric Diffusion*

Recent research in the Cook Islands has established that the sweet potato, a new world cultivar, was introduced into Polynesia by AD 1000. Although several methods of dispersal without human agency are plausible, what has sparked the imagination of many researchers is the possibility of trans-Pacific contact. The Polynesian term for sweet potato (kumara), similar to the term *cumar* reported from the highlands of Ecuador and Peru suggests possible human agency. New evidence points to the Ecuadorian Gulf of Guayaquil as a possible locus of trans-Pacific contact.

**Scaramelli, Franz (The University of Chicago)**

[14] *The Construction of Colonial Space in the Middle Orinoco, Venezuela*

In the Middle Orinoco, European strategies for domination were designed both to suppress and seduce the local population. One of the most effective means to achieve these goals was through the reorganization of space. This paper explores recent survey data for the transformations in settlement patterns, site structure and architecture during the colonial period. Although limited and short-lived, mission intervention brought about significant changes in the landscape, through the construction of mission centers, fortresses, and roads, and through the transformations in indigenous domestic and ceremonial space. Spatial analysis provides insights into the role of colonial practice in the attempted domination and reorganization of social groups.

**Scaramelli, Kay (Universidad Central de Venezuela)**

[14] *An Ephemeral Presence: The Archaeology of a Jesuit Mission in the Middle Orinoco (1730-1767)*

In the 18th century, the Jesuits attempted to establish missions in the Middle Orinoco, following strategies that had proven successful in other regions. They were confronted, however, with a diverse Native population that continually thwarted the intentions of the colonial agents. Written sources have documented the challenges faced by the missionaries, while archaeological evidence recovered from mission sites indicates the dominance of Native technology, subsistence strategies, and social relations of production, in spite of the attempts to impose Western models and value systems.

**Scarborough, Vernon L. (University of Cincinnati)**

[22] *Mesoamerican Wetlands and the Origins of State*

Early states in Mesoamerica are strongly correlated with geographical distributions of wetlands. In the highlands--from the Basin of Mexico to the Valley of Guatemala--extensive lakeshore margins harbored the initial appearance of archaic statecraft by the Late formative period. The Maya Lowlands represent the culmination of wetland experimentation with a third of the Yucatan Peninsula covered by bajos, or internally draining swamps. The first state-like enterprise in the Maya area during the Late Preclassic was positioned adjacent to shallow perennial lakes not unlike those identified at a comparable time in the highlands. Subsequent soil degradation and lake infilling stimulated, in part, the divergent social organization and political economy of the Classic period Maya.

**Scardera, Francis (Colorado State University)**

[188] *The Lost Squier Site*

In the 1849 publication of *Aboriginal Monuments of the State of New York*, Ephraim Squier was one of the first to acknowledge several native earthworks in the Jefferson County area. Archaeologists have been challenged as to the precise location of these sites as changes in the landscape no longer correspond to his maps and site descriptions. This paper illustrates how the use of a holistic approach led to the rediscovery of one of Squier's sites. The cross-referencing of data obtained from several sources, including oral history, historical maps, dendrochronology, aerial photos and ground penetrating radar, were employed in relocating and confirming what has been named The Squier Site, located in Ft. Drum, New York.

**Scarre, Chris (University of Cambridge)**

[45] *Shrines of the land and places of power*

African ethnographic accounts distinguish 'places of power' (natural) in the landscape from

'shrines of the land' (cultural). Attempts to understand these in religious terms must consider specific practices of engagement. One such is pilgrimage, which brings cultural and natural together through movement across the landscape. The ritualization of landscape begins when such movements are commemorated by permanent markers, through specific forms of engagement with materials, or through the over-spill of hidden meanings into art. That transition largely coincides in western Europe with the adoption of agriculture, when what can be called 'ceremonial landscapes' first became apparent.

**Scarry, C. Margaret (University of North Carolina-Chapel Hill)**

[111] *Regional Processes and Local Contingencies: The Intensification of Maize Production in Eastern North America*

About AD 800-900, people living in Eastern North America began to focus their husbandry efforts on maize. This intensification was rapid and widespread; within generations, maize agriculture supplanted economies based on native crops and/or wild resources. This paper assesses several models for maize intensification in the East and argues that further progress in understanding the intensification of maize and its relationship(s) to widespread, but locally varied social changes requires attention at the local-level where we can juxtapose the ecological and social conditions of the households who changed their practices and produced the archaeological record that we see.

**Schaafsma, Polly (Museum of New Mexico)**

[137] *Head-taking and Scalping in the Art of Southwest Maize Horticulturalists*

The acquisition of enemy scalps as rain fetishes was a practice that is prolifically documented in Pueblo ethnographic accounts. Trophy heads skins are portrayed in Basketmaker II and Fremont rock art. Visual references to the scalping ideological complex in Pueblo IV kiva murals and rock art indicates that scalps and rain were conjoined ideologically by ancestral Pueblo farmers between c. A.D. 1325-1600. The possibility that some form of this symbol system has existed since the adoption of maize horticulture in the Southwest is examined, and a widespread linkage between maize horticulture and head-taking is proposed.

**Schachner, Gregson (Arizona State University) and Keith W. Kintigh (Arizona State University)**

[72] *Community Formation and Migration in the 13th Century El Morro Valley, New Mexico*

The late prehistoric occupation of the El Morro Valley of west-central New Mexico provides an excellent opportunity to explore the relationship between migration and community formation in middle-range farming societies. During the AD 1200s, there was a dramatic population influx and experimentation with alternative forms of community organization. Some of these communities foreshadow the massive, nucleated pueblos of the 14th century, while others incorporate elements from earlier Chacoan villages. This poster outlines recent excavations and surveys that inform our understanding of the social organization, regional ties, and chronology of the post-migration communities of the El Morro area.

**Schackley, M. Steven [140] see Wegener, Robert M.**

**Scharf, Elizabeth (University of North Dakota)**

[33] *Long-term ecological interactions in eastern Washington*

This research project examines human-landscape interactions over the past millennium on the Columbia Plateau in Washington State. Population data are drawn from previously published demographic reconstructions and environmental information from pollen, charcoal, and oxygen-isotopes in lake sediments. Results from time-series analysis indicate which factors statistically influence future values of the vegetation, human population, and climate proxies. In this way, paleo-records are used to reveal complex feedback cycles and long-term processes that may not be evident from examining modern data.

**Scharfenberger, Gerry (The Louis Berger Group, Inc.)**

[114] *You Can't Take It With You - Or Can You? Grave Goods From The Potter's Field, Secaucus, New Jersey*

The term "potter's field" evokes images of destitute, sometimes nameless individuals buried in simple graves with virtually no adornment or worldly goods. However, excavations at the Potter's Field in Secaucus, New Jersey have shown that people of all social and economic levels were interred with an astounding array of goods. This cemetery is primarily associated with a number of Hudson County institutions, as well as towns surrounding Secaucus. This paper will provide a

brief overview of the types and quantities of artifacts found, and the myriad data they impart about the social, cultural and economic profiles of the interred.

**Scheel-Ybert, Rita (Museu Nacional, UFRJ) and Maria Dulce Gaspar (Museu Nacional, UFRJ)**

[108] *Environmental and social stability in the Southeastern Brazilian coast: plant exploitation and social complexity from sambaqui moundbuilders*

The Brazilian coast as colonized by a relatively complex society of moundbuilders during the Holocene. Mounds constructed by these people were intended as landscape markers, and in some localities they achieved monumental sizes. There are indicators of sedentism and of territorial and social stability. Some of the sites might be residential, while others are exclusively funerary. Despite a primary maritime focus for subsistence, recent researches suggest the practice of human management and or incipient cultivation. However, the anthracological assemblages reveal insignificant variations through time, show that the local vegetation as not greatly affected either by climatic or by anthropogenic perturbations.

**Scherer, Andrew (University of Texas A&M), René Muñoz (University of Arizona), Charles Golden (University of Pennsylvania) and Héctor Escobedo (Universidad del Valle de Guatemala)**

[119] *A Show of Power: The Decline of the Piedras Negras Polity*

The dynasty of Piedras Negras struggled for centuries to dominate the middle Usumacinta River. Hieroglyphs record marriage alliances, victories in battle, and the control of client lords as late as AD 795. But by AD 808, the ruler of Piedras Negras had been captured in battle, trade routes collapsed, and in less than a century the site was virtually abandoned. This rapid decline gives the lie to claims in the hieroglyphic texts for a robust kingdom. Our paper looks beneath the epigraphic façade, exploring the underlying socio-political problems evident in texts, ceramics, subsistence systems, and other aspects of material culture.

**Schermer, Shirley (University of Iowa)**

[41] *Land Is Never Protected: The On-Going Struggle*

Iowa is a rural, agricultural state with a conservative landowner base and a small percentage of publicly-owned land. In addition to discussing implementation of Iowa's burial protection laws, useful tools that can supplement existing laws will be examined such as conservation easements, restrictive covenants, public acquisition, state preserves, incorporating cultural resources into planning and zoning frameworks, and stewardship programs. Proactive measures will be discussed such as a current grant project working with landowners and agencies and a series of programs and newsletter articles targeting law enforcement and planning and zoning organizations.

**Schibler, Jorg [79] see Choyke, Alice**

**Schillaci, Michael (University of Toronto at Scarborough) and Steven Lakatos (Museum of New Mexico, Office of Archaeological Studies)**

[185] *A Study of the Relationship between Biological and Architectural Dissimilarities among a Sample of Archaeological Sites from the American Southwest*

Our study examined the relationship between biological dissimilarity based on craniometric data, and measures of dissimilarity based on architectural attributes among a sample of archaeological sites from the northern Rio Grande Valley and the San Juan Basin in the American Southwest dating from A.D. 800-1400. Cluster analysis of architectural attributes revealed differences between the San Juan and Rio Grande structures. Biological dissimilarity among site samples exhibited a temporal rather than geographical pattern of variation. The results from a matrix correlation analysis indicated that the architectural dissimilarity among site structures was not proportional to biological dissimilarity among corresponding skeletal samples.

**Schlanger, Sarah (New Mexico Bureau of Land Management) and Signa Larralde (New Mexico Bureau of Land Management)**

[102] *Drought, Trees, and Transformation of the Ancestral Pueblo Landscape*

Persistent drought, concomitant insect infestations, and fire have brought striking, large-scale changes to the American Southwest's uplands over the past several years. Dead pinyon and ponderosa far outnumber living trees in many areas, and more are dying with each drought-stricken spring and summer. Previous considerations of drought have focused primarily on direct

impacts to corn agriculture. Our recent experience of drought's impact on the larger landscape--in particular on the pinyon-juniper woodland and pine forests that supported the Ancestral Pueblo occupation--suggests new connections between drought, long-term impacts, and the colonization and migration cycles of the past.

**Schloen, David (University of Chicago) [150]** *Discussant; see Widell, Magnus*

**Schmidt, Kari (University of New Mexico/Los Alamos National Laboratory)**

[20] *Patterns of Faunal Utilization at Coalition Period Sites on the Pajarito Plateau.*

The occupants of the Pajarito Plateau during the Coalition Period (AD 1200-1325) were farmers, hunters, and gatherers who optimized their use of the natural landscape to flourish in a risky environment. Both recent excavations and the analysis of subsistence assemblages from previously excavated sites at Los Alamos National Laboratory (LANL) have amassed data from five Coalition Period roomblocks. This paper discusses analyses of faunal remains recovered from these sites and addresses the social, political, and symbolic underpinnings of food practices in small-scale societies, and considers the role animals may have played in these cultural systems.

**Schmidt, Paul (Ciudad Universitaria, UNAM)**

[166] *Reconnaissance in the Chilapa-Zitlala area of Guerrero*

In survey of near 100 square kms. Over one and a half field seasons, more than 57 sites have been identified, ranging in size from less than 0,5 ha to several over 10 hs., with complex hill terracing, plazas, and ballcourt. Occupation ranges from Lower Preclassic to Postclassic. A very preliminary settlement pattern will be presented.

**Schmitt, Dave (Washington State University) and Karen Lupo (Washington State University)**

[94] *Aka and Bofi Small Mammal Acquisition Patterns: Mass versus Individual Collecting*

The recognition that small animals played an important role in prehistoric human subsistence has gained widespread acceptance within the last few decades. While small mammals were procured by a variety of techniques, special social significance is often associated with mass collecting events. We present new data on mortality profiles and species diversity indices resulting from mass and individual collection techniques derived from ethnoarchaeological research among Central African Aka and Bofi foragers. The archaeological implications of these data for distinguishing different methods of capture are discussed.

**Schmitt, James G. [75]** *see Neeley, Michael P.*

**Schneider, Fred E. (University of North Dakota)**

[111] *Prehistoric Horticulture and Evidence for Maize Cultivation in the Northern Plains*

A major defining feature of Plains Village cultures is maize horticulture. In the Northern Plains the appearance of maize is associated with the onset of the Neo-Atlantic climatic episode and the beginnings of the Middle Missouri Cultural Tradition. Recent research has revealed the presence of maize horticulture in the Northeastern Plain, a region north and east of the Missouri River Valley and a region traditionally considered beyond the limits of prehistoric maize cultivation. Maize appears in this region by A.D. 1200, is found prehistorically as far north as Winnipeg, Manitoba, and its presence challenges existing cultural paradigms.

**Schneider, Joan S. (U of California - Riverside), George Harwood Phillips (University of Colorado), Katherine Siva Saubel (California Native American Heritage Commission) and Deborah W. Gray (Riverside County Sheriff's Office)**

[173] *History, Politics, Archaeology, And Forensics: Confirming and Enhancing Interpretation of an Historical Event through Interdisciplinary Research*

The location of an historic event from the early years of California statehood was confirmed through the efforts of an interdisciplinary team including an historian, a Native American elder and designated Most Likely Descendant, a forensic scientist, and a field archaeologist. The Garra Uprising culminated in a U.S. Army military tribunal and execution of four Native Americans. This interdisciplinary project confirmed the exact location, one of four individuals executed, and cause of death. Furthermore, the data revealed that subsequent activities occurred, strongly suggesting that a traditional mourning ceremony took place at the location sometime after the tribunal and the executions.

**Schneider, Joan S. [106]** *see Gardner, Jill K.*

**Schoenwetter, James (Arizona State University) and Bruce Benz (Texas Wesleyan University)**

[181] *Paleoethnobotanical Studies at Llano Grande, Jalisco, Mexico*

62 samples examined for macrobotanical material and 40 pollen samples were selected to represent the range of structures and stratigraphic units at this guachimonton in the core district of the Teuchtitlan Tradition. 17 samples were examined for both forms of botanical remains. An intra-site pollen chronology based on changes in pollen concentration values suggests details of the construction and occupation sequence that are not obvious from site stratigraphy. Vegetation and ecosystem patterns seem to have been very little impacted by the site's construction and occupation. Maize kernels and cob fragments on occupation surfaces, as well as seeds of disturbed-ground weeds and small amounts of maize, bottle gourd and cotton pollen, document agricultural production, but the site was not embedded in an agricultural landscape. Similarly small quantities of walnut, cottonwood, willow, nettle, dock and cattail pollen were inadvertently introduced to the site by people working or visiting wetland agricultural systems in the lowlands of the core district. A ubiquitous sedge pollen record, accompanied by burned sedge seeds in the remains of burnt buildings of the terminal occupation, suggests use of reeds for thatch and flooring.

**Schroeder, John (National Park Service/ Tuzigoot National Monument) and Kevin Harper (National Park Service/ Southern Arizona Office)**

[185] *Overview of Past and Present Preservation Treatment at Tuzigoot National Monument, Group IV*

Successive preservation treatments have occurred at Tuzigoot National Monument for the past 70 years since Caywood and Spicer first excavated and treated the structure in 1934. The NPS as a part of its mission to protect cultural resources has prescribed various treatments that have maintained and altered the character of the structure through time. Through recent condition assessment work conducted at the ruin, an overview of past treatment work has been completed in Group IV. This paper will provide an evaluation of past work, attempts to preserve or remove that work, and current treatment efforts being conducted at the ruin.

**Schroeder, Marge [180] see Cowan, Frank L.**

**Schroeder, Sissel (University of Wisconsin)**

[56] *Turmoil in the 13th Century: A Reconsideration of the Occupation History of Jonathan Creek*  
Jonathan Creek has long been thought of as a prominent early Mississippian mound center in western Kentucky that was abandoned during the 13th century A.D. and later reoccupied by a small group of people. Recently, the first radiocarbon dates were obtained for the site. These dates place many construction activities in the 13th century, resulting in rapid changes in settlement configuration that are expressed in diverse architectural styles and the catastrophic destruction of mound-top temple structures. The occupation history of the site is reconsidered in the context of other lines of evidence for regional sociopolitical instability in the 13th century.

**Schulenberg, Janet (SUNY Potsdam), Sarah Seeley (SUNY Potsdam), David Hine (SUNY Potsdam), Erin Carmina (SUNY Potsdam) and Amy Farney (SUNY Potsdam)**

[100] *The North Country Archaeological Project*

SUNY Potsdam, a small undergraduate institution, is developing an archaeological survey of prehistoric sites in the North Country, a region between the Adirondacks and the St. Lawrence River. Reanalysis of collections from this region housed at SUNY Potsdam highlight the diversity of Middle Woodland ceramic traditions, the extent of trade networks, and the density of sites in the region. The preliminary analysis of these materials suggests that the St. Lawrence region was a thriving hub of activity during the Woodland period, and challenges long-held notions of cultural chronology and interaction.

**Schultz, T. Clay (University of Texas), Chester P. Walker (University of Texas), Darrell Creel (University of Texas), Dale Hudler (University of Texas) and Samuel M. Wilson (University of Texas)**

[101] *Magnetometer Survey and Intrasite Structure of an Early Caddo Site*

Since the fall 2002, archaeologists from the University of Texas have conducted large-scale

magnetometer surveys at the George C. Davis site in northeast Texas, a predominantly early Caddoan site dating to roughly A.D. 700-1400. These surveys, now covering over 17 ha, reveal many clearly defined architectural features. Targeted excavations were then used on posts, hearths, and other features. This information allows us to connect the extensive archaeological

data from the previous 60 years with high-resolution geophysical maps, yielding information on the intrasite contexts of excavated materials, and on the spatial organization of the communities that lived there.

**Schultze, Carol (UCLA) [77] *Discussant***

**Schulz, Margaret (Colorado State University), Amy Wood (Colorado State University), Randy Amici (Colorado State University) and Laurie Rush (US Army Garrison, Fort Drum)**  
[9] *Management of Survey, Inventory, and Evaluation on a 107,000 Acre Military Reservation*  
Inventory and evaluation in a large acre setting requires thorough understanding of landforms and cultural potential, sophisticated predictive modeling, efficient survey with a reliable team, and state of the art data management. Strong outreach programs like oral history interviewing, lectures, and tours also contribute by encouraging information from outside the formal survey. Fort Drum uses landscape analysis, shovel tests, remote sensing, unit excavation, and trenching for data collection. Documentation tools include GPS, Total Station Survey, ARC VIEW and ARCINFO supported by a customized ACCESS relational database. These strategies have led to discovery and management of over 200 archeological sites.

**Schurmans, Utsav (University of Pennsylvania) and Isabella Muntz (University of Michigan)**

[23] *Spatial Analysis of Pech de l'Azé IV*

Pech de l'Azé IV contains layers, which are vertically relatively discrete. Here we examine the horizontal distribution of lithic artifacts from four of those layers: two of which show signs of cryoturbation while the other two lack signs of significant post-depositional disturbance. We compare these sets of layers and discuss the variability within each set using data from both Bordes' excavations and the more recent excavations by Dibble and McPherron. Employing what Yellen calls a "bottom up" approach, we try to explain observed patterns using taphonomic models first and then test for the presence of any behaviorally significant patterning.

**Schurmans, Utsav A. [98] *see Iovita, Radu P.***

**Schurr, Mark (Notre Dame) and Robert Hayes (Notre Dame)**

[74] *Using ESR to Reconstruct the Stable Isotope Ratios of Charred Bones*

Electron spin resonance (ESR) can be used to determine the thermal history of charred organics. The stable isotopic composition of charred bone is a predictable function of heating time and temperature. It may therefore be possible to use ESR measurements to reconstruct the original isotopic compositions of charred bones. Controlled laboratory experiments were used to develop a calibration curve. The calibrations are applied to charred and uncharred prehistoric bones from sites dated between 5,000 to 1,000 BP. The prehistoric samples are used to evaluate the effects of diagenesis and the accuracy of the isotope ratio reconstructions.

**Schwake, Sonja (UCSD)**

[95] *An Analysis of the Materials from Ritual Contexts at Minanha*

During the first five field seasons, the ritual sub-program of investigation at the site of Minanha has focused on the excavation of contexts that reflect ritual activity at the site, including the eastern pyramidal structures of two E-groups and an eastern ancestor shrine. The materials recovered from these excavations inform us about multiple factors, including intra-site ritual dynamics and extra-site sociopolitical affiliations. Some of these will be presented here within a framework of analysis that emphasizes the significance of specific ritual events.

**Schwarcz, Henry (School of Geography and Geology, McMaster University), Alan Dickinson (School of Geography and Geology, McMaster University), Per Holck (Department of Anatomy, Anthropological Laboratory, University of Oslo) and Phillip L. Walker (UC Santa Barbara)**

[112] *Isotopic Evidence for the Birthplaces of Early Icelanders*

The ratio of strontium isotopes ( $87\text{Sr}/86\text{Sr}$ ) in the teeth of burials from the Hrsbr graveyard provide a basis for determining whether these early settlers were born in Iceland or on the Scandinavian mainland. Iceland is made of Mid Ocean Ridge basalts whose  $87\text{Sr}/86\text{Sr}$  differs markedly from Scandinavian bedrocks. These isotopic values would have been transferred to the

calcified tissues of people living in each area. Dental enamel of three people buried at Hrsbru give an average  $87\text{Sr}/86\text{Sr}$  value of 0.70724 that contrasts with control samples from a medieval Norwegian cemetery, and suggests that the Hrisbru people were natives of Iceland.

**Schwarz, Henry P.** [86] see *White, Christine D.*; [95] see *Webb, Elizabeth*

**Schwarz, Kevin (Southern Illinois University, Carbondale)**

[27] *Intensification of Ancestor Veneration: an Alternative Explanation for Classic to Postclassic Changes in Petén Maya Domestic Architecture*

The problem of interpreting the Classic to Postclassic (A.D. 700-1200) transformation of domestic architecture in Central Petén, Guatemala has led several researchers to hypothesize that Maya or foreign immigrants brought new house designs with them, specifically C-shaped masonry bench forms and central altars. Rather, based upon recent excavations, I suggest that in the Quexil-Petexil Basins, local Maya populations maintained continuity. Architectural changes in house design may relate more closely to changing family organization and changes in bench-altars relate to intensified displays of ancestor veneration. These design changes involve active negotiation of rural communities to political change during the Maya Collapse.

**Schweger, Charles (University of Alberta)** [46] *Discussant*

**Schweitzer, Robert (SWCA Environmental Consultants)**

[139] *Archaeology of the Ephemeral: Investigating the Protohistoric Period in Southern Utah*

The Kern River 2003 Expansion Project passed through numerous sites containing Protohistoric components. The location of these sites within a previously mitigated construction corridor offered unique opportunities for mitigation. Of these, several were chosen for data recovery via excavation. The utilization of alternate mitigation strategies, including excavation of an off right-of-way site and excavation of off right-of-way activity areas resulted in studies focused on obtaining data which can be applied to developing regional and site-specific models. This paper presents the mitigation program undertaken for the Protohistoric Period cultural resources along the Kern River 2003 Expansion Project.

**Sciulli, Paul (Ohio State University) and Boyd Brown III (Ohio State University)**

[73] *Analysis of Human Remains from 46Br31*

Biological profiles (age, sex, stature) are estimated for each of six individuals recovered from the Late Archaic East Steubenville site. In addition, skeletal and dental pathological conditions are summarized and compared to other Ohio Valley populations. Finally, biological affinities of these individuals are estimated. The sample consists of two adult males and two adult females plus two adults unassignable to sex. The most common pathological conditions are degenerative joint disease and caries-granulomas. This observation is consistent with data from other Ohio Valley groups. The biological affinities of the 46Br31 individuals lay within the Eastern Woodlands of native North America.

**Scott, Ann M. (The University of Texas at Austin)**

[37] *The Historical Context of the Founding of Maya Cave Archaeology*

The untimely death of E. Wyllys Andrews IV in 1971, the death of J. Eric Thompson in 1975, and the tragic death of Dennis Puleston in 1978, removed the most prominent senior archaeologists interested in Maya cave use. This allowed graduate student, James Brady, to initiate the field of Maya cave archaeology based on his investigations of Naj Tunich in 1981-82. The lack of senior practitioners and champions decisively impacted the field and the attempts to establish an institutional basis for the emerging subdiscipline. This paper explores the initial efforts to establish Maya cave archaeology within this historical context.

**Scott, Susan L. (University of Southern Mississippi) and H. Edwin Jackson (University of Southern Mississippi)**

[64] *Pigs, Bison and Bears (oh my!): Chickasaw Hunting Patterns in the Early 18th Century*

In addition to adapting to the economic complexities introduced by the European deer skin trade, Chickasaw exploitation and use of the faunal resources in their immediate environment at 1700 A.D. embraced a number of changes. Three taxa unavailable to Southeastern Indians at 1500 A.D. were available locally by 1700 A.D.: horses, bison, and pigs. Coupled with the relative ease of hunting engendered by guns, large game and dangerous prey, such as the usually rare black

bear, change the content of the customary Southeastern Indian midden.

**Scott Cummings, Linda (Paleo Research Institute)**

[108] *Zea mays* Cob Phytoliths: Genetics and the Environment

Domestication of *Zea mays* resulted in changes directly to the cob. Changes in cell shape within the cob provide the opportunity for phytoliths, representing casts of the interior of the cells, to represent both shape and size of individual cells. Exhaustive extraction, examination, and measuring of *Zea mays* cob phytoliths yields a picture of genetic similarity and environmental diversity at some archaeological sites. These techniques are valuable for tracing movement of *Zea mays* across the landscape, whether through trade or advancement of agriculture, and also examining the relative "success" of agriculture from the point of view of the *Zea mays*.

Sears, Erin [119] see Bishop, Ronald

**Seddon, Matthew T. (SWCA Environmental Consultants)**

[139] *Right-of-way Testing Versus Monitoring as Mitigation*

Consulting archaeologists and cultural resource managers have approached the impacts of pipelines on archaeological sites in several ways. Common techniques have been to test construction right-of-way areas through sites prior to construction, monitor construction through sites, or both. On the Kern River 2003 Expansion Project, all eligible archaeological sites were monitored. In this paper, the utility of this approach is evaluated. Examples from other projects where testing has been utilized are employed to demonstrate that monitoring is the most cost effective and archaeologically meaningful way to deal with the potential for impacts to unseen resources on known archaeological sites.

**Seelenfreund, Andrea (Universidad Academia de Humanismo Cristiano), Lorena Sanhueza (Universidad de Chile), Flora Vilches (University of Maryland) and Charles Rees**

[168] *Prehistoric Occupations of the Upper Maule River Basin in south central Chile.*

The paper presents the research results of a study aimed at understanding prehispanic occupations of the upper Maule River basin in south central Chile. Results are based on the analysis of 19 sites located both in the foothills and in the upper mountain areas. Some of these sites are directly associated to one of the most important obsidian quarries and sources in central Chile. The paper analyses the role of the Upper Maule river basin within a wider context and especially in relation to the exploitation of the obsidian source.

Seeley, Sarah [100] see Schulenberg, Janet

**Seeman, Mark (Kent State University)**

[137] *Ohio Hopewell Trophies And Their Place in Woodland Ceremonialism*

Human skulls and other body parts associated with Hopewell ceremonialism have been interpreted as evidence of trophy taking at a relatively early date in the Eastern Woodlands of North America. This paper, after briefly reviewing the history of this interpretation, will provide a contextual analysis of these materials, focusing on the cooperative and competitive threads linking shamanistic practice, the differentiation of social roles, and the use of material symbols in the Ohio Valley of the first and second centuries A.D.

**Seibert, Jeffrey (University of Calgary)**

[95] *Administrative Architecture at Minanha, Belize*

Mayanists have long debated the relationship between form and function in public architecture from the Maya area. This paper seeks to examine the evidence for administrative activities that has been recovered from excavations in range structures at the site of Minanha, located in the Vaca Plateau of western Belize. This paper will discuss both architectural and artifactual evidence for these administrative activities, and briefly offer suggestions as to how a greater understanding of the activities carried out in these buildings can inform our notions of ancient Maya socio-political organization.

**Sekedat, Bradley [156]** *see Gaff, Donald*

**Selig, Ruth (Smithsonian)**

[10] *The Cultural World of Bob Humphrey's Cartoons*

The AnthroNotes editors always knew it was the cartoons, reflecting humor, insight into human behavior and anthropology, and a joie de vivre, that enabled the publication to reach out to teachers and students for 25 years. After all, Bob wrote, "laughing at ourselves" is "one of the most important attributes that differentiates our species from the rest of the animal kingdom." Using numerous cartoons, this paper offers an "ethnographic analysis" of Humphrey's cultural world, analyzing recurring iconic figures, values and norms, social networks, underlying assumptions, and enduring insights. How Bob achieves humor within his world of cartooning also will be discussed.

**Sellen, Adam (Royal Ontario Museum)**

[84] *The Collector's List. Reevaluating Early Archaeology from Oaxaca, Mexico.*

In the nineteenth century Mexican collectors of pre-Hispanic antiquities were some of first to explore, excavate and document the archaeological ruins of Mesoamerica, yet their legacy is often unknown or disparaged as looting. My study examines this history in a new light, by focusing on the inventory lists the collectors generated to record and classify substantial collections of artifacts. The lists constitute a unique source of information on ancient material culture, especially in terms of artifact provenance, and for this reason alone are a valuable record for present day archaeological research.

**Semaw, Sileshi [42]** *see Stout, Dietrich*

**Serra, Mari Carmen (IIA - UNAM. Mexico) and Carlos Lazcano (IIA-UNAM: Mexico)**

[189] *Ethnoarchaeology of Mezcal. Formative Destillation*

This paper presents the results of archaeological excavations in the habitational terraces of the formative period in Xochitecatl, Tlaxcala. In the terraces we excavated a lot of ovens where the maguey was burnt. We present the comparison with the actual ovens in some of the communities in Oaxaca, Chihuahua, Nayarit, Guerrero, etc. This ethnoarchaeological research permits us to suggest that in Prehispanic times (Formative 400 b.c.) there was production of Mezcal in Mesoamerica.

**Setzer, Teddi (University of South Florida) and Robert H. Tykot (University of South Florida)**

[8] *Use-Wear Studies of Obsidian from the Late Neolithic Site of Contraguda, Sardinia (Italy)*

Lithic artifacts are among the most durable remains found at archaeological sites. Sometimes, they are the only clues available to learn about the decisions humans made in the past. This study focuses on identifying the purpose of obsidian tools from the Late Neolithic archaeological site of Contraguda on the island of Sardinia. The information obtained from use-wear analysis provides information about technology, subsistence patterns, craft specialization, and social differentiation, and how these change over time. The experimental and analytical techniques used in this research may be applied by others to obsidian assemblages from archaeological sites in other regions.

**Setzer, Teddi [12]** *see Beyer, Lisa*

**Shafer, Harry J. [138]** *see Waters, Michael R.*

**Sharma, Shanti Pappu [149]** *see Blackwell, Bonnie A.B.*

**Sharp, Zachary [25]** *see Gladwell, Randi*

**Shaw, Justine (College of the Redwoods)**

[27] *A CRAS Study of Settlement Dynamics in West-Central Quintana Roo*

In 2003, the Coahuah Regional Archaeological Survey was initiated in order to locate, and

investigate, sites in west-central Quintana Roo. Although population growth and development are rapidly destroying sites in the region, only the site of Yo'okop had been systematically studied. This first season revealed a number of previously unrecorded settlements, most with strong Formative settlements, major disjunctions in the Early Classic and Late Classic and then resurgences in the Terminal Classic. Terminal Classic occupants at the majority, including Yo'okop, used Cepech ceramics. However, the site of Nohcacab displayed both Sotuta ceramics and Chichén Itzá-style structures.

**Sheehan, Michael (Illinois State Museum) and Irwin Rovner (Binary Analytical)**

[170] *Computer Morphometric Analysis of Lithics: Projectile Points and Miscellaneous Bifaces*  
Computer-assisted optical stereology (CAOS) provides a precise and efficient method for examining lithic assemblages. In this study, the analysis of projectile points and other hafted bifaces from the Middle Archaic component at Napoleon Hollow provides interesting and important insight into the nature of morphological variation among these types of artifacts. Although these materials are fairly common in many archaeological assemblages, meaningful interpretation is often compromised by unintentional observer bias that renders comparative study difficult. The analytical method used here provides a quantitative and replicable method for assessing, analyzing, and interpreting assemblage variability.

**Shelnut, Nicole (University of South Florida), Robert H. Tynot (University of South Florida) and Adolfo Gil (Museo de Historia Natural, Argentina)**

[4] *Isotopic Analysis of Mummies from Northwestern Argentina*  
Isotopic analysis was performed on human bone collagen, bone apatite, teeth, flesh and hair samples from mummies ranging in age from 4000-500 BP, from several sites in the Mendoza and San Juan provinces of northwestern Argentina. The carbon and nitrogen isotope results obtained quantify the relative dietary contributions of flora and fauna, particularly maize and fish. While analyses of bone and tooth enamel are practical for contrasting juvenile and adult diets, hair samples are analyzed to identify annual and seasonal dietary variations. The results obtained are compared with those available for other sites on the edge of the Inca world.

**Shen, Chen (Royal Ontario Museum)**

[24] *Microblade Industries in Shandong Peninsular and Lithic Technological Variability in the Late Pleistocene of Northern China*

This paper reports a preliminary study of three microblade assemblages in Shandong, northern China: Fenghuangling, Qingfengling, and Wanghailou. The data reveal that the microblade assemblages represent two microblade industries in the region in terms of raw material, reduction technique, production sequence, and tool composition and design. It is suggested that the Fenghuangling Industry of the Yi-Shu river valley may be affiliated with the microblade complex of central-northern China in general, while the Wanghailou Industry represents a microblade technology prevailing in the Malingshan Mt. area in southern Shandong and northern Jiangsu. Alongside other lithic industries developed locally in the region, microblade technology introduced cultural complexity and technological variability in the Upper Palaeolithic of Shandong Peninsular.

**Shennan, Stephen (University College London) [62] *Discussant***

**Sherman, Stephen (Colorado State Univ./CEMML), Lewis Somers (Archaeo-Geophysics, LLC) and James Zeidler (Colorado State Univ./CEMML)**

[183] *Integrated Geophysical Survey and Testing for Targeted Excavations of Subsurface Archaeological Features at Fort Hood, Texas.*

A lack of distinct archaeological components within Paluxy Sand deposits means that the greatest research potential lies with the distribution of the intact burned rock features that characterize this site type. Identifying these features prior to expensive exploratory excavation has long been a desire of cultural resource managers. The Center for Environmental Management of Military Lands recently conducted an integrated program of geophysical survey and mitigation excavations at site 41CV595 on Fort Hood, Texas. Although results were hampered by the generally poor condition of the site surface, geophysical surveying provided a cost-effective means of targeting subsurface anomalies for excavation.

**Sherratt, Susan (Ashmolean Museum, Oxford University)**

[12] *Greeks and Phoenicians: perceptions of trade and traders in the early 1st millennium BC*  
How are traded goods and those responsible for trading them perceived by communities with which they come in contact? Clues to such perceptions may be gleaned from archaeological

evidence of traded goods and their deployment by recipients, their effects on the material culture of recipient communities and the construction of their cultural identity; and from literary sources, which may shed light on ideological attitudes to traded goods and traders by the ways these are portrayed. This paper concerns how far the archaeological record of Greek-Phoenician exchange in the early 1st millennium B.C. coincides with perceptions conveyed by early Greek literature.

**Shimada, Izumi (Southern Illinois University) [51]** *Discussant*; [147] *see Farnum, Julie*; [153] *see Goldstein, David John*; [96] *see Elera, Carlos G.*

**Shinde, Vasant [149]** *see Kashyap, Arunima*

**Shiraishi, Hiroyuki (Aichi Gakuin University)**

[58] *Studies of Inter-Site Relationships in Paleolithic Japan*

Recent results of re-fitting analyses of lithic assemblages suggest that the Palaeolithic inhabitants became less mobile around 20,000-17,000 years ago in Japan, when the lithic industries are characterized by backed blades and bifacial points. This is in marked contrast to the lithic material utilization pattern during the earlier phase of Late Paleolithic (32,000 years ago), when the assemblages were characterized by trapezoidal flakes and edge-ground axes, and the settlement system marked by periodic dispersal and aggregation along streams. Occurrence of hearths and house-like features in the later half of the Late Paleolithic also point to a tendency towards sedentism.

**Shoberg, Marilyn (University of Texas at Austin) and James Beers (Brigham Young University)**

[138] *Use-Wear on Stone Tools from BYU and UT Excavations at the Gault Site in Central Texas*

Diverse Clovis tools from the Gault site exhibit microscopic evidence for use in an array of activities. Forms examined include projectile points, bifaces, prismatic blades, tools on blades, adzes, modified flakes, and unmodified flakes. Most tool forms have been repeatedly resharpened. Low and high-power magnification techniques were employed. Unmodified and minimally modified flakes show a significant amount of short term use. More formal tools manifest wear ranging from minor to extensive. Diverse actions and contact materials reflect an array of activities more reflective of a generalized rather than a specialized adaptation.

**Shock, Myrtle (UC Santa Barbara)**

[83] *Pronghorn trail control: One use of rock walls in the northern Great Basin*

Three distinctive types of prehistoric rock features were found by the author in the Owyhee uplands of southeastern Malheur County, Oregon. While two types of rock features are blinds for hunting large game, walls, the third type of rock feature, range up to one meter high and 78 meters long. Walls were constructed in locations which would constrict the movement of pronghorn (*Antilocapra americana*). Pronghorn behavior is such that wall placement would funnel pronghorn returning from perennial water sources past good hunting spots. The time invested to build rock walls suggests that they had a recurrent role in regional subsistence.

**Shott, Michael (University of Northern Iowa) and Eduardo Williams (Colegio de Michoacan, Zamora, MCH)**

[36] *Purepecha Pottery Ethnoarchaeology*

Most pottery studies begin with production and end with use. But every pot and sherd was discarded, and we ignore this critical passage. Following Sue Kent's example, for five years we studied the use-life of ethnographic Purepecha pottery in Michoacan, Mexico. Use-life affects discard rate, which affects assemblage size and composition, which affects inferences to social context of production, occupation span, precision and validity of seriation, and probably things we haven't thought of. Use-life ain't so boring as it seems. It patterns with firing practices, vessel size, and function, but in ways that call attention to context.

**Shott, Michael [42]** *see Sillitoe, Paul*

**Shoup, Daniel (University of Michigan) and Suzanne Baker (Archaeological/Historical Consultants)**

[3] *Spatial Analysis of Rock Art Motifs from Ometepe Island, Nicaragua*

The Ometepe Archaeological Project has recorded 74 sites since 1995, including 1700 petroglyph panels on 1400 boulders. Motifs include anthropomorphic, zoomorphic, and abstract figures. The latter, most numerous, vary from simple spirals to complex curvilinear meanders five

square meters or more in size. This poster presents a GIS analysis that attempts to find relationships between rock art motifs and their spatial aspects. In particular, our analysis will search for: 1) correlations between topography (elevation, aspect, proximity to water, viewshed) and motif; 2) correlation between zoomorphic motifs and ecological zones; 3) motifs whose distribution might indicate boundaries between social groups.

**Sidera, Isabelle (CNRS - France) and Alexandra Legrand (CNRS - France)**

[79] *Methods, Means, and Results When Studying European Bone Industry*

During the last 20 years, technological and functional analysis of European bone, antler, and teeth assemblages has been systematized by several researchers. Thus, we are now able to characterize the cultural particularities of these artifacts and to identify their function. The study of function and manufacturing techniques are usually done using experiments and microscopy, and these two methods of analysis will be presented here. We will also present the conceptual approach and the techniques used for studying large collections of European bone artifacts from Bulgaria, France and Cyprus dating from the Neolithic period.

**Sieg, Lauren (University of Illinois, Urbana-Champaign) and Jarrod D. Burks (Ohio State University)**

[180] *The Land Between the Mounds: 'Empty' Spaces, Cognition, Settlement, and the Built Environment*

Negative space is an integral component to the overall design of Hopewell objects like copper cutouts and engraved bone. The negative spaces contain their own designs and define the design depicted in positive space. This design principle a combination of positive and negative space is writ large on the Hopewell landscape in earthwork and settlement patterns. In the Chillicothe area, the 'empty' spaces between earthworks were an essential part of the larger landscape. These interstitial spaces contained settlements and resource procurement areas. Although settlement and ceremonial precincts occupied different spaces, together they constituted complementary parts of the built environment.

**Siegel, Peter E. (John Milner Associates), Matt D. Harris (Temple University) and Robert G. Kingsley (John Milner Associates)**

[159] *Theater in the Round: A Cross-Cultural Analysis of Circular Communities*

The circular community constitutes a form of village that is common throughout the Americas and, indeed, the world. In some cases, ethnographers and archaeologists have demonstrated that the internal organizations of circular communities were on-the-ground physical representations, or maps, of the cosmos. In the present study, we conducted a cross-cultural analysis of circular communities using data from the Human Relations Area Files. Examining these data in the context of principles and theory of theater we argue that circular communities, or specific portions of them, frequently served as stage-sets for carefully orchestrated ceremonies and rituals. Anthropological implications of these kinds of communities relate to intra- and intercommunity integration, social relations, and political organization.

**Silber, Barbara Chi Hsiao [114] see Catts, Wade P.**

**Silberman, Neil Asher (Ename Center for Public Archaeology)**

[131] *Virtual Viewpoints: Marketing the Past in a Globalized World*

Constrained by cuts in university and public funding, an increasing number of archaeological programs and projects in Europe and the Mediterranean have turned to mass entertainment and international tourist development in quest of wider social relevance and economic support. One result is a new range of "multivocal" archaeological narratives and public presentations, communicated through the techniques of online interactivity, Virtual Reality, and theme park design. What are the ultimate effects of such high-visibility presentations? Do they further the intellectual ideal of multivocality? This paper will present two case studies of this interpretive trend from the European Union and the Middle East.

**Sillen, Andrew (University of Capetown, S. A.) [13] Discussant**

**Silliman, Stephen (University of Massachusetts, Boston)**

[63] *Beyond Culture Contact: Archaeologies of Indigenous People in Colonial Worlds*

This paper revisits the conceptual foundation of archaeological culture contact studies by sharpening the terminological and interpretive distinctions between 'contact' and 'colonialism.'

Conflating colonialism with culture contact leads to three trends: (1) emphasizing short-term encounters rather than long-term entanglements in complex, heterogeneous colonial contexts; (2) downplaying the severity of interaction and different levels of political power in colonial settings; and (3) privileging predefined traits over creative cultural products in multiethnic colonial worlds. As the paper details, these problematic elements frequently obscure the daily lives and struggles of indigenous people impacted by European expansion across the globe.

**Sillitoe, Paul (University of Durham) and Michael Shott (University of Northern Iowa)**

[42] *Use Life and Curation in New Guinea Experimental Used Flakes*

Used ('utilized') flakes are a bore, aren't they, whose prosaic nature overshadows their abundance? In 1983, Sillitoe asked New Guinea Wola men to knap and use chert flakes in customary tasks. Despite use-life measured in minutes to hours, time-to-failure analysis shows that some sets of flakes were depleted, not simply abandoned, however brief their use. Thus, use-life can be short when curation is high; the quantities are distinct. The prosaic category 'used flake' reveals surprising variation in curation that patterns with kinetics and worked material.

**Silverman, Helaine (University of Illinois-Urbana)**

[96] *The Historic District of Cusco (Peru) as an Open-Air Site Museum*

Cusco has long been Peru's foremost tourist attraction because magnificent stone architecture from Inca times still constitutes part of the urban fabric. Not content with the visible archaeological remains in the historic district, successive municipal governments have undertaken a series of projects that further enhance the city's "Incaness" such as the erection of Inca themed statues. The historic district is being crafted and received as an open-air site museum, with problems attendant to this museumification. I compare and analyze official (municipal and other governmental agencies), private sector (various agencies in the tourism industry), vernacular (local population) and tourist discourse about Cusco.

**Silverstein, Jay [27] see Webster, David**

**Simsek, Jan (University of Tennessee) and Alan Cressler (United States Geological Service)**

[178] *Prehistoric Rock Art in the Southern Appalachian*

The southern Appalachian Mountains have seen a great diversity of human lifeways over their prehistoric occupation, including mobile hunter-gatherers, mixed forager/farmers, and fully agricultural chiefdom-level societies. Many of these people left markings in caves and on rocks in the area as part of their ceremonial activities. This paper discusses some of these rock art sites, especially those that might be encountered by modern day users of the Appalachian Trail.

**Simmons, Alan (University of Nevada, Las Vegas)**

[39] *The Earliest Residents of Cyprus: Ecological Pariahs or Harmonious Settlers?*

Islands pose biogeographic restrictions to human occupation, and their frequently fragile ecologies often suffer upon colonization. In this paper, the Mediterranean island of Cyprus is used as a case-study examining human impacts. A model based on recent research is presented suggesting that the initial occupants of the island had dramatic impacts, accelerating the extinction of endemic Pleistocene fauna. During the subsequent Neolithic colonization, however, and contrary to expectations, humans appear to have had relatively limited ecological consequences despite intensive use of the island. Severe deterioration of the island's environment did not begin until post-Neolithic times.

**Simmons, Alan [15] see Mandel, Rolfe**

**Simon, Arleyn [173] see Hodgins, Greg; [130] Discussant**

**Simon, Arleyn W. (Arizona State - ARI) and Jonathan E. Ericson (U of California - Irvine)**

[173] *The Pursuit of Time: R. E. Taylor's Impact on Radiocarbon Dating and Archaeological Science*

R.E. Taylor has made numerous outstanding contributions to the scientific development and application of 14C dating for archaeological materials and has promoted the development of rigorous archaeometric methods. Serving as Professor and Director of the Radiocarbon Laboratory at UC-Riverside, his research focused on 14C dating, obsidian sourcing and hydration, and the 14C dating of some of the earliest human populations in the New World, including Kennewick. Erv's research has dated materials from throughout the Americas, including organics extracted from ceramics. He was instrumental in the development of Accelerator Mass

Spectrometry (AMS) and the exploration of several other promising techniques.

**Simpson, Duane (AMEC Earth & Environmental) and Ryan Peterson (AMEC Earth & Environmental)**

[183] *Using Geophysics to Locate Rockshelter Burials at Fort Hood, Texas*

A pilot study was conducted in late 2003/early 2004 to test the effectiveness of geophysical techniques to locate rockshelter burials on Fort Hood, TX. Resistance and magnetometry were used to attempt to delineate prehistoric burials in rockshelters. The techniques were applied to known burial locations as well as rockshelter sites with suspected burials. As a source of comparison, similar techniques were applied to open burial sites. To further verify that observed anomalies represent human burials, soil testing including total phosphorous, will be conducted. Unfortunately, the soil data will not be available at the time of this presentation.

**Simpson, Duane [102]** see Peterson, Ryan

**Sims, Kenny [71]** see Beebe, Erica

**Siva Saubel, Katherine [173]** see Schneider, Joan S.

**Siveroni, Viviana (University of Pittsburgh)**

[117] *The Inca occupation of the Nasca Drainage: a view from San Juan de Chiquerillo*

The Inca occupation of the Nasca region is commonly believed to have been shallow, with evidence of state control limited to two administrative centers in the southern drainage. This paper re-evaluates Inca presence in Nasca in light of preliminary findings of an intra-site analysis of San Juan de Chiquerillo and related sites in the northern drainage. Comparison with Inca occupations documented elsewhere in the Andes leads me to conclude that Inca presence in the Nasca region had a greater impact than previously believed. I discuss the implications of this new scenario for Late Horizon and Late Intermediate Period population dynamics.

**Siveroni, Viviana (University of Pittsburgh) and Hartmut Tschauner (Harvard University)**

[25] *Hi-tech at Huayurí: 3D GIS and digital photogrammetry in the Santa Cruz Valley, South Coast of Peru*

The Huayurí Archaeological Project attempts to understand the nature of domestic organization and its change in the wake of LIP regional population aggregation. For this purpose, it was necessary to understand the global structure and arrangement and horizontally expose a representative sample of domestic architecture at Huayurí. Low-altitude vertical photography and digital photogrammetry were combined with total-station and GPS ground control and topographic survey to accomplish both of these tasks. These technologies enabled us to build 3D models of Huayurí's 20 has. of terraced surface architecture as well as complex stratigraphy and floor features, suitable for detailed three-dimensional spatial analysis.

**Skibo, James (Illinois State University)**

[16] *People and Things: The Role of Culture in Understanding Traditional Technology*

Culture, like politics or religion, is something we think about a lot but often dare not bring up. In this paper I explore the role of culture in understanding traditional technology. If the primary objective of ethnoarchaeology is to understand the relationship between people and things in ways relevant for the prehistorian, culture is not a useful concept in its traditional form. Using examples from ethnoarchaeology and the prehistoric Upper Great Lakes, I illustrate how performance-based analysis of the interaction between people and things can be used to get at units of analysis that probe deeper than the culture concept.

**Skinner, Anne R. [149]** see Blackwell, Bonnie A.B.

**Slack, Michael (University of Sydney)**

[124] *Subsistence strategies in Late Pleistocene northern Australia*

Initial human colonisation of Australia, the extinction of megafauna and the last glacial period are inextricably linked. Few sites provide in situ records of people and megafauna with which to evaluate their association and/or interaction. The archaeology of the Late Pleistocene is the key to understanding the potential role of people in the extinction process. Research at Riversleigh in northwest Queensland, an important fossil locality spanning millions of years, has revealed an archaeological record dating to when megafauna and humans co-existed. Aboriginal subsistence patterns and lithic technology indicate a broad resource base with no evidence of large game hunting specialization.

**Slim, Barbara (Trent University)**

[95] *Letting the Margins Speak: Exploring the Lower Strata of Ancient Maya Royal Courts at Minanha*

Studies of Maya royal courts have produced a more complete understanding of the elite's administrative, residential and ritual life. However, our understanding is still limited regarding the lower social strata residing within the royal court. By building upon existing research and focusing on the more marginal players in Minanha's epicentre, the recent excavation and analysis of a small mound group at Minanha has revealed what is believed to be the royal servants' area. These investigations provide an excellent opportunity for understanding the lower strata within Maya royal courts, and, by extension, the intricate socio-political and socio-economic organization of Maya society.

**Smalley, John [86]** *see Blake, Michael*

**Smid, Miroslav [52]** *see Staeck, John*

**Smith, Adam T. (University of Chicago) [160]** *Discussant*

**Smith, Adam T. (University of Chicago)**

[175] *The Poverty of Statism: Conceptual Locations for an Archaeology of Political Life*

The archaeology of complex political associations has, in the last 50 years, come to be largely exhausted by the methodological and philosophical premises of statism. This paper examines the poverty of archaeological statism in reference to its inadequate account of both the spatiality and temporality of political life. In place of the State, this discussion will offer a set of rival conceptual locations as potential lodestars for examining the (re) production of political regimes and subjects.

**Smith, Alexa [185]** *see Abbott, David*

**Smith, Alexia (Boston University)**

[108] *Bronze and Iron Agriculture Age in Syria: A Regional Perspective*

Agriculture encompasses both plant and animal production, the spheres of which frequently overlap, yet palaeoethnobotanical and zooarchaeological data are frequently considered separately. This paper discusses new palaeoethnobotanical data from Tell Qarqur, northwest Syria, and considers the evidence in light of published botanical, faunal, and palaeoenvironmental studies from other Bronze and Iron Age sites in Syria. In compiling large multidisciplinary datasets, it is possible to examine changing land use patterns and food production systems over both time and space and investigate relationships to climate change.

**Smith, Bruce D. (Smithsonian Institution) [161]** *Discussant*; [70] *Discussant*; [170] *see Tuross, Noreen*; [86] *see Després, Viviane*

**Smith, Claire (Flinders University) [179]** *Discussant*

**Smith, Claire (Flinders University) and Heather Burke (Flinders University)**

[151] *Mediating Place on the Colonial Frontier*

The issue of contact between Indigenous peoples and colonial settler societies is something to which the practice-oriented researcher is drawn since cross-cultural situations have the potential to produce accelerated and profound social change. In response to Indigenous social and political agendas, archaeological practice in Australia is increasingly focusing on "contact", or the historical archaeology of Indigenous peoples. This paper builds on more than ten years of research into the processes of contact in the Barunga region of the Northern Territory, Australia.

**Smith, Craig S. (TRC Mariah Associates) and Lance M. McNees (TRC Mariah Associates)**

[75] *Biscuitroot and Prehistoric Foragers: Patch Size, Plant Density, and Return Rates*

Direct evidence for the use of roots in the archaeological record of prehistoric foragers is typically lacking even though they were often an important resource. One such root resource, biscuitroot (*Cymopterus bulbosus*), grows in dense patches within areas of high site densities in southwest Wyoming. The analysis of the nutritional content, caloric return rates, patch size and distribution, and density within patches provides an opportunity to model its use within a behavioral ecology framework. This study also adds to the growing corpus of information on the economic structure of root resources, allowing for increased understanding of variations in their use.

**Smith, David [105]** *see Pearce, Robert*

**Smith, George (Southeast Archeological Center) [76]** *Discussant*

**Smith, J. Gregory (AINW/University of Pittsburgh)**

[154] *Labor Movements: Comparing Residential Mobility and Monumental Architecture between Bronze Age Mongolia and Classic Period Maya*

Monumental architecture dominates the archaeological landscape of both Bronze Age Mongolia and the Classic Period Maya Area of Mesoamerica. One way of looking at monumental architecture is that it represents fossilized labor. Assuming that commoners formed the labor force needed to construct monumental architecture, comparing the Mongolian case to the Classic Period Maya is interesting since the former were nomadic pastoralists and the latter were sedentary agriculturalists. This paper presents some ideas regarding the relationship between the elites who commissioned the monumental architecture and the commoners who labored to build it, paying particular attention to the issue of residential mobility.

**Smith, Kevin P. (Brown University)**

[148] *Independent people, householders and outlaws: Reconciling economic autonomy, polity, and trade in medieval Iceland*

From its colonization in the 9th century AD to its absorption by the Norwegian state in the 13th, medieval Iceland was transformed from a confederation of simple chieftaincies to a network of competing complex chiefdoms and, briefly, a unified state. While comparable chiefdoms' economies have been characterized by redistributive, tributary, or patron/client relationships linking elite and non-elite households, medieval Iceland's non-elite households have been considered largely autonomous, self-sufficient and politically independent; held in check by the ultimate sanction of outlawry. This paper will examine the archaeological records of outlaws (householders outside the law and society) and farming households (potential outlaws) in western Iceland to consider the possibilities of true autonomy versus the benefits of incorporation into the social, political, and economic networks that linked Icelanders into regional polities and economic networks tied into the larger sphere of medieval North Atlantic commerce.

**Smith, Laura [87]** *see Darwent, Christyann*

**Smith, Michael E. (University at Albany (SUNY))**

[3] *The Archaeological Study of Ancient Commercial Exchange*

The degree of commercialization is a key variable in ancient state economies. I first discuss the theoretical background of this concept and review worldwide historical data. I then focus on two domains of ancient commercial exchange. (1) The internal commercialization of individual economies is an ordinal scale with important sociopolitical implications and associations. (2) Commercial exchange between states is a separate institutional arena whose relationship with internal commercialization is variable. I discuss the material correlates of these two types of commercial exchange and explore the implications of varying levels of commercialization among ancient New World states.

**Smith, Michelle Hayeur (Rhode Island School of Design)**

[148] *Undressing the Vikings: Recycled identity, jewelry, and mortuary display in Viking Age Iceland*

The Vikings settled Iceland in the 9th century AD, bringing with them Scandinavian culture and cultural traits, such as pagan burial practices. Icelandic mortuary assemblages, overall, more closely resemble Scottish counterparts than Continental Scandinavian ones, suggesting a distinct 'North Atlantic assemblage.' This is defined primarily by the inclusion in graves of certain Insular objects of jewelry that are rare if not absent in the Scandinavian archaeological record. The array of jewelry recovered from mortuary contexts in the North Atlantic offers a glimpse of a unique colonizing culture that was neither exclusively Scandinavian nor Insular, but reflects a mixed cultural community expanding westward across the North Atlantic and negotiating the terms of a new ethnicity.

**Smith, Pamela Jane (Lucy Cavendish College)**

[37] *God, Empire, and a Forgotten Archaeologist*

The oldest and most famous school of archaeology in Britain is at Cambridge University. Every

continent is sprinkled with Cambridge graduates from Louis Leakey to Glyn Daniel to Ian Hodder and more. How did this all begin and why? In 1915, Miles Burkitt, a shy, now long-forgotten geologist, became the first to offer lectures on prehistory to Cambridge undergraduates. My presentation will resurrect Burkitt's original motivations and personality; his beliefs in how archaeology could serve both God and Empire will be explored. Cambridge's enormous success as gatekeeper for postgraduate research and archaeological careers in Britain and beyond will be examined.

**Smith, Schaun [54]** *see Kolm, Kenneth*

**Smith, Sean (Proyecto Arqueologico Guachimonton)**

[181] *Una interpretacion de los niveles linasticos en el nucleo de la Tradicion Teuchitlan a traves del estudio de los circulos monumentales y no monumentales del sitio arqueologico Los Guachimontones, Jalisco, Mexico.*

A principios de 2003 se localizo el circulo numero 10 en la ladera Este del centro ceremonial, el cual conserva las mismas características de las demás estructuras representativas de esta tradición y comparte la misma temporalidad con los guachimontones monumentales del sitio. Con las excavaciones y el análisis de los materiales podemos inferir que el circulo 10 mantiene ciertos detalles en cuanto a su tamaño y localización que contemplan una nueva perspectiva de investigación para este tipo de edificios y con ello permite observar algunas diferencias en los niveles linásticos con base en su patrón de asentamiento.

**Smith, Stuart (University of California Santa Barbara)**

[80] *Revenge of the Kushites: Assimilation and resistance in Egypt's New Kingdom empire and Nubian ascendancy over Egypt.*

Upon their assumption of the Egyptian throne in c. 750 BC, the Nubian rulers of Napata and their key elites show a strong emulation of Egypt. As a result, Egyptologists have largely attributed Napata's dramatic rise in complexity from 850-750 BC not through local agency, but as a process driven by an Egyptian or Egyptianized remnant of the old New Kingdom colony, which lasted from 1500-1000 BC. This paper examines native resistance to the Egyptian occupation, assessing strategies varying from open rebellion to assimilation, and assessing models of acculturation, transculturation and ethnogenesis in the rise of the Nubian Pharaohs.

**Smithline, Howard (Israel Antiquities Authority)**

[158] *From the Profane to the Sacred: The Transformation of a Cave in the Galilee, Israel*

**Smyth, Michael (Rollins College)**

[22] *Maya Medicine Men: The Political Economy of Interaction between Northern Yucatan and Teotihuacan*

Research at the Puuc hills center of Chac (II) has revealed a significant Early Classic (AD 300-600) settlement in a region believed to have been occupied much later. A cosmopolitan site showing evidence for both elite and nonelite foreign contacts, especially with Teotihuacan, begs the question of why foreigners were there. This paper explores the long-distance political economy and the potential goods and ideas of interest to outsiders. One major item of export may have been the medicinal plants so prevalent in dry tropical forest environments and the knowledge of the Maya practitioners themselves famed as healers throughout Mesoamerica.

**Snead, James (George Mason University) [37]** *Discussant*

**Snead, James (George Mason University)**

[20] *Total War? Scenarios for Conflict in the Galisteo Basin, AD 1275-1325*

The dynamics of conflict in the northern Rio Grande during the Coalition period remain poorly understood. Theories that warfare was endemic in the region during this and subsequent centuries are built on limited empirical data; evidence for defensive settlement patterns and burned sites exists but is largely hidden in unanalyzed collections. Recent work in the Galisteo Basin, focusing on the Late Coalition Burnt Corn community and the regional landscape, illustrates that the threat of warfare at the time such settlements were established was real, but that such pressures changed dramatically in the decades thereafter.

**Snow, Dean (Pennsylvania State University) Discussant, [76]** *Discussant*

**Snowdon, Victoria [108]** *see Wollstonecroft, Michele*

**Snyder, David (Ohio Historic Preservation Office)**

[41] *Protecting Ohio's Cemeteries: Limitations Under Ohio Law and CRM Archaeology*  
Preserving cemeteries can be frustrating. Historic-era cemeteries are an important part of the American Cultural Landscape, in the same way that cemeteries are important components of traditional cultural systems for Native Americans. Currently in Ohio many cemeteries are threatened by accelerating development pressure. Preservation efforts are hampered by the lack of a comprehensive state law addressing cemetery preservation and by difficulties in applying CRM laws.

**Snyder, David** [30] *see Manson, John*

**Snyder, Genesis (Western Michigan University)**

[30] *Ransom Place Archaeology: A Practice in Public in Archaeology*  
Ransom Place Archaeology is a public archaeology project among Indiana University Purdue University at Indianapolis (IUPUI), the Ransom Place Neighborhood Association and the Indianapolis Urban League. The project uses archaeology to examine lines of difference in Indianapolis' near-Westside since the mid-19th century, especially the relationship between material consumption and race. The project works closely with and presents its ongoing research to its community constituents through site tours. This poster will examine the project's tour program, which is designed to illuminate the historical roots of contemporary social inequality.

**Snyder, Lynn (Smithsonian Institution), Deborah Hull-Walski (Smithsonian Institution) and David Rosenthal (Smithsonian Institution)**

[155] *Archaeology for the Nation: A Resource Guide to the Collections of the River Basin Surveys*  
The River Basin Surveys Program (1946-1969) investigated thousands of archaeological localities, recovering more than three million artifacts and related samples. The vast scale of the resultant material, archival, and data collections, however, has created lasting problems of information and collections storage, maintenance and access. As a fundamental tool for effective awareness and use of these materials, the Department of Anthropology, NMNH is developing a Resource Guide, in both print and web based formats, which will provide a descriptive listing of the Smithsonian's RBS holdings with supporting digital imagery and archaeological site data, and links to related collections in other repositories.

**Sobota, Renee** [29] *see Mohney, Kenneth*; [73] *see Pope, Melody*

**Soderberg, John (University of Minnesota)**

[148] *'Strangely egalitarian': A faunal view of urbanism in Britain and Ireland*  
Discussion of urbanism in medieval Europe has focused on growing social stratification and the replacement of egalitarian organizations. In 1988, Jennifer Bourdillon expressed discomfort with this approach. Based on her work with faunal assemblages from Hamwic, she concluded that the settlement's animal economy was 'strangely egalitarian.' Unfortunately, subsequent research has generally failed to pursue the significance of this contradiction. New paradigms for social complexity, however, are designed to examine how complexity is fostered through elaboration of an egalitarian organization, not its replacement. This paper explores how these new theories resolve the contradictions Bourdillon noted long ago.

**Soderland, Hilary (University of Cambridge) and Christopher Chippindale (University of Cambridge)**

[40] *Ethics and a British Archaeology Curriculum*  
Archaeology is a multifaceted subject practiced throughout the world, yet the particular circumstance of any specific archaeological work is often singular, even unique. Ethical and legal issues that arise are correspondingly complex as is the question of how to incorporate their study into the curriculum. An instructive starting point is to contextualize law and ethics within the framework of social values--those values that determine what is virtuous/ethical, and what is wrong/unethical, while noting that many factors influence the application of such values. How this is structured within the University of Cambridge graduate archaeology curriculum will be discussed.

**Sohl, Linda (LaPorta and Associates Geological Consultants) and Philip LaPorta (City University of New York)**

[106] *The Chain of Operation of Lithic Refinement in prehistoric Chert Quarries in Eastern*

*Appalachians*

The traditional terminology associated with raw material analysis in prehistoric chert quarries has been abandoned. Expressions such as block, chunk, shatter, waste flake, trim, and quality only serve to camouflage prehistoric lifeways as they are organized in quarries. Through the application of a mineral resource model, terms such as ore block, lithon, gangue, microlithon, scalings, and half-product have been applied to the vast quantity of previously non-diagnostic mine tailings recovered in quarries. This model permits the construction of an attribute analysis as well as a mass analysis approach to analyze the great volume of mine tailings associated with prehistoric quarries.

**Solleiro Rebolledo, Elizabeth [118]** see McClung de Tapia, Emily

**Somers, Bretton (LSU)**

[169] *Hidden Landscapes of the Ancient Maya*

Research on Joe Taylor Creek in southern Belize revealed extensive Postclassic Maya settlement indiscernible from surface inspection. Prior research revealed a Postclassic mound on the bank of Joe Taylor creek at Arvin's Landing. My study involved transect survey with systematic shovel tests extending from the creek. The present landscape is forested with secondary growth devoid of artifacts, mounds or other surface features indicative of settlement. We found a rich artifact assemblage of obsidian, chert and ceramics extending throughout the survey area. The presence of this expansive artifact assemblage is indicative of a larger settlement than previously known.

**Somers, Lewis [183]** see Sherman, Stephen

**Sonnenborn, David (Columbia University)**

[123] *An Analysis of House Structures and Associated Features at Vésztő-Bikeri*

This paper analyzes the spatial and chronological relationship between features at the Vésztő-Bikeri settlement. These features include domestic structures, their associated wall foundation trenches, and pits. The past three field seasons have focused on three structures near the center of the site. The present paper synthesizes spatial, radiocarbon, and magnetometric data in an attempt to model the internal organization of the settlement with respect to relative and absolute chronology.

**Sorensen, Mikkel (Nationalmuseet, Sila.) and Pierre Desrosiers (Avataq Cultural Institute-Universite Sorbonne)**

[87] *Burin and Burin-like: A Technological Perspective on the History of the Palaeoeskimoes*

Although the recognition of the lithic burin has been the most important discovery in the definition of the Palaeoeskimo cultures, not much attention has been paid to understand how burins were made and transformed through use, during this period. In this paper the chains operatoires for the burins in the different Palaeoeskimo cultures (Independence, Saqqaq, Dorset) will be analysed and explained. It will be demonstrated that intentions and technology in production and use of burins, changed regionally and diachronically, and that each period/area had its own specific concept for the burin. Further the problematic terminology of the burin and the burin-like tool will be discussed.

**Sorenson, Sorena [169]** see Mountjoy, Joseph

**Soressi, Marie (IPGQ)**

[23] *MTA lithic behaviors at Pech-de-l'Azé I or how Mousterian industries can still be surprising*

The study of Mousterian of Acheulian tradition (MTA) lithic technology produced by Neandertals before any influence from anatomically modern humans allows to discuss several points thought to be related to the emergence of behavioral modernity. Among these are the variability of Mousterian technologies across time and space, the planning of knapping activities across the territory, and the use of Upper Paleolithic methods of lithic production immediately before the arrival of anatomically modern humans in Europe. Pech I, along with other well documented neighboring MTA sites, provides useful data to address these questions.

**Soressi, Marie [122]** see Villa, Paola; [23] see Maureille, Bruno; [23] see d'Errico, Francesco

**Sosna, Dan [89]** see Illingworth, Jeff

**Sosna, Daniel (Florida State University) and Jeffrey Illingworth (Mercyhurst College)**

[123] *Textile Production in the Early Copper Age on the Great Hungarian Plain*

Analysis of spinning and weaving implements from Vésztő-Bikeri, Hungary sheds light on the character of textile production at an Early Copper Age settlement. Comparison with samples from older sites exhibits several similarities suggesting technological continuity in the region. In addition to an analysis of technological processes, this paper examines spatial data that allow us to address questions concerning the organization of tribal societies in the Neolithic/Copper Age transition. The dispersed distribution of the textile-related artifacts at Vésztő-Bikeri suggests that textile production was associated with each household.

**Southon, John [74]** *see Dyke, Arthur*

**Speakman, Jeff (University of Missouri), Michael Glascock (University of Missouri) and Altan Cililingiroglu (Ege University, Izmir, Turkey)**

[8] *Trace Element Analysis of Eastern Anatolian Obsidian by ICP-MS, INAA, and XRF*

The success of provenance studies of obsidian lies in the ability to trace culturally modified materials back to their geologic source. By identifying sources of artifacts, archaeologists can develop and test models of prehistoric trade, interaction, and access to resources. To date, the majority of obsidian-source studies have used instrumental neutron activation analysis (INAA) and X-ray fluorescence (XRF). This paper explores compositional variability in obsidian from Eastern Anatolia using data generated by INAA, XRF, and laser ablation ICP-MS.

**Speakman, Robert J. [115]** *see Harry, Karen; [3]* *see Little, Nicole*

**Speal, C. Scott (SUNY-Albany)**

[156] *Death and Society in Wawychatenok: Post-mortem Skeletal Modifications at Riviere aux Vase, Michigan*

Survey of the post-mortem cultural modifications from the Late Woodland site of Riviere Aux Vase in Southeastern Michigan reveals some informative patterns of mortuary behavior. A variety of burial practices typical of Younger Mortuary Complex sites are used to elicit inferences toward social structure and cultural affiliations of Western Erie Tradition societies in the Great Lakes region. Comparative evaluation of skeletal modification patterns both antecedent and descendant of the Younger Complex reinforces analogy with ethnographically documented rituals. Subtle differences are evident, however, in demographic analysis suggesting that modified remains represent focal individuals and reflect rank distinctions within the population.

**Spector, Janet (University of Minnesota) [157]** *Discussant*

**Spence, Michael W. [118]** *see Pereira, Gregory; [169]* *see White, Christine D.*

**Spencer, Darla (Cultural Resource Analysts, Inc.)**

[56] *Preliminary Findings of an Archaeological Survey of the Lower Kanawha Valley in Putnam and Mason Counties, West Virginia.*

Although the current body of archaeological data points to the Kanawha River as a major trade route, previous studies of the region have focused on single archaeological remains, with little emphasis on a synthesis of its rich cultural history. This paper presents preliminary results of a systematic survey utilizing informant interview and photodocumentation of extant collections. The results of the survey include the addition of new archaeological data, delineation of site locations with specific coordinates, and expanded knowledge of the variability of cultural-material remains that will result in a refinement of the cultural history of this important waterway.

**Speth, John [122]** *see Meignen, Lilianne*

**Speth, John D. (University of Michigan)**

[129] *Boiling vs. Roasting in the Paleolithic: Distinguishing Methods of Cooking Meat and Why It Matters*

Exploring the origin of grease-rendering provides a context for examining two general issues: early hominid big-game hunting and Late Pleistocene "broadening food spectra." I suggest that early hominids were more concerned with getting enough calories than with getting high-quality animal protein, their oversized brains notwithstanding. I also suggest that the "broadening food spectrum" is but one form of "intensification," and that our focus on diet breadth blinds us to changes occurring before the Epipaleolithic. In fact, if one sees "intensification" as a response to

population/resource imbalances, then the origin of food production probably has its roots in the late Mousterian.

**Spielmann, Katherine (Arizona State University) and Diane Hawkey (Arizona State University)**

[90] *Pueblo Labor under Spanish Missionization*

From the time of Spanish colonization in the 1590s, Pueblo peoples were faced with demands on their labor and products by Spanish civil and ecclesiastical authorities. This paper analyzes changes in Pueblo activities through a case study involving the Salinas Pueblos of central New Mexico. Our analysis draws on Spanish ethnohistorical records that document the specific labor demands on Salinas Pueblo people, Pueblo ethnographic data concerning the division of labor, and osteological data from the Salinas site of Gran Quivira. The osteological data provide critical information on changes in the division of labor by age and sex in the 1600s.

**Spielmann, Katherine [111] see Rainey, Katharine**

**Spiess, Arthur (Maine Historic Preservation Commission)**

[162] *Early Paleoindian Caribou Hunting Economy in the New England - Maritimes Paleoindian Region*

Regional variation in Paleoindian lifestyle has become a commonplace research theme. The earliest Paleoindian inhabitants of the New England - Maritimes region, and subsequent fluted-point using Paleoindian groups for about 1500 calendar years, operated similar economies. Faunal remains consist of caribou and various small mammal species. At both 13,000 and 12,000 cal yr BP, the regional pollen reconstruction indicates a subarctic environment analogue that supported caribou herds of large size and long-distance migratory behavior, as well as localized caribou herds. It is no coincidence that fluted-point Paleoindian settlement pattern resembles that of sub-arctic caribou hunters, an oft-repeated hypothesis for the last 50 years.

**Spiess, Arthur (Maine Historic Preservation Commission) and David Black (University of New Brunswick)**

[1] *Prehistoric Economic Adaptations to the Gulf of Maine Region*

Archaic and Woodland period Native American economic adaptation to the fresh water drainages of the Gulf of Maine included a diverse hunting, trapping and fishing economy supplemented by limited wild plant gathering. Coastal adaptation was mostly littoral in focus, shellfish providing a major protein source. The extent and nature of coastal fishing and maritime hunting was controlled in part by long-term changes in tidal amplitude and inshore surface water temperature. At least during the Late Archaic and Woodland periods, groups were resident on the coast year round or for most of the year, although for limited seasons in any one location.

**Spiess, Arthur [88] see Cowie, Ellen**

**Srivastav, Om Prakash (O.P.) (Muslim University, Aligarh, India)**

[149] *An Archaeo-Literary Study of District Muzaffar Nagar, U.P.*

The present study is an attempt to provide a brief archaeological profile of Copper-Bronze Age of Western Uttar Pradesh on the basis of exploration and excavations conducted so far in this region. Such studies may ultimately help in reconstructing the cultural personality of the area under study. During 1980-89 a planned village to village exploration of district Muzaffar Nagar was undertaken by the author. Besides the relics of the later cultural periods of Iron Age, the pottery belonging to copper-Bronze age found from different sites. Total 171 sites have been explored out of them 52 have already been explored. A number of antiquities representing different cultures which flourish in the Ganga Yamuna doab were collected. Apart from the archaeological sites I have also studied the structural remains of the district, such as Residential building Wells, Temples & Mosques etc. It appears from the evidence that the region was suitable for early settler.

**Stackelbeck, Kary L. (University of Kentucky) and Rosario M. Becerra (Universidad Nacional de Trujillo)**

[120] *Setting the Stage for Complexity: Middle Preceramic Hunter-Gatherers of the Jequetepeque Valley*

This paper presents data on Middle Preceramic (ca. 7000-4500 BP) occupation of the lower Jequetepeque Valley and the theoretical implications of socio-economic and settlement changes that set the stage for later complex societies. Preliminary survey, excavation, and flotation data suggest that some significant aspects of Middle Preceramic lifeways included: plant processing

and use, more expedient stone tool technology, domestic living structures and activity areas, semi-sedentism, and the presence of multiple households on sites with access to various resource zones. Understanding the socio-economic changes that occurred during this transitional period is relevant to studies of increasing complexity and forager studies worldwide.

**Staeck, John (College of DuPage), Miroslav Smid (Ustav arch. Pamatkove pece Brno), Tracey Kopecky (College of duPage) and Maximilian O. Baldia (Czech-American Research Project)**

[52] *TRB Walled Settlements and Economy: The View from Hrad Bilovice*

Hrad Bilovice is one of the few systematically investigated walled enclosures in Moravia, the Czech Republic. The presence of it and a small number of other fortified TRB sites in the Hana region is documented and discussed. Attention is focused on the economic activities at Bilovice and its potential position in regional interactions. The quarry and production of ground stone implements as well as the range of imported lithics present are examined and viewed in light of the dominant site in the region, Rmiz-near-Laskov. Data on the first fully sectioned wall system at sites such as Bilovice is also presented.

**Stafford, C. Russell (Indiana State University) and Mark Cantin (Indiana State University)**

[101] *Early Archaic Lithic Reduction Strategies at the James Farnsley site in the Lower Ohio River Valley*

The James Farnsley site contains a series of buried Early Archaic occupations that span the period 10K-8.3K yrs BP. More than 10K tools and 100K+ flakes were recovered from Kirk, Thebes, and Early Corner Notched occupations. The site is located in a chert rich region, with Muldraugh chert available nearby. A variety of analytical techniques, including debitage mass analysis and tool refitting, are used to examine the relationship between tool manufacture, raw material, and changes in site use through time.

**Stahl, Peter W. (Binghamton University)**

[94] *Microvertebrate Generalists and Neotropical Forest Modification*

Vegetational clearance and edge creation are universal hallmarks of human occupation in the neotropical forests. Theoretical studies and field-based research implicate eurytopic microvertebrate accumulation as a signature of anthropogenic forest modification, particularly when associated with larger taxa capable of thriving in forest fragments. Archaeological data from the forested lowlands of western Ecuador are explored to examine potential instances of prehistoric landscape modification.

**Staller, John (The Field Museum)**

[136] *The social, symbolic and economic significance of Zea mays L. in the Andes*

Recent converging lines of evidence have indicated that maize (*Zea mays* L.) appears to have spread into different regions of the Andes as a plant of social and symbolic rather than economic significance. Ethnohistoric, ethnographic, and archaeological evidence are presented to gain an understanding of the social, symbolic, and economic significance of maize to Andean forms of long-distance interaction and to indigenous concepts of reciprocity. These data suggest that maize spread into various regions of the Andes in association with ceramic innovation, metallurgy, and early long-distance interaction between disparate microenvironments, and that it played a complex and significant role to the development of Andean civilization that went far beyond its later importance as a food staple.

**Stalling, Richard [127] see Baggett, Klint**

**Standen, Vivien [147] see Alfonso, Marta, [184] see Santoro, Calogero**

**Stanford, Dennis (Smithsonian Institute)**

[10] *Arctic Adventures While Seeking the First Americans*

The author recounts in amusing detail the perils and triumphs of conducting fieldwork in Alaska with Bob Humphrey during the summer of 1966, when he was Bob's graduate research assistant at the University of New Mexico. Dropped off by a bush pilot on a remote sandbar on the Utokok River in northern Alaska, these two fledgling arctic explorers found the first "in situ" evidence of Arctic fluted projectile point along with nearby mammoth bones dating over 17,000 years old. The author also will use Humphrey's work to explain the development of fluting technology.

**Stanish, Charles (UCLA)**[133] *The Organization of Chiefly Power in the Early Andes*

This paper combines ethnographic and archaeological data with contemporary theory to offer a model of chiefdom organization in the 2nd millennium BC Peruvian coast and sierra. I use evolutionary game theory and economic anthropology to illustrate the means by which nonelites form cooperative groups to increase production and create new economies of scale.

**Stanish, Charles (UCLA) [54] Discussant****Stansbury-O'Donnell, Mark (University of St. Thomas)**[43] *Spectators as Model Viewers and Citizens*

On hundreds of Athenian vases there are spectators who watch narrative scenes, either of the mythic past or of contemporary competitions. Analysis of the placement and actions of these spectators suggests that they mimic the structure of choral poetry and performances in sixth-century Athens, with the spectators doubling for the singers as well as the audiences. As sympotic vessels, the appearance of these spectators on objects used in private settings following major public festivals suggests that they offer a more permanent picture of civic performance and present a model for the viewer of the object in reacting to civic narratives.

**Stark, Barbara (Arizona State University)**[22] *Out of Olmec: The Transition to Classic Polities in the Gulf Lowlands*

Despite the lack of agreement concerning the organization and processes affecting Gulf Olmec polities such as San Lorenzo and La Venta, their economic, political, and demographic histories serve as a springboard for Classic Period-polities that built upon these precedents in the Gulf Lowlands. Organizational and economic features of Cerro de las Mesas during the Early Classic period show contrasts and similarities with political and economic changes across Mesoamerica, indicating a role for regional trajectories and more general change.

**Stark, Barbara [21] see Ossa, Alanna****Stark, Miriam (University of Hawai'i-Manoa)**[16] *Culture, Social Boundaries, and Ethnoarchaeology's Search for Relevance*

How we define culture structures archaeological interpretation and affects ethnoarchaeology's relevance as a research strategy. The essentialism of culture history and determinism of processual archaeology have been amply demonstrated. More recent approaches, however, remain problematic: linkages between theoretical, archaeological, and social units are poorly defined in Darwinian archaeology, and technological approaches rarely articulate technical systems within broader social systems. Adopting practice- and agency-based approaches to the culture concept can strengthen articulations between archaeology and anthropology, and ethnoarchaeology constitutes an ideal strategy for such research. This paper examines the culture concept using ethnoarchaeological case studies, and offers suggestions for locating culture in ethnoarchaeology.

**Stark, Miriam [167] see Bong, Sovath****Starr, Harry (UCSB)**[52] *Hunter-Gatherer Landscapes and GIS: A Case Study From Southern Germany*

This paper presents the results of a project that uses geographic information systems to understand settlement and foraging activities during the Early Mesolithic in southern Germany. Many scholars are interested in archaeological landscapes, but the Early Mesolithic of southern Germany lacks significant modifications to the landscape, such as monumental architecture or rock art, that are often the focus of such studies. Is it useful to apply landscape approaches in such an archaeological context? This paper argues that geographic information systems provide a set of tools that make such approaches useful and productive at multiple spatial scales.

**Steele, Teresa (University of Wisconsin)**[126] *Ysterfontein 1: A Middle Stone Age site in the Western Cape Province of South Africa*

Excavations into a coastal rockshelter at Ysterfontein 1, Western Cape Province, South Africa, have revealed 3 m of stratified sands containing classic Middle Stone Age (MSA) flakes and flake-blades, abundant mussels and limpets, numerous fragments of ostrich eggshell, and somewhat rarer bones from mammals, birds, tortoises, and snakes. Superimposed hearth features demonstrate that MSA people occupied the site. Many other fragments and a piece of striated manganese emphasize MSA interest in pigment. AMS dating of the inorganic component of an ostrich eggshell places the sequence before 46,400 years ago, and artifact typology

suggests that it formed after 70,000 years ago.

**Steelman, Karen [113]** see *Rowe, Marvin*

**Steenhuysse, Alexandre (University of Pennsylvania)**

[68] *Testing the identification of flaking modes using morphological attributes on individual flakes*  
Paleolithic archaeologists often use specific morphological attributes observable on individual flakes to identify flaking techniques (or modes) assumed to have been used in the past. The identification of flaking modes, such as soft-hammer percussion, in the archaeological record has been used to investigate crucial aspects of hominid behavioral and cultural adaptations. Yet, after over a century of flintknapping replicative experiments, the constant association of one or several attributes with a specific flaking technique has yet to be fully demonstrated. A blind-test was designed to test the validity of those morphological attributes as well as the reliability of their identification.

**Steenhuysse, Alexandre [98]** see *Iovita, Radu P.*; [23] see *Gravina, Brad*

**Steffen, Anastasia (University of New Mexico) and Richard E. Hughes (Geochemical Research Laboratory)**

[8] *New Studies of Chemical Variation Within and Among Valles Caldera Obsidians*

Several geochemical studies have documented the more dramatic chemical differences among obsidians in the Jemez Mountains but recent research, incorporating a range of composition variables (including major, minor, and trace elements, as well as water content as a volatile constituent), has allowed investigation of variation within Cerro Toledo Rhyolite deposits and facilitated characterization of Valles Rhyolite obsidians. This research provides a more nuanced understanding of relationships among Valles caldera glasses and carries broader implications for obsidian research in geology and archaeology.

**Stein, Susan (University of Wisconsin-Madison) and Jason Yaeger (University of Wisconsin-Madison)**

[153] *Food Consumption and Community at San Lorenzo, Cayo District, Belize*

Discussions of the social construction of Classic Maya hinterland groups have focused on ancestor veneration, often identified by the presence of shrine structures. We combine faunal, ceramic, and architectural analyses from the rural hamlet of San Lorenzo, Cayo District, Belize to assess the role of feasting in creating hinterland communities and the larger polity in which they were situated. Supra-household food consumption in the residences of more powerful families reinforced shared bonds of community, while simultaneously acknowledging the greater wealth of the feasts' hosts and their privileged positions within the political-economic networks centered on the rulers of the Xunantunich polity.

**Steinberg, John [93]** see *Love, Michael*

**Steinbrenner, Larry (University of Calgary)**

[165] *Habitus Groups and Ethnic Identity at Santa Isabel, Nicaragua*

Patterns of variation in ceramic vessel form may reflect preferences based on habitus, which can provide the commonality that is typically the nucleus of an 'ethnic group' when specific historical circumstances promote the emergence of ethnic identities. Habitus-based patterns may therefore be useful in identifying ethnohistorically documented ethnic groups archaeologically. The ceramic material from the Santa Isabel site in Rivas, Nicaragua, suggests the presence of at least two different habitus groups. Potential relationships between these habitus groups and various historically documented ethnic groups in contact era Nicaragua, including groups of Mexican and Central American origins, are discussed.

**Steinbrenner, Larry [165]** see *Debert, Jolene*; [165] see *McCafferty, Geoffrey*

**Stemp, W. James (University of Victoria)**

[95] *A Contextual Analysis of the Flaked Chert and Chalcedony Lithics from Minanha, Belize*

Throughout the occupation history of this site, the Maya at Minanha employed lithic strategies that combined local production of non-obsidian flaked stone tools with the import of some finished tools from distant sources. Over time, variable stone tool acquisition, manufacture, and use are

reflected in the comparative differences in the formal versus expedient technologies and raw material types from a variety of contexts, including ceremonial, non-domestic, and domestic. The most significant observations concerning the lithic assemblage patterns occur in the Late Classic; the period of greatest development at Minanha.

**Stephenson, Keith (South Carolina Institute of Archaeology and Anthropology)**

[56] *Community Patterning and Ritual of the South Appalachian Deptford and Swift Creek Societies*

Recent attention to variation in community structure at Woodland period Deptford and Swift Creek sites in southern Georgia and northwestern Florida has enabled researchers to determine patterns in settlement layout. Prominent amount site types are those with a plaza enclosed by a ring of midden debris or shell features denoting the habitation area. These sites may contain corporate architecture and appear to indicate locations for ceremonial activity. Ring middens sites possibly were the precursors to Mississippian mound and plaza political centers and the historic Creek Square Ground. They provide continuity from the circular shell middens of the Archaic period.

**Stephenson, Keith [101]** see *Andrus, Fred*

**Sterling, Kathleen (University of California)**

[157] *Black feminisms in archaeology*

The archaeological study of gender began as a critique of the assumptions about gender roles in the past, particularly the roles of women, when considered at all. Over the years, explicit feminist theory has become a part of academic archaeology, investigating the practice of archaeology and its product. Inspiration and growth have come from many sources, such as queer theory and sexuality studies. However, the concept of 'gender' in archaeology is still often considered separate from other categories of social identity, primarily race and class. Black feminisms can help interweave these categories, both in our continuing investigations of archaeological practice as well as in the production of archaeological knowledge.

**Sterling, Sarah (University of Washington)**

[59] *Similarity in Ancient Egyptian Vessel Forms as a Tool for Measuring Community Interaction*

Similarity across pottery types manufactured during the Egyptian Old Kingdom period tracks a unique relationship between pyramid construction sites on the Giza Plateau and Aswan, the most accessible source of granite in ancient Egypt. According to Neiman 1995, communities exhibiting substantial similarity across pottery assemblages likely interacted more frequently with each other. Similarity in pottery is often a function of simple distance, with greater spatial separation explaining differences between assemblages. In contrast, the identification of communities, such as Giza and Aswan, exhibiting similarity not necessarily resulting from simple proximity has implications for the identification of functionally interdependent populations.

**Sternberg, Rob [26]** see *Gilbert, Allan*

**Stettler, Heather K. (SWCA Environmental Consultants)**

[139] *Communicating Results to the Public – The Popular Report*

For the Kern River 2003 Expansion Project, SWCA Environmental Consultants and Alpine Archaeological Consultants created a popular report and interactive CD for distribution to libraries, schools, museums, and agencies throughout Utah. The popular report distills the seven-volume technical report into a single manageable book for interested adults. The accompanying interactive CD provides a library of artifact and excavation images and maps produced over the course of the project, as well as a variety of educational archaeology games for a range of age groups. The overall goal is to strengthen the public's appreciation for study, preservation, and protection of archaeological resources.

**Stevens, Willis (Parks Canada)**

[177] *First Nations Underwater Archaeology of the Trent-Severn Waterway*

The Trent-Severn River system in central Ontario was the primary transportation corridor from 9000 BC to historic times. A variety of First Nations culture groups occupied its shores and the 17th century Ojibwa-Iroquois War was fought along its banks. In the 19th century, the construction of a series of locks and marine railways, linking Lake Ontario with Lake Huron,

created a navigable waterway; however, thousands of acres of First Nations' ancestral lands were flooded. Today underwater archaeology is just beginning to unravel the secrets of a forgotten submerged heritage.

**Stevenson, Ann [155]** *see Rowley, Susan*

**Stevenson, Chris [29]** *see Chiarulli, Beverly*

**Stewart, David (Texas A&M University)**

[89] *The Archaeology of Death and Remembrance in Anglo-American Maritime Communities*  
This study advances understanding of eighteenth- and nineteenth-century American and British maritime life through analysis of 412 gravestones from 17 seafaring communities in the United States and Great Britain. Research reveals three dominant themes: 1) the problem of memorializing those who were lost at sea, 2) an overwhelming concern for the hardships and dangers of life at sea, and 3) an increase in religious sentiment in maritime communities in the mid-nineteenth century. These themes are placed into their cultural context and compared to memorialization trends in contemporary American and British society.

**Stewart, Frances [88]** *see Cowie, Ellen*

**Stewart, S. T. [170]** *see Banning, E. B.*

**Stewart, Sarah (University of Toronto)**

[97] *Neolithic Craftsmen in the Landscape of Cyprus*

My research in Cyprus on two survey projects suggests that the Neolithic inhabitant's use of their landscape was not dictated purely by economic constraints, but that a variety of social, symbolic and individual concerns often over rode apparently more practical choices. The distribution of lithic artifacts and sources from the Idalion Survey Project in central Cyprus, and the Canadian Palaipaphos Survey Project in the west, suggest that the Neolithic craftsmen were not optimizing costs in lithic acquisition. While good quality chert was often immediately available to the Neolithic sites, they consistently exploited other sources further afield.

**Stiner, Mary (University of Arizona) [152]** *Discussant*

**Stiner, Mary C. (University of Arizona)**

[55] *On in situ attrition and vertebrate body part profiles*

Techniques for analyzing vertebrate body part profiles must either address differential resistance among distinct skeletal density classes or compare skeletal representation within a narrower density range that is widely distributed in the vertebrate skeleton. This presentation concerns the benefits of the second approach. The mid-points and ranges of variation in bone structural density among elements grouped into the cranial and four appendicular skeletal regions are very similar as measured by photon densitometry, and especially for the skeletal portions commonly used to estimate MNE in Paleolithic archaeofaunas. Region-by-region anatomical comparisons require fewer assumptions than do analyses that focus on differential resistance ("survivorship") among the full range of bone density classes and thus are limited by fewer unknowns.

**Stockli, Lisa [13]** *see Widga, Chris*

**Stokes, B. Jo (University of Kentucky)**

[91] *A Regional Approach to Jamaican Taino*

Until recently, what is commonly known about the pre-Columbian people of Jamaica has been primarily reliant upon assumptions gained from studies on Caribbean islands other than Jamaica itself. In order to understand how Jamaican Taino fit into the pan-regional context of the Greater Antilles, an archaeological survey was conducted on the island in 2002. This paper presents some of the findings of this investigation and offers an interpretation of Jamaican Taino settlement and socio-economic patterns on the north side of the island to provide a more accurate evaluation of the late prehistoric Greater Antilles as a whole.

**Stokes, Robert (Archaeological Consulting Services)**

[48] *Finding evidence for private property, land tenure, and landless subclasses in prehistoric Southwestern societies*

The origin of private property in North American prehistoric archaeology is often linked with the

emergence of elite classes. In societies lacking evidence for elites, private property is thought to rest with either the village or clan. The latter societies are often viewed as egalitarian, in which the concept of individualized private property is unknown or not practiced. In this paper, I argue that private property and inheritance can arise in societies without the presence of elites, provided certain environmental and social conditions are present. The Classic period (A.D. 1000-1130) Mimbres society of southwestern New Mexico serves as an example.

**Stokes, Wendy L. (SWCA Environmental Consultants)**

[139] *Archaic Period Site Mitigation for the Kern River 2003 Expansion Project*

The Kern River 2003 Expansion Project bisected numerous sites containing Archaic period components. Several sites were selected for data recovery excavation for the Kern River 2003 Expansion Project to examine the Archaic period. Previous data recovery information for the first Kern River Project was used to select sites and to guide excavation at all sites. This paper will focus on excavations at the Dust Devil Site (42JB394), a 7,000 year old stratified open-air Archaic period camp, where the particular mitigation approach greatly enhanced our understanding of the site.

**Stone, Andrea (University of Wisconsin-Milwaukee) [158] Discussant**

**Stone, Andrea (University of Wisconsin-Milwaukee)**

[50] *The Changing Face of Political Symbolism in Postclassic and Early Colonial Rock Art from the Maya*

Rock art from sacred sites, such as caves and lakes, in the Maya area sheds light on the symbolic framework of elite pilgrimage, revealing rapid adaptation to historical realities. The paper will focus on case studies from a Postclassic rock painting site at Lake Ayarza in highland Guatemala which emphasizes a mexicanized Feathered Serpent cult and several early colonial caves from Yucatan which feature two-headed Hapsburg eagles borrowed from the Spanish. The historically situated nature of these symbols, drawn from foreign sources, comments upon the fluidity of political symbolism, even within such traditional performance contexts as pilgrimage.

**Stone, Anne [147] see Lewis, Cecil**

**Stone, Connie [48] see Huang, Jennifer**

**Storey, Rebecca (University of Houston)**

[146] *Ancestors and a Skull Mask in the Sibun*

Contrary to previous notions of simple interment, soon after death, under residences, Precolumbian Maya mortuary treatment is now understood as regularly including both primary and secondary interments and a protracted mortuary ritual, especially for high-ranking individuals. The transformation of the dead into ancestors involved complex ideas about souls and community continuity. While XARP has, so far, yielded few burials, analysis of one interment from Pakal Na provides another example of complex ritual and mortuary treatment. This interment and accompanying ritual for five individuals will be described, including an intricately carved skull mask that accompanied the central body.

**Stothert, Karen E. (CAR/University of Texas at San Antonio)**

[96] *The Museum of the Lovers of Sumpa, Santa Elena, Ecuador: Trials, Tribulations and Successes*

The saga of the Museo de Los Amantes de Sumpa begins with 15 years of dreaming, concept development, and quest for funding, followed by 7 years of successful operation characterized by inadequate leadership and flagging financial support. Persistent problems, that today threaten the existence of the site museum and regional cultural center, require the following: creation of more productive relationships between museum and community and between museum and other public and private institutions, definition of goals, development of educational programs, maintenance and renewal of exhibits, and conservation and development of cultural resources.

**Stout, Dietrich (CRAFT Research Center) and Sileshi Semaw (CRAFT Research Center)**

[42] *Raw material selectivity and technological sophistication of the earliest stone toolmakers*

Archaeological sites in the Gona study area of Ethiopia preserve evidence of the earliest known stone toolmakers. Evaluating the technical skills of these early knappers is one critical step in reconstructing hominid mental evolution. The experimental products of modern novice knappers working in the same raw material provide a reference point for such evaluation. When compared

with excavated materials from the site of EG10, these experimental artifacts were found to be metrically similar, but to reflect a different reduction strategy. The observed differences indicate that even the earliest known examples of stone knapping reflect habitual, skilled behavior.

**Straight, Kirk [27]** see *Webster, David*

**Strattan, Noël (Pennsylvania Historical & Museum Commission)**

[41] *Pennsylvania's Burial Laws and Policies: What Works and What Doesn't*

Judging from calls and letters received at the State Historic Preservation Office, many people today are concerned about the increasing impact on cemeteries by expanding development. Pennsylvania's burial laws and policies were originally designed to regulate the funeral industry and are difficult to apply to unincorporated occurrences of human interments. This paper will relate some of Pennsylvania's experiences in applying the relevant laws and policies to historic cemeteries, especially family cemeteries on private land.

**Straus, Lawrence (University of New Mexico)**

[122] *Of bones and stones: interpreting site function in the Upper Palaeolithic of Western Europe.*

Upper Palaeolithic excavations by the author over nearly 30 years have usually yielded both artifacts and faunal remains in a variety of environmental settings across a latitudinal range from Belgium to Portugal. In some cases there seem to be functional relationships between ungulate species, skeletal elements and associated lithic and osseous artifacts within levels. In others - perhaps because of their nature as behavioral and depositional palimpsests - the relationships are murkier. Examples include La Riera and El Miron caves (Spain), Dufaure rockshelter (France), le Trou Magrite, Bois Laiterie cave and Huecorgne open-air site (Ardennes, Belgium).

**Stravers, Jay [2]** see *Heinzel, Chad*

**Stright, Melanie (USDI-MMS)**

[177] *Research Strategy for Locating Evidence of Pre-Clovis Sites*

The intriguing suggestion that Clovis stone tool technology is possibly related to the Solutrean stone tool technology of the Iberian Peninsula requires evaluation in light of existing archaeological evidence as well as a search for additional archaeological evidence. This paper outlines a strategy for investigating those areas of the Atlantic continental shelf which have the highest potential for containing preserved archaeological deposits that could provide evidence of prehistoric European contact with North America. Although locating inundated archaeological sites is challenging, the methods and techniques are well established, the geologic data to focus the search exist, and the knowledge to be gained is vital to our understanding of the peopling of the Americas.

**Stronach, David (University of California, Berkeley)**

[47] *New Light on Early Nomadic Pastoralism? The Depiction of a Yurt on a Neo-Elamite Bronze Bowl*

The recent excavation of a Neo-Elamite tomb in S.W. Iran revealed a bronze bowl with a cuneiform inscription on its rim and five bands of incised decoration on its interior. The outermost band, which shows the end of a successful hunt, also shows the named ruler seated on a throne and quaffing wine. Surprisingly, however, the ruler sits in front of a circular domed structure that appears to be a yurt. This portable form of dwelling is shown without its customary felt covering in a view which reveals both the curved struts of the wall frame and the structure's distinctive roof-wheel. The present paper explores some of the implications of this earliest evidence for the existence of the yurt.

**Stuart, Glenn (Arizona State University)**

[181] *Wetlands Cultivation in West Mexico: Pre-Hispanic Agriculture and the Teuchitlan Tradition*

The use of wetlands for agricultural production was common to various areas of pre-Hispanic Mesoamerica. Extensive manipulation of these wetland environments through construction of integrated systems of canals and planting platforms, however, was relatively rare. Recent research confirms not only the existence of such a system in the Teuchitlan Tradition core area, but relates its rise, florescence, and abandonment to the rise and fall of the Teuchitlan Tradition itself. In this paper I discuss this research, demographic pressure, and the role political economy and elite demands for agricultural surplus may have played in the system's construction, use, and abandonment.

**Stull, Scott (HAA, Inc.)**[188] *Comparing Eighteenth-century Colonial Houses*

Colonial Houses of the eighteenth century took on differing forms depending on the ethnicity and national origin of their builders. English, Dutch, and French houses are compared to each other and their European counterparts, as well as influences on Iroquois houses of the same era in Euro-American contexts.

**Styles, Bonnie (Illinois State Museum) and R. Bruce McMillan (Illinois State Museum)**[38] *Evolutionary Ecology and the Development of Regional Cultural Expressions in the Southern Prairie Peninsula*

Post-Pleistocene landscape evolution and the development of technology and procurement strategies helped shape the land and food procurement systems among preceramic societies in the southern Prairie Peninsula. Evolving patterns of animal and plant distributions, and the increasing productivity of the large riverine environments of the mid-continental United States led to regional cultural expressions influenced by available resources, evolving technology, and demography. This study contrasts cultural expressions adapted to differing ecological configurations along a transect from the Prairie-Plains border on the west, across the Ozarks and Mississippi/Illinois valley riverine environments, to the Grand Prairie of Illinois.

**Sugandhi, Namita [149] see Raczek, Teresa**

**Sugiyama, Saburo (Aichi Prefectural University) and Leonardo Lopez (Lujan)**[118] *Elite Burial found at the Fifth Monument in the Moon Pyramid*

This paper describes an elite burial complex found at the top of the fifth substructure of the Moon Pyramid and discusses the grave contexts and politico-religious implications. Three richly adorned individuals were found in 2002 with abundant offerings including objects of greenstone, obsidian, shell, and others; the burial contrasts with sacrificial complexes previously discovered at the subsoil level in the pyramid. Preliminary studies indicate that certain offerings, especially jade ornaments and symbolic objects were probably of Guatemala origin, and that the Teotihuacan state, responsible for the monumental construction, had a direct connection of certain kind with contemporary Maya elites.

**Sugiyama, Saburo [118] see Koga, Yuko**

**Suleymanov, Rustam [2] see Adams, Jeffrey A.; [2] see Ritzman, Terrence**

**Sulgostowska, Zofia (Institute of Archaeology & Ethnology Polish Academy of Sciences)**[61] *Mesolithic Mobility and Contacts from the Baltic Sea to the Carpathian Mountains*

Mobility, demonstrated by seasonality (recorded mainly on peat sites), the limited number of dwelling structures, burial behavior, and the distribution of lithic raw materials, did not result only from basic subsistence strategies, or the need to supplement the shortage of commodities. Rather, there was also the intention of providing non-utilitarian, exotic goods. The questions addressed here are: How did mobility influence the intensity of the contacts, their type, gift or exchange, and the possibility of group specialization? A significant number of sites indicates that contacts, from tens to several hundred kilometers, went far beyond Mesolithic behavior in everyday social activities.

**Sullivan, Alan (University of Cincinnati), Patrick Uphus (University of Wisconsin) and Philip Mink (University of Kentucky)**[185] *The Effect of Unit of Observation on the Characterization of Regional Archaeological Landscapes*

It is generally presumed that intensive survey yields depictions of regional archaeological variability that are more reliable and interpretable than those based on un-intensive survey. We test this assumption with an analysis of the results of two approaches to intensive survey design of the Upper Basin, which is a heavily forested upland located south of Grand Canyon National Park in northern Arizona. By comparing differences between the results of earlier site-based surveys with those of recent mapping-unit-based surveys, it is possible to understand the effects of units of observation on representations of aboriginal settlement patterns and their variability.

**Sullivan, Kristin (Arizona State University)**[142] *Multi-Craft Production in Classic Period Teotihuacan, Mexico*

Studies of craft production often focus on the strategy of producing increasingly standardized

goods in order to maximize efficiency. Some artisans expand their productive base by multi-crafting, engaging in various craft production activities at once. Producers are able to increase the pool of potential consumers by producing goods desired by many, while also buffering against the risk associated with any particular productive activity by employing various means of production at any given time. I examine evidence for multi-crafting in Classic Period Teotihuacan, drawing upon examples from other regions of Mesoamerica to discuss the broader implications of this economic strategy.

**Sullivan, Lauren A. (University of Massachusetts at Boston) and Fred Valdez, Jr. (University of Texas at Austin)**

[67] *A Regional Perspective on Ceramic Analysis*

In northwestern Belize, the collection of data on a regional scale has revealed overall patterns that might be missed with a single site centered approach. These data document regional interaction between sites that fall along the entire range of settlement hierarchy. The analyses of ceramic data on this scale provide better resolution regarding issues of chronology, especially in recognizing the transition between time periods.

**Sullivan, Lynne (Frank H. McClung Museum, University of Tennessee) and Lesli Rowan (Frank H. McClung Museum, University of Tennessee)**

[155] *Digital Preservation and Access for the TVA/WPA Archaeological Photograph Collections*

Some 7000 photographs from WPA-era excavations in the Tennessee Valley are being preserved digitally and made internet accessible. This joint project of the McClung Museum and Hodges Library at the University of Tennessee, in partnership with the Universities of Kentucky and Alabama, is funded by an Institute for Museum and Library Services grant. The project is using international standards for image and text digitization and preservation. Archival scans of the b/w photographs are in uncompressed TIFF format; on-line images are jpeg format. The main metadata files use XML format, entered with a project-specific DTD compatible with local server software, XPAT.

**Sunderhaus, Ted S. [180] see Cowan, Frank L.**

**Surface-Evans, Sarah (Michigan State University)**

[30] *A Case Study for Treating Late Pleistocene Paleontological Finds as Archaeological Sites in the Great Lakes Region*

Taphonomic analysis of recent paleontological finds in the Great Lakes region is providing a potentially new source of data on Paleoindian subsistence and Proboscidean interactions. The Buesching Mastodon is one example of a putative paleontological site that was systematically excavated in order to recover taphonomic evidence of human interaction with or modification of the carcass. This site bears a number of similarities with other mastodon finds interpreted as having been butchered by humans and placed in subaqueous caches. Strategies for systematic excavations that allow a taphonomic approach, preliminary interpretations of the site, and hypotheses of site formation will be presented.

**Surovell, Todd (University of Wyoming) and Nicole Waguespack (University of Wyoming)**

[162] *Clovis Mammoth Kills in Context*

Recent evaluation of the use of Pleistocene megafauna by Clovis hunter-gatherers has suggested that relatively few reliable associations between Clovis artifacts and the remains of proboscideans are documented, with perhaps as few as 14 occurrences currently known. Although the actual number is debatable, in this paper, we begin with the assumption that it accurately reflects our current archaeological sample of Clovis elephant hunting. To place the 14 associations into context, we compare the time-space density of Clovis proboscidean-bearing sites to that of Old World contexts. We conclude that the record of Clovis elephant hunting is likely unrivaled in density.

**Sutherland, Patricia (Canadian Museum of Civilization)**

[46] *A New Perspective on Native-Norse Relations in Arctic Canada*

A re-examination of collections excavated from several Dorset Palaeoeskinio sites in the Eastern Arctic has revealed a significant quantity of specimens that appear to relate to mediaeval European technologies. Recent excavations at one such site has produced additional evidence of an early European presence in the area. The material recovered is more varied than the apparent trade-objects associated with later Norse-Inuit contacts. The nature of the finds suggests that relations between the Norse and Dorset peoples were more extensive and complex than those

previously thought to have existed between the Norse and Native North Americans.

**Sutter, Richard (Indiana-Purdue Fort Wayne) and Rosa Cortez (Université de Montréal)**

[147] *Who were the Moche sacrificial victims? A bioarchaeological perspective*

Archaeologists working in northern Peru have suggested that the Moche sacrificial victims either represent defeated Moche warriors of ritual battles (tinku) drawn from the local population, or that the victims represent warriors captured in warfare. When compared to other north coast mortuary populations, biodistances based upon epigenetic dental traits indicate that the Huaca de la Luna sacrificial victims are highly variable and least similar among the samples compared. When both mortuary treatment and iconographic analysis are considered, the biodistances suggest that the sacrificial victims were drawn from a variety of nearby populations but from not the local Moche.

**Suttie, Brent [88]** see *Black, David W.*

**Sutton, Katherine [7]** see *Bates, Brian*

**Sutton, Mark [113]** see *Heikkinen, Deanna*

**Sutton, Mark Q. (CSU Bakersfield)**

[173] *Interdisciplinary Approaches to the Study of Human Paleofeces*

A number of new analytical approaches is now being employed in the study of human paleofeces. In addition to the traditional analytical methods in which the visible constituents of a specimen are identified (macrofaunal, macrobotanical, pollen, and parasites), researchers are now beginning to identify protein residues, hormones, and DNA, greatly increasing the quantity of basic information available, including the sex of the individual. Further, statistical analysis of constituents can generate information on meals and cuisine, information can then be used to address questions of diet, health, and status. This wealth of data has only just been tapped.

**Sutton, Wendy (Columbia University)**

[187] *Pursuing the Protohistoric: An Example from the High Plains*

Studying the protohistoric among nomadic groups geographically distant from Euroamerican communities is difficult as changes are subtle and "markers" rare. Still, the prolonged consequences of indirect contact trigger accelerated cultural change; this change is not a direct inevitable result of Euroamerican disease, technology, or economy and reflects native decisions and agency. Evidence for change(s) at individual sites can go unnoticed as lifeways are not being so much transformed as selectively pursued. Specific archaeological evidence of protohistoric changes in northeastern Wyoming will be reviewed, including changes in site location, lithic procurement strategies, and overall transformations in native economy and social structure.

**Swain, Todd [31]** see *Canaday, Tim*

**Swanson, Steve (Arizona State University), Cathryn Meegan (Arizona State University) and Destiny Crider (Arizona State University)**

[72] *The Hohokam Preclassic to Classic Transition Part I: Climate Change and its Impact on Agricultural Strategies*

Hohokam archaeologists have documented significant cultural change from the Preclassic to Classic Periods, but attempts to identify environmental factors have met with variable success. An analysis of published tree-ring data from three sites along the Mogollon Rim documents a shift in the spatial variability of precipitation in the middle 1100s, with significant patchiness before AD 1150, and little after. Multiple lines of evidence suggest this is caused by a shift in summer monsoon patterns following the Medieval Warm Period. Potential impacts on dry-farming productivity are modeled using GIS and modern satellite imagery and related to changes in Hohokam agricultural strategies.

**Swanson, Steve [72]** see *Crider, Destiny L.*

**Swenson, Edward (University of Chicago)**

[120] *Ritual Politics and Social Memory in a Chimu Province: Local Power Strategies and Imperialism in the Jequetepeque Valley, Peru*

A proliferation of diversified ritual architecture characterized the urban hinterland of the lower Jequetepeque Valley during the Chimu era. As in the Late Moche Period, rural ceremonial practice was widespread and largely determined by local initiative, the prerogative of indigenous lords or communal kinship associations. The mimesis of Chimu monumental space, the selective continuation of Moche architectural templates, and the manipulation of social memory point to

different strategies of ritualization adopted by various communities to assert local identity, secure urban favor, or resist imperial ideologies. Indeed the evidence suggests that Chimú political control in Jequetepeque was highly conditional and decentralized.

**Swenson, Fern [38]** see *Ahler, Stanley*

**Sydoriak Allen, Kathleen M. (University of Pittsburgh)**

[110] *Cultural Interaction and Social Identity among the Iroquois*

The Iroquois were known to incorporate individuals and groups into their tribal villages as a result of alliance formation, warfare, and adoption practices although the extent to which individuals became full members of the group and developed new social and ethnic identities is unclear. This pattern of incorporation of others accelerates during historic times and should be evident in material culture. Pottery decoration is often used as an indicator of ethnic and social group identity although it is also receptive to change through interaction patterns and cultural borrowing. Decorative treatment of pottery from several cemeteries at two historic (early 1600s) Seneca villages is analyzed as is the association of pots with other categories of mortuary goods. Cemetery, gender and age differences are explored along with issues of identity and status.

**Symcox, Alexander (Dept of Anthropology, Arizona State University)**

[60] *Specialized Pottery Production at Penitas, Nayarit : Re-analysis*

Fine-grained analyses of ceramic production and exchange within Postclassic coastal West Mexico are few and far between. To better understand the local level ceramic economy associated with the Aztec tradition, a chemical characterization study of decorated pottery in collections from Nayarit Mexico, including the sites of Chacala, Penitas, and Amapa was undertaken. This examination explores the role of Penitas as a specialized craftproducer of specific ceramic goods, and assesses the quantities and distances over which these goods moved during Aztec times.

**Szmidt, Carolyn (University of Toronto)**

[98] *From region to behaviour: Neanderthals in Mediterranean France*

Looking at an area from a regional, multi-site, perspective can bring out larger-scale patterns of behaviour and test the extent to which behaviour is homogeneous or heterogeneous over space and time. The purpose of this paper, which will address the Middle Palaeolithic archaeological record from the region of Mediterranean France, is to show some of the Neanderthal patterns of behaviour which emerge from adopting this scale of analysis. Results will be compared to those of other regions to show that normative assumptions cannot be made about Neanderthal behaviour even between closely-situated geographical regions.

**Tabarev, Andrei V. [149]** see *Gillam, J. Christopher*

**Taché, Karine (Simon Fraser University)**

[174] *Feasting with Exotics: Evidence from Early Woodland Sites in Northeastern North America*

In both past and present societies, most of the benefits sought through the hosting of feasts revolve around the creation and maintenance of important social bonds. The emergence of long distance trade networks in prehistory is often accompanied by increasing evidence for feasting. Like feasts, exotic goods and materials play a central role in emphasizing social inequalities and displaying success. The purpose of this paper is to explore the potential link between trade and feasting among Early Woodland communities in northeastern North America.

**Taché, Karine [174]** see *Houle, Jean-Luc*

**Tacon, Paul S.C. (Australian Museum) [158]** *Discussant*

**Tacon, Paul S.C. (Australian Museum), Wayne Brennan (Burrumoko Archaeological Services), Shaun Hooper (Blue Mountains Aboriginal Community), Dave Pross (Darkinjung Local Aboriginal Land Council) and Evan Gallard (Darug Custodial Aboriginal Corporation)**

[176] *Partners in research: Aborigines, archaeologists and art discoveries in the Wollemi 'wilderness', near Sydney, Australia*

Joan Vastokas has always encouraged students to combine formal with informed methods when studying indigenous art. This means not only describing formal qualities using Western art historical and archaeological practice but also 'seeing', where and when possible, from an

indigenous perspective. This can often lead to unexpected benefits. In Australia, Aboriginal people and archaeologists work together on rock-art projects, combining approaches, perspectives and forms of knowledge. Recently, this led to a wonderful discovery in Wollemi National Park, in the backyard of Australia's largest city. In this paper the nature of the rock-art discovery is detailed along with the multi-cultural collaboration.

**Tactikos, Joanne [42]** *see Harris, John W. K.*

**Taillon-Pellerin, Alexandra (Université de Montréal)**

[51] *Ceramic Production at Guad-88, a Secondary Moche Site of the Lower Santa Valley, North Coast of Peru*

Located less than a kilometer east of El Castillo, a major Moche site, the site known as Guad-88 is considered a village with an adjacent cemetery. Adobe structures are few and poorly preserved but ceramic is abundant. Decorated pottery is mostly of Moche IV style although a few examples of Moche III are indicating an earlier occupation. More than 70 molds fragments were found and they suggest the presence of potters in this village community. Ceramic production is thus discussed and its importance examined within the Moche State organization.

**Takamiya, Hiroto (Sapporo University)**

[182] *The Evolution of Social Complexity in the prehistory of Okinawa: not simply "simple" but not "complex" enough*

The Okinawa Islands were successfully colonized by simple hunter-gatherers. By the 15th AD, the state society emerged. Thus, the islands witnessed the evolution from simple hunter-gatherer societies to the state society. While those hunter-gatherer societies are thought to be "simple", detailed analyses of archaeological data suggest they were not simply "simple". Dynamic culture changes were taking place. However, no prehistoric hunter-gatherer societies seems to have evolved into Chiefdom like societies, implying that people would not easily give up their autonomy to be a part of a "complex" social organization, which maybe the last choice people would select.

**Tang, Chung (The Chinese University of Hong Kong)**

[24] *The Technological Complexes of Microblade industry in North China in Contrast with Japan: in Comparison of the Xueguan and Fukui Sites Microblade Technique*

Both Xueguan and Fukui sites were combinations of various microblade techniques, however the combination proportions of each type of microblade technique were obvious difference. In comparing the stone tools composition, the stone tools in the Xueguan site were rather attractive. The most common implements were end-scrapers and side scrapers. Again, the relatively significant implements were flake points, axes and triface points and borers. However, the burin technology was not developed. In Fukui case, only a few burins in amorphous shape, small arrowheads and scrapers were found together with microblade assemblages from the II to III layers.

**Tappen, Martha (University of Minnesota)**

[55] *Landscape Attritional Death Body Part Profiles in African Environments*

Body part representations are reported from a landscape survey of modern attritional deaths in Parc National des Virunga, D.R. Congo, and compared to other surveys conducted in east and central Africa. Interpretation of body part representation usually involves analysis of deviations from a null model, i.e. the number of elements present in whole animals. In open-air situations bones from natural attritional deaths are added to the fossil record, but element representation is usually immediately altered from the null model by carnivore consumption, trampling, weathering, etc. Basic patterns are repeated and provide another important model for background attritional contributions to sites.

**Tarango, Miguel Angel (University of Denver)**

[189] *Another Look at the Pyramid of the Plumed Serpents at Xochicalco*

The Pyramid of the Plumed Serpents at Xochicalco is a monument to power and rulership. The style of architecture is consistent with Maya and Teotihuacan building campaigns. The facades of the pyramid are carved with symbols of power, renewal, and political legitimacy: serpents, rulers, warriors, etc. Prominently placed throughout, the Reptile Eye glyph has been thoroughly analyzed yet its meaning is debated. I propose the Reptile Eye glyph complex along with other symbols on the pyramid are referencing previous modes of hegemony and setting a new precedent for Mesoamerican allusions to war, sacrifice, fire ceremonies and new beginnings.

**Tasic, Nenad [131]** *see Matsunaga, John*

**Tate, James (UC Santa Barbara)**

[163] *Chimu-Inca Rural Economy at the El Brujo Site Complex, Chicama Valley, Peru*  
Recent excavations of a Chimu-Inca settlement at the El Brujo Site Complex provide important information regarding the local economy and social organization in Late Horizon north coast Peru. The area under investigation contains domestic architecture, plazas, platforms, and a kitchen and storage area. Excavation focused on recovering data that will aid in the identification of patterns of production and consumption of agricultural and craft items. Preliminary analysis indicates that many residents were farmers, with cotton and maize the principal products. Further evidence demonstrates that people were also processing cotton fiber, spinning thread, and weaving.

**Taylor, Amanda K. [162]** *see Beck, Charlotte*

**Taylor, James (University of Washington) and Ben Fitzhugh (University of Washington)**

[99] *Detecting the Little Ice Age in the Kodiak Archipelago: An Isotopic Analysis of *Saxidomus giganteus**  
Climate change is frequently credited with affecting changes in prehistoric culture. Proxy paleoclimatic records are often inadequate for testing competing propositions. We use oxygen isotopes from archaeological shells to infer Gulf of Alaska water temperatures throughout the past 800 years. *Saxidomus giganteus* shells from Kodiak's New Karluk site allow us to test the argument that Little Ice Age cooling coincided with significant subsistence and technological change around AD 1400. Non-archaeological records suggest climate change around this time. This is the first attempt to tie climate proxies directly to the Gulf of Alaska archaeological assemblages.

**Taylor, R. E. (University of California, Riverside), Jeanne Day Binning (Caltrans) and Douglas Magde (University of California, San Diego)**

[173] *Microscarring on Flaked-Stone Objects*

R. E. Taylor observed that two studies of one flaked-stone collection by two different researchers resulted in two diametrically opposed conclusions. One conclusion was based, for the most part, on microscarring 'use-wear'. As a result of this observation, the senior author set out to objectivity and evaluate observations of microscarring to determine if the source of the microscarring could be determined. The results of this endeavor are presented.

**Taylor-Montoya, John (Southern Methodist University)**

[75] *Early Holocene Hunter-Gatherers on the Plains Borderlands*

This study examines the relationship between late Paleoindian hunter-gatherer mobility, land use, and projectile point technology. Surface collected projectile points from east and west Oklahoma were analyzed using Kuhn's (1989, 1994) utility index. The analysis focuses on samples of concave base lanceolate projectile points from each locality. The results of the utility index analysis are evaluated using a series of comparative and quantitative methods. Additionally, patterns of raw material use are used to elucidate the range of mobility of these hunter-gatherer groups.

**Teeter, Wendy (UCLA Fowler Museum of Cultural History)**

[155] *Access through the Keyhole: Museum Collections On-line*

The UCLA Fowler Museum of Cultural History has recognized the importance of making information about the archaeological and ethnographic collections and their associated documentation available via the web. Creating finding aids by collection rather than individual items and placing them on the Online Archive of California allows pertinent information to be distributed while keeping more sensitive images and data restricted. This presentation discusses the importance of making collections' information widely available while balancing the sensitivities and logistical issues associated with access.

**Tejeda, Ana (CSU Northridge) and Hector Neff (CSU Long Beach)**

[93] *Laser Ablation-Inductively Coupled Plasma-Mass Spectrometry (LA-ICP-MS) Analysis of Fine Paste Ceramics of La Blanca, Guatemala*

Fine paste white ceramics have been found in Middle Formative contexts throughout Mesoamerica. The La Blanca site on the Pacific coast of Guatemala has produced a suite of such fine paste ceramics, including white, black, and red on white variants. Laser ablation-inductively coupled plasma-mass spectrometry (LA-ICP-MS) has been employed to characterize the paste

composition used in the production of these wares. The sample includes examples from La Blanca as well as from a contemporary site, Cuauhtemoc, about 15 km west of La Blanca. The analysis indicates that the coastal white pottery is distinct from contemporary white pottery from highland Guatemala.

**Tenney, Jonathan [54]** *see Widell, Magnus*

**Terrell, John (The Field Museum) [12]** *Discussant*

**Terrones-Gonzalez, Enrique [27]** *see Gonzales-Licon, Ernesto*

**Tews, Amber (Idaho State University) and Herbert D.G. Maschner (Idaho State University)**

[99] *Seafood; It is what's for Dinner (Lunch and Breakfast)*

Marine resources have been used on the western Alaska Peninsula for at least 5000 years. Most important of these resources are sea mammals, yet fish, shellfish, and birds were also heavily exploited. The distribution, seasonality and harvesting strategies of specific resources appears to be dictated by microregional variations in shorelines and habitat for most species, but broad patterns of macroregional variation influence sea mammal harvesting. Faunal data from over a dozen sites spanning the last 5000 years are integrated with our understanding of the changing paleoecology to investigate diachronic and synchronic variation in the prehistoric Aleut marine subsistence economy.

**Tews, Amber [17]** *see Maschner, Herbert*

**Thacker, Paul (Wake Forest University), Carlos Pereira (Camara Municipal de Rio Maine) and Gabriela Mota Marques (Camera Municipal de Aveiro)**

[53] *Gravettian Social Groups and the Division of Labor at Vale de Obidos: A Working Hypothesis*

Distinct activity areas at Vale de Obidos evidence behaviors including hide-working, plant and resin processing, pigment production, stone-boiling, animal butchery, wood working, and composite projectile manufacturing. Artifact assemblages from these different functional task areas reveal a complex use of space at the campsite. The functional organization of space, however, is crosscut by significant differences in raw material exploitation, lithic technology, and tool use. After eliminating several alternative hypotheses, this paper will present an interpretation incorporating the social division of labor at Vale de Obidos.

**Thacker, Paul [53]** *see Mota Marques, Gabriela*

**Thieme, Mary S. (Gulf Coast Community College), Arthur Joyce (University of Colorado), J. Michael Elam (University of Tennessee), Hector Neff (California State University at Long Beach) and Andrew Workinger (University of Tennessee, Chattanooga)**

[3] *Sourcing Oaxaca Pottery*

Instrumental nuclear activation analysis was conducted at the University of Missouri Research Reactor on 474 samples of Preclassic pottery from Oaxaca, Mexico, from sites in the Mixteca Alta, Baja, Costa and Valley of Oaxaca, taken from vessels of similar form and decoration. A goal was to distinguish between exchange and local production. Seven chemical groups were identified, two of which can be linked to Oaxaca Valley sources used by modern potters. Implications of these findings for the nature of Monte Albán's interaction with surrounding areas are discussed.

**Thomas, Ben S. (Boston University)**

[146] *Examining the Influence of Landscape on Ancient Maya Site Location in the Sibun River Valley*

Since 1997 the Xibun Archaeological Research Project (XARP) has searched for ancient Maya settlements along the Sibun River in central Belize. During this time XARP has located, surveyed, and mapped twenty-two ancient sites and twenty-four caves within the valley. Our work has revealed that human interactions and settlement choice were greatly influenced and affected by the geography of the Sibun River. This paper examines how the landscape of the Sibun River valley affected settlement choices, political interactions, and ideology of the ancient Maya that lived along its banks.

**Thomas, Elaine [177]** *see Gould, Rae*

**Thomas, Noah (University of Arizona)**

[185] *Enacting Identity: Using Traditional Technologies to Shape and Contest Colonial Encounters in 17th Century New Mexico.*

Approaching investigations of agency through the analysis of technologies as social representations embedded in practice, stylistic and compositional data are used to investigate the re-adoption and subsequent cessation of glaze paint technology in Zuni ceramics during the early colonial period as reflecting indigenous artisans attempts at cultural incorporation and contestation. In projects of colonization, material culture can be seen to play key roles, either through the instillation of colonial economic value systems, or through the socializing aspects of crafting activity manipulated in mission projects. This property may also offer a locus for resistance by indigenous populations as identity asserting media.

**Thomas, Noah [115]** see *Klokler, Daniela*

**Thomas, Noah H. [90]** see *Morrison, Kathleen D.*

**Thomas, Scott [83]** see *Mueller, Emily*

**Thomas, Stephen Cox [73]** see *Pipes, Marie-Lorraine*

**Thompson, Jessica (Arizona State University)**

[42] *The Impact of Post-Depositional Processes on Bone Surface Modification Frequencies: A Corrective Strategy and its Application to the Loiyangalani Site, Serengeti Plain, Tanzania*

The frequencies of surface modifications such as cut, percussion and tooth marks on experimental faunal assemblages are not always directly comparable to those in fossil assemblages. Extensive post-depositional modification of bone surfaces may render many of these marks unidentifiable, depressing the overall frequencies or affecting some mark classes more than others. An open-air Middle Stone Age site on the Loiyangalani River in the Serengeti Plain, Tanzania, illustrates this point. A coding system is presented here that allows the elimination of heavily affected fragments from analysis so that the observed mark frequencies can more closely approximate their original ones.

**Thompson, Robert (University of Minnesota)**

[86] *The Identification of Maize Lineages Through Phytoliths in Food Residues*

Despite recognition of maize as the most important domesticated in the New World, questions about its origins and movement remain. Food residues provide an important opportunity to collect data on the use of maize in cultural context. Assemblages of phytoliths from the chaff of maize are frequently embedded in residues, and these assemblages reflect different lineages of maize. This technique, employed on long archived as well as newly excavated material, can be combined with AMS dating to provide data on maize lineages in cultural context. Use of this technique from New York State to Chile demonstrates its utility.

**Thompson, Victor D. (University of Kentucky)**

[159] *Inside, Outside, and Beyond: Late Archaic Circular Spaces on the Georgia Coast*

The archaeological signatures associated with Holocene-age shell-bearing sites in coastal settings reveal evidence of early socio-political complexity and lend themselves to a methodological approach focused on the community as the social unit of reproduction. Due to their complex spatial structure, the ringed shell middens of the Georgia coast fall into this category and provide the unique opportunity to study community organization among hunter-gatherers. Using geophysical survey, archaeological testing, and ethnographic parallels, this paper will examine the use and formation of circular spaces during the Late Archaic at the Sapelo Shell Ring complex on the Georgia coast, USA.

**Thornton, Erin (University of Florida)**

[71] *Isotopic Evidence for Camelid Herding Patterns in the Osmore Drainage, Peru*

Isotopic analysis of archaeological camelid bone from the Osmore Drainage, Peru was conducted to investigate the elevational range of prehistoric camelid herding. The high status Wari site of Cerro Baúl yielded three camelids with unexpectedly high carbon, nitrogen and oxygen isotope ratios indicative of coastal or lower elevation habitats. Additional camelids tested from Cerro Baúl and other prehistoric sites within the Osmore Drainage yielded isotopic signatures similar to camelids raised in the highlands. The implications for prehistoric camelid herding patterns and human dietary isotope studies are discussed.

**Thurston, Tina (SUNY Buffalo) [109] Discussant**

**Thurston, Tina L. (SUNY-Buffalo)**

[39] *The Barren and the Fertile: Ancient and Modern Intensification Strategies Across Variable Landscapes*

Ethnographic studies document that differing intensification pathways often correspond to specific combinations of environment and socioeconomic processes: top-down directives, local entrepreneurship, or both. I compare these to similar relationships between environment, agro-economics, and local-central politics in pre- and protohistoric contexts through study of two regions under one political authority - the early Danish state - yet with highly contrasting environments, both "barren" and fertile. A synthesis of environmental/landscape reconstruction, archaeology and historic data indicates that as state power grew between AD 700-1200, agricultural intensification occurred, in one area through settlement/field expansion, in the other through increased animal production. Examination of differing strategies leads back to causal explanations of regional intensification variability.

**Thurston, Tina L. [148] see Brunton, Thomas F.**

**Tillier, Anne-Marie [23] see Maureille, Bruno**

**Timmins, Peter (Timmins Martelle Heritage Consultants Inc.) and Holly Martelle (Timmins Martelle Heritage Consultants Inc.)**

[88] *Cultural/Stylistic Horizons in the Early Holocene: The View from Southwestern Ontario*

This paper discusses the phenomenon of widespread cultural and stylistic horizons in prehistory from the perspective of a series of late Paleo-Indian and Early Archaic sites recently investigated in southwestern Ontario. Comparisons are made with other early Holocene assemblages in the Northeast, Southeast, and the Midwest, and possible sociocultural processes underlying the widespread transmission of such stylistic phenomena are proposed and discussed.

**Timmins, Peter [105] see Pearce, Robert**

**Timperley, Cinda L. (Texas Archeological Research Laboratory, The University of Texas at Austin), Pamela R. Owen (Vertebrate Paleontology Laboratory, The University of Texas at Austin) and Ernest L. Lundelius, Jr. (Department of Geological Sciences, The University of Texas at Austin)**

[138] *The Occurrence of Equus in Clovis Context at the Gault Site, Central Texas*

Clovis hunting has traditionally been reconstructed with a focus on large mammals, particularly mammoths. Recent evidence suggests a broader subsistence base that also includes bison and horse. Equus remains found in direct stratified association with Clovis artifacts at the Gault Site, as well as evidence gleaned from older collections, indicate that horse, bison, deer, rabbit, and turtle contributed to a broad spectrum faunal subsistence base.

**Titmus, Gene L. [24] see Elston, Robert G.**

**Todd, Lawrence [75] see Derr, Kelly; [75] see Burnett, Paul; [75] see Bohn, Allison [170] see Burger, Oskar; [187] see Reitze, William**

**Todisco, Dominique (Centres d'Etudes Nordiques)**

[87] *Geoarchaeology of Tayara Site: Sugluk Island*

The site of Tayara (KbFk-7) is located in the southwest of Sugluk Island, near the south shore of the Hudson strait, northern Quebec. It is situated at 18 meters above the current sea level on a fossil marine beach. Three sectors (1, 2, 3) were excavated and show three archaeological layers which are overlain by about one meter of sand or diamicton. Sector 1 was affected by a process of slow mass movement, seeming to correspond to gelifluction. It could be associated with a climatic phase of warming and/or higher precipitation, occurred between ca. 1300 and ca. 1000 yr. BP.

**Tomaskova, Silvia (UNC-Chapel Hill)**

[105] *Yes Virginia, there is gender: Archaeology's many histories.*

History writing is always about a complicated relationship between the past, the present, and the future. We write histories in the present for the future, to renew and maintain a field, but also admit the possibility of multiple ways of being. Bruce Trigger's History of Archaeological Thought brought to our attention the importance of disciplinary history, while opening space for other

histories to emerge. Voices of women and marginal groups joined the debate, suggesting that history is never singular. More importantly, insisting on gendered histories, we are allowing for questions that are as essential as listening to multiple voices.

**Tomczak, Paula** [147] *see Malcom, Christine*; [147] *see Lozada, Maria*

**Toohy, Jason (University of California Santa Barbara) and Jimmy Bouroncle (Arequipa, Peru)**

[117] *Community organization and coast-highland interaction in the northern Peruvian Andes: Ongoing fieldwork at the fortified Cajamarca village of Yanaorco*

This paper presents ongoing research on community-level organization in the northern Peruvian Andes. The Late Intermediate Period to Late Horizon fortified village of Yanaorco is strategically located on the continental divide, overlooking a major prehispanic route between the upper Jequetepeque Valley and the intermontaine Cajamarca Basin. Research is focused on defining architectural, social, and economic aspects of community organization in this little known region of Peru. This work also investigates the nature of interaction between large scale north coast polities and local Cajamarca communities. Additionally, the site's occupational history allows investigation of local reactions to Inka occupation of the basin.

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

[132] *Ritual Warfare in the North Coast of Peru: Who Fights and Why?*

Practice theory allows a nuanced examination of the rich variability in motivation for prehistoric warfare cross-culturally. By considering warfare as a strategy of active and knowledgeable agents operating within a particular sociocultural context, researchers are able to link warfare to the wider social field in which individuals and interest groups operate and to move beyond reductionist models that attribute all conflict to competition over resources. This paper focuses on ritual warfare on the north coast of Peru between 300 BC and AD 800 and comments on linkages to cosmologies of the period, and to increasing social differentiation and political complexity.

**Topic, Theresa** [132] *see Topic, John*

**Topping, Pete (English Heritage)**

[106] *From Pipestone to Grime's Graves: Re-analyzing extraction sites*

The Catlinite quarries of Pipestone, Minnesota, provide a salutary lesson of how the desire for a special type of stone developed a ritualised extraction process (some of this re-invented in recent times). A review of the Old and New World archaeological record suggests that ritualised extraction and the careful crafting and curation of artefacts may have been more prevalent than previously considered. This paper will present examples taken from both North America and Europe to illustrate this point with the aim of stimulating a re-consideration of the role of some prehistoric mines and quarries.

**Torres, John** [102] *see Clifton, Julia*

**Torres-Rouff, Christina (The Colorado College) and María Antonietta Costa (Instituto de Investigaciones Arqueológicas y Museo, San Pedro de Atacama)**

[147] *Identity politics: Cranial vault modification in San Pedro de Atacama*

The pre-Columbian population of San Pedro de Atacama, Chile interacted with foreign powers and local exchange partners and witnessed substantial demographic shifts in their area. One of the many ways they responded to these changes was through the deliberate modification of head shape; thereby inscribing cultural features on the body. This examination of 659 crania from seven sites (300 BC to AD 1500) occupied during significant transformations in the social environment revealed the use of this visible symbol to affiliate with foreign powers and, during periods of upheaval, to consolidate group identity.

**Tourtillot, Gair (Boston University) and Jeremy Sabloff (University of Pennsylvania Museum)**

[119] *Seibal Revisited: The Crown Jewel in the Regional Necklace?*

We review the conclusions of the 1960's Seibal Project in light of the greatly expanded historical and archaeological data now available for the Río Pasión region. Late Seibal now appears more episodic and dynamic than relentlessly progressing. As the previous understandings of the Late and Terminal Classic development of Seibal can now be significantly revised, so can its place in

regional political history. We re-examine Seibal's regional prominence during this period, especially in relation to Punta de Chimino and Altar de Sacrificios, and offer a new hypothesis for Seibal's role in this tumultuous time.

**Tourtellotte, Perry (Sweet Briar College) and Claudia Chang (Sweet Briar College)**

[47] *Sheep aren't just good to eat; Bronze and Iron Age Animal Symbolism in SE Kazakhstan*  
At three Iron Age settlements (ca. 800BC-AD100) and an Early Andronovo period site (ca. 1700-1500BC), along the alluvial fans and upland plateaus of the northern Tian Shan range, animal bone frequencies show a breakdown of 50-70% caprines, 20-35% cattle, 10-15% horse, and a few camel, kulan, and dog. Intentional animal burials, bone piles, animal parts at rock cairns around burial mounds, and skulls, jaws, and leg elements buried at or near domestic architecture suggest the ritual use of animals.

**Towner, Ronald (Tree-Ring Lab U of AZ), Hugh Rogers and James Copeland (BLM)**

[90] *The 20th Century Hispanic Occupation of Canon Largo. A Multidisciplinary Approach*  
Canon Largo in northwestern New Mexico is known for its spectacular 18th century Navajo pueblitos. Less well known, but critical for understanding the current landscape is the Hispanic occupation of the early 20th century. This paper uses archaeological, historical, dendroarchaeological, and oral history data from two homesteads to discuss the environmental, social, and political contexts of the initial settlement, occupation, and abandonment of the area. We are, therefore, able to address the strengths and weaknesses of our different data sets for assessing different temporal, spatial, and economic aspects of the Hispanic use of the area.

**Tratebas, Alice (Bureau of Land Management) and Marcel Kornfeld (University of Wyoming)**

[75] *Little Missouri Antelope Trap in the Black Hills*  
Antelope pit traps are rare as an extant site type in western North America. Recently we have systematically surveyed and recorded such a trap in the Wyoming Black Hills. The Little Missouri antelope trap has a complex array of juniper wings that indicate multiple drive events. In addition to the pit, a circular structure appears to be a corral. The Antelope Pit Ceremony was an important traditional practice for several Plains tribes. The association of both Late Prehistoric and Late Archaic points with the juniper wings suggests the possibility that traditional use of the site spanned a long time.

**Tremblay, Roland (Consultant)**

[26] *Widespread recurrent models of the so called Micmac pipes*  
For more than a century, archaeologists have misleadingly dubbed as Micmac a common type of removable stem pipes from the Northeast colonial period. Despite continued use of this name, it is obvious they originated from Native forms in the Lower Great Lakes area and resulted from cultural intermingling between the French and Native groups in New France and the Pays d'en Haut. Evidence from different sites in Québec shows that some were fabricated in minute details on the same models, probably by the same French-Canadian makers in New France, and were then distributed by users in wide geographical areas.

**Tremblay, Roland (Consultant) and James Petersen (University of Vermont)**

[1] *Cultural Convergence on the Algonquian-Iroquoian Border: The Case from the Maritime Peninsula*  
We address cultural convergence and ethnic distinctiveness in the Maritime Peninsula of far northeastern North America. Native groups with two very different cultural histories and different language families had contacts for many centuries in this region. The Maritime Peninsula was the theatre of such cultural convergence during late prehistory, including the easternmost horticulturalists of both the Algonquian and Iroquoian language families in the far Northeast, namely the Abenaki and the eastern Saint-Lawrence Iroquoians. Thus, we ask is it possible to differentiate the origins of their respective archaeological and ethnological traits? To what extent did adaptation to common environments hasten cultural convergence and can it be distinguished from borrowing by cultural contact? These and other questions of <<ethnogenesis >> must be addressed in any assessment of cultural identity where complex cultural boundaries seemingly pertained. This paper examines elements of convergence that must be taken into account when studying the development of both broad groups.

**Triadan, Daniela (University of Arizona) and Takeshi Inomata (University of Arizona)**

[132] *The Effects and Limitations of Cultural Codes in Maya Warfare*

In warfare, codes of conduct prescribed by cultural logic and enforced by notions of warrior honor collide with goal-seeking pragmatism, driven by political and economic interests and the bare instinct for survival. Practices of war by the Classic Maya were strongly regulated by cultural codes, focusing on the capture and subsequent sacrifice of enemy elites rather than direct attacks on enemy cities and commoner populations. Sporadic evidence of fortifications, however, indicates that such restrictions occasionally broke down. Tendencies toward wanton destruction intensified at the end of the Classic period, reflecting a significant change in battle practices.

**Trigg, Heather (University of Massachusetts Boston), David Landon (University of Massachusetts Boston) and Amy Golladay (Oberlin College)**

[100] *Faunal and Botanical Evidence for Cross-Cultural Interactions at Sylvester Manor, a Seventeenth-Century Northern Plantation*

Sylvester Manor, a northern plantation in New York, was established in 1652 to produce provisions for export to Caribbean plantations. Production of these exports and maintenance of the household relied on the labor of enslaved Africans and Native Americans who lived in the area. Using faunal and floral remains recovered from the site core, we examine the European and Native American foodways evident at the household. The analyses of cuisine maintenance and modification help us understand the social dynamics of cultural interactions on a northern plantation and gain insight into the cultural transformations embedded in the colonial experience.

**Trigger, Bruce (McGill University) [131] *Discussant***

**Tringham, Ruth (University of California, Berkeley) [76] *Discussant***

**Tringham, Ruth (University of California, Berkeley)**

[157] *How the feminist practice of archaeology has transformed the classroom*

The feminist critique of science in general has had an important impact on education and the practice of pedagogy in K-12 and higher education. The impact of the feminist practice of archaeology and the study of gender in archaeology seems to be equally significant. This paper examines what is "feminist" about the new pedagogy, and seeks to identify to what extent the development of inquiry-based learning and "hybrid" courses that emphasize face-to-face learning in combination with digital education are the result of a feminist edge to the practice of education. This examination is carried out within the context of 15 years of our experimentation in new ways of teaching archaeology at U.C. Berkeley.

**Tripcevich, Nicholas (UC Santa Barbara)**

[25] *Obsidian from the Colca Valley (Peru) and Altiplano socio-political development*

Recent survey and test excavation work at the Chivay / Cotallaulli obsidian source above the Colca Valley (Arequipa, Peru) has yielded new information that has both local and regional significance concerning prehistoric obsidian production, trade, and socio-political evolution. Research at the 5000 m.a.s.l. obsidian source itself has documented Precolumbian obsidian processing areas as well as a roadway that accesses the source. Systematic survey in the nearby upper river valley has provided settlement pattern information and evidence of long-term change in local traditions that can be evaluated against known regional distributions of this obsidian in the south-central Andes in prehistory.

**Tripplett, Kirsten (University of California Berkeley)**

[146] *Botanical and Archaeobotanical Analyses in the Sibun River Valley, Belize: A Snapshot of Aims and Results*

Results of a multifaceted approach to the study and utilization of ancient and modern floral resources in the study area are presented. Goals include: 1) analysis of soil sediments collected and processed for archaeobotanical investigation of diet, feasting ritual, production, trade, and consumption of cacao; 2) surveying of "feral" cacao populations to ascertain if remnant populations exist and determine distribution of populations in relation to archaeological sites; and 3) distinguishing broad modern vegetation patterns and identifying ancient, potential botanical resources, human activities and modification of the landscape, in concert with Jones' (2002) contiguous analysis of the paleoenvironment.

**Trojnar, Aimee [136] *see Pozorski, Thomas***

**Trott, Christopher (Dept. of Native Studies, Univ. of Manitoba)**

[14] *Missions and Population Dynamics in North Baffin Island*

Missionary activity is usually associated with ideological transformations that leave little trace in the archaeological record. This paper will examine the impact of Anglican and Roman Catholic missions on the population distribution of Inuit in North Baffin Island. Population movements among Inuit have usually assumed to be a function of ecological variables, but this paper will consider the importance of other historical factors, notably missions, in influencing the movement of people over a large geographic area. This will facilitate comparison with the dispersal of Inuit in South Baffin after the collapse of the whaling era.

**Truhan, Deborah L. (New York University)**

[184] *An Ethnohistorical Introduction to the Inka Occupation of Canari Territory*

Archival data from Cuenca and Quito, Ecuador, imply the Inka occupation of Canari territory was intensive and extensive. Early colonial references to "Ynga" constructions, combined with chronicles, relaciones, and archaeological reports, depict imperial infrastructure across this Delaware-sized region. Centrally-located Tumipampa, birthplace of Wayna Qhapaq, was locus of a densely populated productive zone stretching northeastward past Cojitambo. Within but not limited to this area, concentrations of Quechua-surnamed people especially among originarios - when added to mitmaq and kamayuq groups, may reflect details of Inka-imposed practices and demographic upheavals. This region-wide overview provides a context for future archaeological and ethnohistorical investigation.

**Truncer, James (Stanford University)**

[37] *The Development of Hyper-Short Chronology in Middle Atlantic Archaeology, 1920-1950.*

Research discontinuity has long plagued archaeology, frequently disrupting productive lines of inquiry. One source of research discontinuity lies in changing institutional priorities. A prime example is the cessation of Bureau of American Ethnology and American Museum of Natural History fieldwork in the Middle Atlantic region. Ironically, BAE staff facilitated the hyper-short chronology that followed, a position that went well beyond that of William Henry Holmes. Hyper-short chronology mistook biological, geological, and linguistic referents for cultural ones, compressing potential time-depth from thousands to hundreds of years. These developments have had a lasting impact on Middle Atlantic archaeology.

**Trunzo, Jennifer M. (Brown University)**

[74] *Pop Archaeology: Professional Responsibility and Public Education*

This poster will address portrayals of archaeology and archaeologists in the media that create public misunderstanding of the archaeological profession. It will assess various forms of visual and print media that cast archaeologists as treasure-hunting superheroes who battle supernatural forces or popularize archaeology as a pseudo-science that investigates the paranormal. This poster will propose ways that archaeologists can better educate the public and our students so that the archaeological profession will be better understood.

**Tryon, Anouk (University of Massachusetts, Dept. of Anthropology)**

[89] *The Spoken and the Material: A Search for Archaeology's Contribution to Indigenous Language Revitalization Efforts.*

The utility of Indigenous oral traditions to archaeological method and theory is both extolled and debated in the literature. Yet, many Indigenous communities are struggling to maintain or revive their languages from the effects of the residential and boarding school systems. These institutions not only denied Indigenous peoples their languages but also the inherent material reality of their languages. Thus, can archaeology, with its material focus, contribute to language revitalization efforts? My paper will seek out these potential points of intersection and explore means of integrating action research methods into the applicability of archaeology to language revitalization.

**Tschauner, Hartmut [25]** see *Siveroni, Viviana*

**Tsosie, Neomi [179]** see *Two Bears, Davina*

**Tuck, James A. [130]** see *Logan, Judith A.*

**Tucker, Tim M. (Mesoamerican Research Foundation) and Miguel Medina Jaen (Instituto Nacional de Antropología e Historia)**

[49] *Map of Cuauhtinchan II, a stepped glyph or portal into a sacred mountain*

The Map of Cuauhtinchan II is 16th century historical cartography illustrating geography, geology,

flora & fauna, roads, towns, and pilgrimage sites. This study concerns a glyph (stepped platform with a raised lintel) involving religious rites, and may be interpreted as pre-Hispanic traditions of sacred underground space, portal into a mountain, or place of ancestral origin.

**Tuljapurkar, Shripad (Stanford University) and Charlotte Lee (Stanford University)**

[54] *Demography, Soils, and Agriculture: Models of Prehistory*

We describe progress on models that describe the joint dynamics of people and environment in prehistoric Hawaii. First, we use a new model age schedule of mortality, and age patterns of fertility, to constrain the levels of fertility over the thousand years or so after first contact. We examine the effect of stochastic variability over time on these constraints. Second, we discuss an analytical model of nutrient dynamics (based on CENTURY) and how it can be used to study the dynamics of agricultural production over long periods. Finally, we discuss ways of coupling the soil model to demographic rates.

**Tung, Tiffany (Vanderbilt University)**

[137] *Human Trophies in the Andes: A View from the Late Preceramic to Middle Horizon Periods*

Practices involving the manipulation of human body parts from the Late Preceramic through Middle Horizon periods are well documented in the Andean archaeological record. This paper examines biological and archaeological evidence to document geographical differences and diachronic changes in these practices. While early examples are mentioned, this overview focuses on trophy heads and disembodied skeletal elements from Nasca, Moche, and Wari, with original data presented for the latter. Together these data further elucidate the meaning of head-taking (and peri/postmortem body part manipulation) through time and across space, either as secular acts of violence against enemies, ritual battles/raids, ancestor veneration, or combinations thereof.

**Tung, Tiffany [25]** see Gladwell, Randi; [147] see del Castillo, Mirza

**Turnbow, Chris [102]** see Clifton, Julia

**Turner, Terence (Cornell University) [159]** *Discussant*

**Tuross, Noreen (Smithsonian Institution), Bruce D. Smith (Smithsonian Institution) and Daniel H. Sandweiss (University of Maine)**

[170] *Antiquity, growth and transport of the bottle gourd (Lagenaria siceraria) in the Americas*  
A suite of bottle gourd rind fragments from a number of archaeological sites has been directly AMS 14C dated and shown to span the Holocene to as far back as 9kyr B.P. Excellent preservation of the hard rind fragments is documented by morphological, elemental and isotopic analyses. Hydrogen (dD) and oxygen (d18O) isotopic values from the bottle gourds provide evidence for local growth of the cucurbit. In at least two cases, however, transport of nonlocal gourds is suggested on the basis of hydrogen and oxygen isotopic values.

**Turq, Alain (Musée National) and Gislaine Antignac**

[23] *Raw Material Analysis at Pech de l'Azé*

As with all Middle Paleolithic sites in Aquitaine region of southwest France, the lithic industries of Pech de l'Azé consist of more than 95% local raw materials. An analysis of the cortex and of the size and morphology of the nodules has allowed us to identify several sources near the site. In addition, we can now discuss the origin of the non-local materials and address issues concerning the accessibility of raw material sources during the late Pleistocene.

**Tushabramishvili, N. (Georgia State Museum) and L. Meignen (CNRS - Valbonne)**

[129] *Djrchula layers 1 and 2 : Middle Paleolithic bladey assemblages on the southern slopes of the Great Caucasus*

Assemblages from layers 1 and 2 at Djrchula cave (Imeretie, Georgia) are characterized by high frequencies of elongated blanks (blades, points), the majority often alternately retouched into elongated points. These blanks have been generally considered as Levallois -the Koudaro-Djrchula type. Our new technological studies indicate that alongside a Levallois core reduction strategy, a true blade technology is in fact dominant in both assemblages. Despite some specific stylistic traits in retouching, Djrchula assemblages resemble the Levantine Early Middle Paleolithic (such as Hayonim lower and F, Abou Sif, Hummal), again demonstrating the large geographic spread of the Middle Paleolithic bladey industries.

**Tveskov, Mark Axel (Southern Oregon University)**

[112] *The Archaeology of Hrísrú, Iceland, and the Norse Conversion to Christianity*

At the end of the Viking Age, Norse society transformed dramatically as chiefs adopted Christianity and entered into more complex social relations at home and abroad. By the 11th century, much of Scandinavia was ruled by Christian kings. In Iceland, however, the Norse maintained their chiefly independence until the 13th century. Excavations at Hrísrú uncovered a pagan burial mound, domestic structures, and a Christian cemetery and church dating from the mid-10th to the 12th century. These remains and their surrounding landscape, together with the Icelandic sagas, provide a means to consider the Icelandic Norse response to these changing times.

**Twiss, Katheryn (Southern Illinois University Carbondale)**

[85] *Eating Themselves Into Being: Food, Body and Self in the Levantine Neolithic*

Eating is a highly sensual undertaking, a deeply symbolic practice and a biological necessity. This paper discusses how food practices in the Pre-Pottery Neolithic of the southern Levant constructed and maintained both biological bodies and social bodies, and investigates the role that the consuming body may have played in Pre-Pottery Neolithic society and ideology.

**Two Bears, Davina (Navajo Nation Archaeology Department), Elaine Cleveland (Navajo Nation Archaeology Department), Darsita Ryan (Archaeologist, Navajo Housing Authority) and Neomi Tsosie (Navajo Nation Archaeology Department)**

[179] *Surveying Dinetah in Beauty: A Look at the Navajo Women Archaeologist Experience*

Today the majority of professional Navajo archaeologists on the Navajo reservation are women. This paper will examine why archaeology--shunned by many Navajos because of taboos about death and certain places--appeals to many young Navajo women. We will discuss challenges that these women face in their communities, families, culture, and the discipline. We will also share how these women succeed in a field that is both controversial in the Navajo worldview and under-representative of their gender and ethnicity. Lastly, we will highlight the problems of doing archaeology on the Navajo reservation and share ideas for a better Navajo archaeology.

**Tykot, Robert (University of South Florida)**

[86] *The Contribution of Stable Isotope Analysis to Understanding the Introduction and Importance of Maize in South America*

A substantial stable isotope database for South America now exists and provides complementary information to paleobotanical and other subsistence indicators on the introduction and importance of maize. While isotope ratios often do not indicate the consumption of specific foods, they do provide a quantitative assessment of the importance of maize when no other foods with enriched  $\delta^{13}C$  values were consumed, and semi-quantitative estimates in areas where seafood was also important. A synthetic perspective for South America is presented here based on collagen, apatite, tooth enamel, hair, and ceramic residue data from many sites, representing different time periods and ecological settings.

**Tykot, Robert H.** [4] see *Falk, Nicole*; [8] *Discussant*; [6] see *Lanehart, Rheta E.*; [8] see *Vargo, Barbara*; [8] see *Setzer, Teddi*; [86] see *Gill, Adolfo Fabian*; [86] see *Kelly, Jennifer*; [98] see *Lai, Luca*; see *Beyer, Lisa*; [4] see *Shelnut, Nicole*; [5] see *Peck, Shannon M.*

**Tyndall, Gregory (University of Colorado - Denver)**

[181] *Ceramic Evidence for communal feasting at the West Mexican Site of Navajas*

This study utilizes a large ceramic collection from the recent excavations at the site of Navajas in Western Mexico to examine the political nature regarding feasting practices of the prehistoric Indians of the Teuchitlan Tradition. Analysis of these ceramics has shown that the participants in the feasts had very similar ceramic assemblages, despite their separation into eight groups occupying architecturally unique structures around a central altar. These results suggest that these rituals were communally based, as no aggrandizing behavior is evident in the ceramic collection.

**Ueda, Shintaroh** [118] see *Wang, Li*

**Ugarte, Rene** [93] see *Love, Michael*

**Ugent, Donald** [136] see *Pozorski, Thomas*

**Underhill, Anne** [6] see *Cunnar, Geoffrey*

**Underhill, Anne P. (The Field Museum), Gary M. Feinman (The Field Museum), Linda M. Nicholas (The Field Museum) and Hui Fang (Shandong University, China)**

[133] *Regional Politics and Elite Strategies During the Longshan Period in Southeastern Shandong, China.*

An assessment of the specific strategies that were employed to maintain and increase power requires regional-scale data to estimate polity boundaries and to investigate the basis of inter-community relations. In this presentation, utilizing data from nine years of systematic full-coverage survey in southeastern Shandong province, we describe evidence for two partially contemporary, contiguous polities from the late prehistoric Longshan period. We then discuss our hypotheses for the range of diverse strategies that elites used to maintain power in this region of north China.

**Underhill, Anne P. [6]** see Lanehart, Rheta E.

**Uphus, Patrick [185]** see Sullivan, Alan

**Ur, Jason (University of Chicago)**

[153] *The Social Context of Food Consumption in Early Urban Northern Mesopotamia*

In studies of early urbanism in northern Mesopotamia, the focus has been on agricultural production, but social patterns of consumption were equally important. In the patrimonial household model employed in this study, social events involving eating and drinking would have been loci for the maintenance and reproduction of kinship-based hierarchical social relations. In the Upper Khabur basin of northeastern Syria, we can document such events and place them within a cycle, where organic material goes from production in the fields to consumption in the household, and finally back to the fields as manure, through a combination of landscape archaeology and excavation.

**Ur, Jason [54]** see Wilkinson, Tony

**Urban, Greg (University of Pennsylvania) [12]** *Discussant*

**Urem-Kotsou, Dushanka [174]** see Kotsakis, Konstantinos

**Uruñuela, Gabriela (Universidad de las Americas, Puebla) and Patricia Plunket (Universidad de las Americas, Puebla)**

[3] *What Mean These Stones? A Contextual Analysis at Tetimpa, Puebla*

Concentrations of small, unworked stones are found in three main contexts at the Formative village of Tetimpa in Central Mexico: 1) mixed with mud mortar, they were used to line burial architecture; 2) they occur at the domestic patio shrines; and 3) they were placed inside permanent braziers in communal ritual structures. We examine these situations in an attempt to identify a common denominator that might inform us about their significance and ritual meaning.

**Uruñuela, Gabriela [3]** see Plunket, Patricia

**Utermohle, Charles [141]** see Ousley, Steve

**Vail, Gabrielle (New College of Florida)**

[50] *Death, Sacrifice, and Rebirth in Postclassic Maya Iconography*

Virtually every activity in prehispanic Maya culture was guided by underlying rituals. Rituals were performed to mark important dates and events in the agricultural and Long Count calendars, and in the life cycle of individuals. They were intended to ensure the proper relationship between human petitioners and the deities who controlled natural forces. Offerings and sacrifices were important components, as they were linked to ideas of regeneration and renewal. This paper considers calendrical rituals recorded in Maya screenfold books and murals from the 14th and 15th centuries in light of Colonial period (16th and 17th century) descriptions of similar rituals.

**Valdés, Juan Antonio (Chocolá)**

[93] *Kaminaljuyu y Chocolá*

Los resultados de investigaciones recientes están permitiendo reescribir la historia de Kaminaljuyu, el sitio más importante del altiplano de Guatemala. El fuerte crecimiento de la ciudad desde el Preclásico Medio, así como la centralización de poder en un gobernante supremo para el Preclásico Tardío, condujo a sus dirigentes a ampliar y estrechar relaciones con otras ciudades vecinas, incluyendo Chocolá y Abaj Takalik. Las investigaciones recientes en Chocolá demuestran contactos importantes entre los dos sitios, indicados no solo por la escultura pero también por la cerámica y por intercambios económicos.

**Valdés, Juan Antonio [93]** see Paredes, Federico; [93] see Herrera, Juan Pablo; [93] see Kaplan, Jonathan

**Valdez, Jr., Fred [67]** *see Sullivan, Lauren A.*

**Valencia, Rossana Nelly Quiste (Universidad Nacional de Tacna) and David Goldstein (Southern Illinois University)**

[71] *Putting the Food on the Mesa: Paleoethnobotanical Investigations at Cerro Baul, Part I*  
In 2003 the authors completed the first in depth investigation of plant remains at Cerro Baul. Based on an intensive sampling methodology that included the targeting of particular contexts, the authors present a look at plant use across a variety of cultural use areas. These include potential feasting, garbage, storage, and domestic loci at the site. Contemporary contexts of distinct cultural identities, Wari and Tiwanaku, were analyzed as an initial step towards locating cultural practices that are either clearly distinct or held in common between the two groups.

**Valenzuele, Daniela [184]** *see Santoro, Calogero*

**Valla, Francois (CNRS-Nanterre)**

[152] *What Happened in the Final Natufian*

Ongoing excavations at the stratified Natufian site of Mallaha (Eynan) in the Upper Galilee (Israel) uncovered part of a Natufian village in a relatively clean stratigraphic context. The village maintains some specific Natufian features (curvilinear architecture, the association of graves with buildings, etc.), with what seems to be relatively new developments, such as differentiation in fireplaces, greater use of grinding stones and handstones, nuances in burial practices, changes in bead shape, increase in obsidian importation, etc. This paper presents aspects of these findings.

**Valle, Judith [186]** *see Hewitson, Chris*

**Van Buren, Mary (Colorado State University) and Ana Maria Presta (University of Buenos Aires)**

[184] *The Organization of Inka Silver Production in Porco, Bolivia*

The search for mineral wealth was the primary motivation for Inca expansion into the southern Andes, and Porco, Bolivia was one of the most important producers of silver for the empire. This paper uses information from excavations, limited survey, and historical sources to examine the extractive infrastructure and deployment of labor at Porco. The location of the mines in an area with limited agricultural potential and the need for both specialized and unskilled labor appear to have been the main factor influencing the organization of production at this center.

**van der Elst, Judith (University of New Mexico), Veronica M. Arias (University of New Mexico), Theresa Runge-Kuntz (University of New Mexico) and Heather M. Richards (University of New Mexico)**

[170] *Change-Detection Analyses of Historical Sites using Aerial Photography and GIS*

Remote sensing methods and Geographic Information Systems (GIS) were employed to detect changes in the condition and spatial distribution of historical cemeteries in Albuquerque, New Mexico. The small, Hispanic community-based cemeteries have succumbed to urban development, changing cultural beliefs, and environmental factors. A spatial analysis of the distribution and accessibility of these cemeteries will show how the role of community cemeteries has changed in 75 years, and how urban development has impacted traditional Hispanic culture. Analyzing historical aerial photography in a GIS framework, it is possible to monitor physical and cultural erosional effects on historic and prehistoric archaeological sites.

**van der Elst, Judith [48]** *see Ramirez, Nicole A.*

**Van Dyke, Ruth (Colorado College)**

[133] *Aesthetics, Legitimacy, and the Chacoan Imagination*

How and why do people construct themselves as subjects? Elites may employ artistic or experiential media, including architecture and landscape, to elicit a powerful emotional allegiance from potential followers. Symbolically charged spaces can resonate aesthetically with subjects' worldviews or beliefs, encouraging them to desire the continuation of a sociopolitical regime that may not be in their best material interests. In Chaco Canyon, New Mexico between the A.D. 9th-12th centuries, great house builders created a landscape that emphasized cardinality, verticality, and dualism. Viewers resonated with the values expressed on this landscape and conferred legitimacy upon Chacoan leadership.

**van Gijn, Annelou (Leiden University)**

[79] *The use of bone and antler tools in late Mesolithic NW Europe*

In two late mesolithic sites near Hardinxveld-Giessendam, in the coastal area of the Netherlands, an extremely well-preserved bone and antler assemblage was found. Numerous modified implements and a large quantity of production waste were encountered. The artefacts were submitted to a technological and functional analysis. Various activities were carried out with the

tools such as hide working, plant processing and digging of soil. Production waste was also put to use, for example to scrape hide or to drill different materials. Experimental data with the use of bone and antler tools will be presented in support of the findings.

**Van Gijseghe, Hendrik (University of California, Santa Barbara)**

[135] *Agency and Migration: Towards a Model of Social Change on the Frontier*

Much of human history has been characterized by population movements of various scales and distances. Sedentary, agrarian groups in pre-state formations often had the option of colonizing areas perceived as frontiers: the 'flip-side', so to speak, of Carneiro's model of circumscription. This process leads to long-term cultural diversification sometimes and perhaps erroneously equated to a 'genetic drift'. After reviewing anthropological literature on historical frontier social organization I present a framework for post-migration reorganization that relies on the motivations and identity of the migrating individuals and delineates between cases of archaism, inertia and innovation in the development of frontier sociopolitical landscapes.

**Van Hoose, Jonathan (University of New Mexico)**

[90] *A Ceramic Perspective on Navajo-Pueblo Contacts in Early Historic New Mexico*

The tumultuous period between AD 1600 and 1750 encompassed profound changes in interactions among Navajo and Pueblo groups in northern New Mexico. These included significant shifts in alliances and boundaries, as well as population disruptions precipitated by Spanish contact. While some aspects of Navajo-Pueblo contacts are suggested by historical documentation, the nature and extent of such interactions are poorly understood. Applying a concrete model of how artifactual variation reflects different learning modes, this paper addresses Navajo-Pueblo social dynamics before and after the Pueblo Revolt through an intensive technological study of plainware potsherds from Navajo and Pueblo sites.

**Van Keuren, Scott [153]** see *Graves, William*

**Van Nest, Julieann (New York State Museum), Jack Coates (New York State Archaeological Association), Elena Ponomarenko (Canadian Museum of Civilization), Douglas Mackey (New York State Office of Parks, Recreation and Historic Preservation) and David Asch (New York State Museum)**

[100] *Mounds at Perch Lake, Jefferson County, New York: A Geoarchaeological Investigation*

Small, annular rock-rich mounds occurring at Perch Lake and certain other localities in northern New York and adjacent Ontario are enigmatic structures first reported in the 1850s. They are not mortuary facilities. One interpretation is that the rings are accumulations of material raked from a central hearth, but new excavations reveal that the rings contain little fire-altered rock, while burned rock, soil, and wood charcoal is confined to the central area above a rock pavement. Clearly substantial effort was required to construct these facilities, possibly for use as earth ovens. Their age and function is the focus of current research.

**Van Nest, Julieann [65]** see *Basa, Louise A.*

**van Rossum, Peter [21]** see *Hirth, Kenneth*

**Van West, Carla (Statistical Research, Inc.) and Edgar Huber (Statistical Research, Inc.)**

[140] *Cultural Landscapes of the Fence Lake Project Area: Portraits, Portfolios, and Retrospective*

As a way of synthesizing accumulated FLP data, SRI has created a series of "cultural landscape portraits" that typify land use patterns in the study area beginning in the Late Archaic Period and moving through the twentieth century. From these, a "portfolio" of images has been created, collectively presenting the important economic and demographic themes of the region. As the final paper in the symposium, this presentation serves as a "retrospective" to interpret these images as a virtual record of how human perception and action have interacted with the physical world for more than 4000 years.

**Van West, Carla [140]** see *Phillips, David*

**VanBuskirk, Stephanie (Washington State University) and Tim Kohler (Washington State University)**

[62] *Vessels and Villages: Conformist Transmission Accompanied Earliest Aggregation on the Pajarito Plateau, New Mexico*

Why villages form in the prehispanic U.S. Southwest is a question with a long research history. Less emphasis has been placed on how villages persist. Using data from the Pajarito Plateau of New Mexico, we find that a Late Coalition period village, Burnt Mesa Pueblo, exhibits less diversity in ceramic style than would be expected, if ceramic styles were "neutral," using as a baseline the ceramic diversity that typifies local hamlets of the Early Coalition period. The evidence suggests transmission processes affecting ceramic design were biased towards conformity which there are theoretical reasons to suggest enables greater cooperation.

**VanBuskirk, Stephanie [72] see Duff, Andrew**

**VandenBygaart, Albert [188] see MacDonald, Robert**

**Vandermeersch, Bernard (Univ de Bodeaux)**

[152] *Qafzeh: 35 Years of Joint research*

This paper presents results from the 1965-1979 excavations of Qafzeh Cave, codirected by Ofer Bar-Yosef and myself. During our excavations, we discovered 1) an important sequence of Mousterian deposits with some exceptional discoveries, such as perforated shells in Mousterian context; 2) The remains of 20 morphologically modern humans, adults and children, with some complete skeletons; 3) several burials with two exceptional ones: a double burial with an adult and a child and the burial of an adolescent with an offering. Dating by a variety of techniques indicates that the Qafzeh hominids date to ≈95,000 years ago.

**Vandermeersch, Bernard [122] see Costamagno, Sandrine**

**Vanderplough, Jonathan [156] see Fuleki, Aaron; [52] see Kardulias, P. Nick**

**VanderVeen, James (Indiana University)**

[92] *Sometimes a Pipe is Just a Pipe: A Reevaluation of Taíno Symbolic Analysis*

Serious limitations and qualifications exist regarding the ability of modern scholars to accurately interpret ancient symbolism, but still the practice continues with little critical scrutiny. Various explanations have been constructed in order to further particular agendas or advance specific viewpoints. This paper evaluates several claims made concerning the meaning of artistic designs and stylistic forms employed by the Taíno Indians of the Caribbean. Images found in rock art, on ceramic vessels, and reported in the Spanish chronicles are assessed with regards to their potential validity in light of recent archaeological data and more systematic analysis of available data.

**VanDerwarker, Amber (UNC-Chapel Hill)**

[169] *Olmec Farming and Hunting in the Sierra de los Tuxtlas: the plant and animal evidence from La Joya*

This paper addresses agricultural intensification and risk in the tropical lowlands of Mexico's Gulf Coast during a period of political formation. Specifically, I consider the subsistence evidence from La Joya, a sizable village in the Sierra de los Tuxtlas that spans the Early through Terminal Formative periods. I combine analyses of plant and animal data to explore changes in farming and hunting strategies as they relate to political development and volcanic eruptions. Together, these data suggest that the intensification of agriculture is best explained by a combination of social and environmental factors.

**Vanhaeren, Marian (University of Paris/CNRS) and Francesco d'Errico (IPGQ)**

[79] *Perforated red deer canines associated to the Saint-Germain-la-Rivière burial and the Paleolithic origin of social inequality.*

The great number of perforated red deer canines associated to this burial, dated to 15,570 BP, and the preference for teeth from young stags contrast with the virtual absence of red deer in

southwestern France contemporary burials and faunal assemblages. The probable exotic origin of these teeth, the small number of paired canines, and the technological and morphological homogeneity of the collection suggest that they represented prestige items. As observed in a number of hunter-gatherer populations and in disagreement with the supposed egalitarian character of Upper Palaeolithic societies, these objects may have materialised the integration of this individual into a privileged social group.

**Vannary, Mam (Royal University of Fine Arts), Michael Dega (Naga Research Group) and Bertell D. Davis (Naga Research Group)**

[167] *Investigation of a Late Prehistoric Habitation Mound Site, Chamcar Andong Rubber Plantation, Kampong Cham, Cambodia*

During site reconnaissance along the Mekong River from Stung Treng to Kampong Cham, The East Cambodia Archaeological Survey team relocated several late prehistoric habitation mounds or "tumuli" previously reported by J.P. Carbonell in 1970. Situated in an outlying area of red soil typically associated with the famed circular-earthwork sites, one examined mound provided an opportunity to document a deeply stratified cultural deposit containing a wealth of faunal remains, ceramic materials, and possible evidence of in situ iron-working.

**VanPool, Christine (University of New Mexico)**

[19] *The North American Principle of Duality*

Duality, a significant principle in many religious systems, was pervasive throughout Prehistoric North America. Many groups paired opposites to balance each other, making what appeared as confusing aspects of the world fit into a meaningful mosaic, thereby resolving contradictions. This ideology normalized the abnormal, justifying the contradictions found in the world by drawing on the familiar and sacred. Examples are the horned/plumed serpents that embody aspects of the sky (bird) and ground or water (snake), gender complementarity, and shamanic themes. This underlying principle unites the worldviews of the US Southwest and Mesoamerica, as well as the US Eastern Woodlands.

**VanPool, Christine S. [62] see VanPool, Todd L.**

**VanPool, Todd L. (University of New Mexico), Robert D. Leonard (University of New Mexico), Marcel J. Harmon (University of New Mexico), Christine S. VanPool (University of New Mexico) and David A. Phillips Jr. (University of New Mexico)**

[62] *The Evolution of the Horned Serpent*

For more than 1000 years the horned or plumed serpent has been a prominent icon across the North American Southwest. This paper traces the development of this icon by identifying variation in horned serpent imagery generated both within and outside of the region, and then tracing the differential persistence of this variation through time using phylogenetic analysis. Using the proposed phylogenetic relationships, hypotheses concerning the development and intermingling of archaeological cultures and religious systems are developed and then evaluated with multiple lines of evidence.

**Vargas, Marco [109] see Benavides, O. Hugo**

**Vargo, Barbara (University of South Florida/AMEC) and Robert Tykot (University of South Florida)**

[8] *Neolithic Trade Networks in the Central Mediterranean: The Role of Pantelleria (Italy)*

Complex trade networks developed during the Neolithic as communities transitioning from hunter-gatherer to agricultural food strategies created a demand for raw materials no longer readily available to these sedentary groups. Obsidian became the principal stone traded in the central and western Mediterranean during this period and the role that Pantellerian obsidian played in the changing relationship between Sicily, Malta, and North Africa is explored. This study initiates a new perspective regarding the adaptation of new technologies to facilitate the movement of goods and the impact that this interchange had on the political and cultural atmosphere of the central Mediterranean.

**Vargo, Barbara [127] see Baggett, Klint**

**Varien, Mark (Crow Canyon Archaeological Center), Scott Ortman (Crow Canyon Archaeological Center) and Donna Glowacki (Arizona State University)**

[54] *Settlement History and Population Dynamics in the Central Mesa Verde Region*

Archaeological research has been conducted in the Mesa Verde archaeological region for over a

century and approximately 8,000 sites have been recorded in our project study area. A database was developed to synthesize information on site type, size, and dating, and the largest sites in the project area were resurveyed. The database was used to identify habitation sites, estimate the number of households at each habitation, assign each household to a period of occupation, and assess cycles of settlement dispersal and aggregation. These data are used to reconstruct the settlement history and population dynamics of the study area.

**Varley, Kerry (Desert Research Institute), Robert Dickerson (S.M. Stoller Corp), Stefanie Fleischmann (Desert Research Institute), Scott Ferguson (Desert Research Institute) and Cheryl Martin (Desert Research Institute)**

[31] *Constraining Procurement Loci for Raw Material Acquisition and the Implications for Archaeological Research*

Refining obsidian source areas by identifying distinct geochemical subgroups within volcanic fields is important for examination of prehistoric land use patterns. By identifying the tuff unit that contains the obsidian nodules, this research has similarly reduced the areas of Fortymile and Topopah Washes where obsidian could have been obtained. In addition to significantly reducing the toolstone source area, our research also indicates the obsidian nodules were likely never abundant and may have been depleted even sooner than previously thought.

**Vaughan, David (University of New Mexico)**

[90] *What's This Melted-Looking Stuff? Investigating Colonial Metallurgy in Central New Mexico*

Many researchers continue to advance the view that colonial mining in New Mexico was insignificant, but others find it difficult to reconcile this view with mounting archaeological indications of metallurgical activity at numerous Colonial Period sites. For most sites, however, we do not know whether the materials are truly metallurgical or what technologies they might represent. The preliminary results of a characterization study of these materials, using petrographic and electron microscopic analyses, suggest that New Mexico's colonists produced a broad range of metals. These findings have important implications for understanding regional economic and social interaction on the western Borderlands.

**Vaughn, Kevin (Pacific Lutheran University)**

[44] *Emergent Leadership in Middle-Range Societies: A South Coast of Peru Example*

While leadership had emerged in the prehispanic Andes by the 3rd millennium BC, the ways in which it was established and maintained varied considerably. This paper focuses on emerging leadership in Nasca during the 1st millennium AD. Leadership was based on feasting and ritual and was reinforced in large group ceremonies and the distribution of crafts. The inequality resulting from this leadership was based neither upon physical coercion nor discrete economic resources, but instead was ideologically grounded. Thus, it was subject to reinforcement by incipient leaders making it inherently unstable - a common characteristic of inequality and leadership in middle-range societies.

**Vazquez Leiva, Ricardo [165] see Salgado Gonzalez, Silvia**

**Vehik, Rain (University of Oklahoma)**

[38] *Archaic Use of Lithic Resources in the Ouachita Mountains of Southeast Oklahoma*

Early and Middle Archaic occupations have been uncovered at the Chippewa Creek site (34PS279). There is no evidence of Calf Creek material, and the overall assemblage seems more closely related to Archaic developments in the Southeast and parts of the southern Plains. Interpretations of these data indicate that work parties were engaged in obtaining lithic resources, particularly chert and quartzite. A secondary activity may have been replenishing worn implements. A review of these materials is presented and comparisons are made to similar sites in the surrounding area.

**Vehik, Susan (University of Oklahoma)**

[38] *To Decorate or Not to Decorate: Politics and Plain Ceramics in Little River Focus*

Prior to A.D. 1400, people in central Kansas and adjacent areas lived in small villages and made pottery whose rims were commonly decorated. Between A.D. 1400 and 1450 these people aggregated into fewer but much larger settlements and made ceramics whose rims were increasingly undecorated. Accompanying the formation of these larger settlements is evidence for increasing sociopolitical differentiation. It is suggested that political/religious leaders adopted undecorated ceramics initially as a strategy for disassociating themselves from pre-existing ethnic identities. However, ultimately the absence of decoration became a means for creating a new

ethnic identity and legitimizing a new political order.

**Veit, Richard (Monmouth University)**

[37] *Henry Chapman Mercer: A Victorian Polymath's Quest for Human Antiquity in the Delaware Valley*

Henry Chapman Mercer is today best known as the founder of the Mercer Museum, one of America's leading repositories of historic material culture, and as an innovative ceramicist. Mercer was also a pioneer in the archaeology of the Middle Atlantic who played an important role in the 19th century debate over human antiquity in the Delaware Valley. He also helped pioneer systematic excavations, experimental archaeology, and the typological organization of artifacts. Sadly the important contributions of this thoughtful scholar have been overshadowed by his more academically oriented contemporaries.

**Veit, Richard [128] *Discussant***

**Vera Rivera, Alfredo (E.N.A.H.) and Gerardo Gutierrez (CIESAS)**

[166] *A critical Analysis of codices of Azoyu, Guerrero*

The group codices of Azoyu contained the political history of the precolumbian Kingdom of Tlapanolli and have been used as a guideline to explore eastern Guerrero archaeologically. In this paper, we undertake a historiographical analysis of these Mixtec-Tlapanec pictorial documents of Azoyu, and learn the political motivations of the colonial Caciques who ordered their paintings.

**Vercoetere, Carole (Museum National d'Histoire Naturelle - France), Marylene Patou-Mathis (CNRS - France) and Giacomo Giacobini (University of Turin - Italy)**

[79] *Importance of the Palaeontological and Taphonomical Analyses for the Study of Bone Industry*

We would like to demonstrate here how important the palaeontological and taphonomical analyses are for the study of bone industry. The availability of raw materials supplied by animals varies depending on different criteria as game seasonal movements. Furthermore, the prehistoric men first intention when they hunted was to get food. The use of animal as resource to make tools came after. That's why it seems imperative that the Palaeolithic bone industry should be done following an archaeozoological approach. In addition, a taphonomical analysis avoids numerous mistakes made about the recognition of the man-made pieces.

**Versaggi, Nina (Binghamton University) and Laurie Miroff (Binghamton University)**

[65] *The Vestal Phase Revisited: A New Look at the Late Archaic in the Susquehanna Valley of New York*

Vestal is a Late Archaic phase geographically restricted to the Susquehanna Valley. Funk identified this phase at the Castle Gardens site in the 1960s. The site contains an extensive midden, numerous features, and a rich lithic assemblage with a distinctive small notched point. A radiometric date of 2140 B.C. obtained in the 1960s suggests some overlap with Lamoka, but stratigraphy elsewhere suggested a chronological separation. This paper discusses recent investigations at Castle Gardens and new data on chronology and settlement. A preliminary model proposes Castle Gardens as the center of a regional Vestal cluster with links to Lamoka and offers the potential to discuss ethnicity, interaction, and alliances.

**Vidal, Cristina [93] *see Paredes, Federico***

**Vierra, Bradley (Los Alamos National Laboratory)**

[111] *Early Agriculture on the Southern Colorado Plateau: A Case of Diversity in Tactics*

There are several arguments attempting to explain the dispersal of early agriculture across the southern Colorado Plateau. These include the northward expansion of farming communities, vs. the integration of maize into local foraging economies. Others disagreement as to whether cultivation initially occurred in lowland vs. upland settings. This paper will empirically evaluate these alternative explanations. I will suggest that maize was differentially integrated in local foraging economies across the region, and that early maize cultivation occurred in a variety of lowland and upland settings. Indeed, the initial timing and period leading to the dependence on this cultigen, was quite variable.

**Vierra, Bradley [20] *see Herhahn, Cynthia***

**Vila, Assumpcio [122] *see Estevez, Jordi***

Vilches, Flora [168] *see Seelenfreund, Andrea*

**Villa, Paola (University of Colorado Museum), Manuel Santonja (Museo de Salamanca) and Marie Soressi (Universite de Bordeaux I)**

[122] *Bones are not enough.*

At the sites of Ambrona and Bois Roche analyses of chaînes opératoires and edge damage show that stone artifacts, although in physical proximity, are not in a direct functional relationship with animal bones in the same layer. At Bois Roche bones and stones have accumulated independently. At Ambrona, stone artifacts originally associated with butchery activities have been displaced. Thus statistical patterns of association of particular stone tool types and faunal remains are illusory. Lithic analysis procedures are an efficient tool for testing hypotheses of site formation based on animal bones but need to be supported by sedimentary and contextual analyses.

Villa, Paula [126] *see Williamson, Bonny*

**Villeneuve, Suzanne (University of Victoria)**

[174] *An Ethnoarchaeological Study of Feasting in Futuna, Polynesia*

Discussion of feasting in chiefdom societies has generally focused on chiefly feasts. Although these types of feasts constitute the most spectacular events in the creation and maintenance of social hierarchies, feasting among extended families is much more significant. Through feasting, families compete to obtain and maintain political positions that secure access to economic resources. It is evident that popular support of a system that sometimes appears to contravene individual self-interest is, in fact, due to the practical, political, and economic benefits involved, rather than the ideological concerns or values as some have argued.

Villeneuve, Suzanne [174] *see Reid, Mike*

**Vining, Benjamin (Boston University)**

[71] *Lithic Materials and Social Contexts at the Middle Horizon site of Cerro Baúl, Peru*

Excavations in the low Peruvian sierra at Cerro Baúl and adjacent sites have provided over 1979 flaked and ground lithic artifacts from multiple contexts, which were analyzed during the 2003 season. An analytical method that considers the chaîne opératoire of lithic implement manufacture supercedes stylistic classifications of artifact types and reveals meaningful variability in the localized manufacture and spatial distribution of artifact types throughout the different sectors. This variability in resource exploitation and manufacture modes most likely can be linked to occupational differentiation among the presumed social classes at the Huari center during its Middle Horizon (c. 600-1000 AD) occupation.

Vitousek, Peter [54] *see Chadwick, Oliver*

**Vogel, Melissa (UCLA)**

[163] *The Dynamics of Frontiers and Border Zones*

Frontiers and border zones are by definition dynamic, constantly shifting and being renegotiated. These areas provide evidence of cross-cutting social networks and are therefore especially useful for studying interpolity interactions, including the development of state level societies. This paper examines the movement of geopolitical boundaries on the North Coast of Peru during an important period of cultural transition (ca. AD900-1100). This period is important for understanding the development of the most highly centralized states in the prehispanic Andes. The frontier site of Cerro la Cruz is used as a case study.

**Von Gernet, Alexander (University of Toronto)**

[105] *The Influence of Bruce Trigger on How We Reconstruct Aboriginal History*

Reconstructing the history of Aboriginal peoples in North America involves recourse to three major classes of evidence: archaeological data, written documents and oral traditions. Bruce Trigger's theoretical contributions have offered observations on the strengths and weaknesses of each of these classes, while his corpus of ethno-historical work has illustrated how they can be used in methodological conjunction. This paper explores how Trigger's publications are

influencing modern scholarship, including applied research. A little known but important impact, has been the expert opinion cited by the judicial community mandated to adjudicate Aboriginal rights.

von Jena, Kathleen [37] *see Hoag, Elizabeth*

**von Nagy, Christopher (Tulane University), Mary D. Pohl (Florida State University) and Kevin Pope (Geo Eco Arc)**

[164] *Embedding San Andres. Remote Sensing as a tool to understand site distributions and settlement record taphonomy in the La Venta region, Tabasco, Mexico.*

The historical careers of major lowland Gulf Coast Olmec centers such as La Venta are strongly linked to the highly dynamic deltaic and settlement landscapes within which they are embedded. On-going landscape and sea-level processes played a major role in the development and collapse of these centers. These processes are also significant in the alteration and reworking of the regional settlement record. This paper explores the use of remote sensing and GIS technologies in conjunction with traditional settlement data to predict site distribution and understand site and regional-level taphonomy in the La Venta hinterland.

**Vonarx, AJ (University of Arizona)**

[115] *"Floor! What is it Good for?" Exploring Activity Locales in Classic Compounds through Microartifact Analysis*

A focused study at the Marana Mound site is used to identify activities such as crafting and food preparation in and around structures. Prepared adobe floors within two structures and one extramural activity surface were systematically sampled and processed using a combination of flotation, fine screening, and microscopy to recover microartifacts of stone, shell, bone, ceramic, and organic materials. Spatial patterns of microartifacts embedded in floors are contrasted to those in overlying fill. In addition, microartifacts from floors are compared to distributions of larger artifacts found on floors.

**Voorhies, Barbara (U. C. Santa Barbara) and Douglas Kennett (University of Oregon)**

[93] *Central Place Foraging and the Cessation of Intensive Archaic*

The archaeological record reveals the sudden abandonment ca 3500 BP of the imposing shellmounds that had been forming on the Soconusco coast for at least four millennia. We have argued elsewhere that these shellmounds represent special purpose locations used for cooking and processing clams en masse, a strategy used to maximize net delivery rate to residential bases on the coastal plain. We argue, based on central place foraging theory, that clams were dropped from the diet because net return rates, due primarily to high processing and transport costs, were lower than those for maize, another viable source of protein. **Voorhies, Barbara [93]** *see Kennett, Douglas*

**Voss, Barbara (Stanford University)**

[157] *Looking for Gender, Finding Sexuality*

The introduction of gender studies in archaeology made the emergence of sexuality studies inevitable, for gender and sexuality are mutually and inseparably constituted. I chart the directions that are being taken in archaeological studies of sexuality, noting areas of intense research activity as well as relatively unstudied topics. Archaeologists have tended to research aspects of sexuality that are considered most unnatural in present-day mainstream ideologies. There is a pressing need to build integrated theories of gender and sexuality that interrogate the tensions between the materiality of bodies and the social production of gendered and sexual practices and identities.

**Vrydaghs, Luc (Ghent University), P. De Paepe (Ghent Univ.), K. Rutten (City of Ghent) and E. Haenrick (Ghent Univ.)**

[108] *Phytolith analysis of ceramic thin sections, a new investigating tool. The case study of ed-Dur ((Umm al-Qaiwain, U.A.E.)*

Located in a mangrove lagoon between Qatar and Hormuz, the site of ed-Dur was occupied from the 5th/4th millennium till the first century AD. Archaeologists classify the recovered ceramic collection in two groups, the local (LP) and non local (NLP) production. To sustain this classification, petrographic, chemical and phytolith analysis have been conducted. All the results support the identification of both ceramic groups. This contribution intends to present the results of phytolith analysis to the addressed question. A possible contribution of phytolith analysis of ceramic thin section to palaeoenvironmental studies will also be discussed.

**Vyas, Poorvee (University of Washington)**

[68] *More than meat: An alternative methodology for examining subsistence in the Upper Paleolithic of Europe*

Because faunal material is the most tangible source of subsistence information in the archaeological record, interpretations of Upper Paleolithic subsistence are biased towards meat, and in particular ungulate hunting. To create a more comprehensive understanding of Upper Paleolithic subsistence, archaeologists must explore alternative methodologies which can provide data about other subsistence activities. Microanalytical studies of stone tools are one potential source of these additional data. Here I apply a methodology combining use-wear and residue analyses to two stone tool assemblages from the Estremadura region of Portugal, generating evidence of processing of resources other than ungulates.

**Wadley, Lyn [126]** see *Williamson, Bonny*

**Waggoner, James (University of Florida)**

[101] *Late Archaic Use of Interriverine Resources in the Coastal Plain of Southwest Georgia*  
Research and modeling regarding Late Archaic settlement in southwest Georgia has emphasized the extensive use of and reliance on aquatic resources located in riverine flood plains. Archaeological evidence indicates that such locales were heavily utilized by prehistoric groups inhabiting the region, though little attention has been paid to upland areas possessing interriverine resources. This poster presents data collected from a site discovery and collection survey during the 2003 field season. Preliminary results indicate that, in addition to flood plains, upland resources like Gum Ponds and Cypress swamps were important parts of the prevailing settlement system.

**Wagner, Fritz E. [2]** see *Gebhard, Rupert*

**Wagner, Heather (ORISE) and Dr. Laurie Rush (Department of Defense)**

[100] *Reviving an Archeological Village District*

Research conducted in 1994 and 2003 arrived at two different conclusions concerning the industrial, demographic and socio-cultural climate of the Village of Woods Mills, New York. Village life ended in 1941 when the US Army purchased the land. The 1990s research effort, using only stone foundation remains portrayed a village economy based solely on two gristmill foundations. A 2003 oral history interviews and historic photograph initiative revealed a completely different community. This research provides a cautionary tale for historic archeologists.

**Wagner, Mark (Center for Archaeological Investigations, SIU-Carbondale)**

[110] *Our Most Bitter Enemy: Native American and Anglo-American Culture Contact in Early Nineteenth Century Illinois*

Until recent years most culture contact studies portrayed Native American societies as dependent pawns drawn into and destroyed by European mercantile enterprises. Such studies equated replacement of Native American items by functionally equivalent European objects with loss of cultural values while overlooking evidence of continuity in subsistence, social organization, and religion. In contrast, archaeological and historical data relating to the early nineteenth century Illinois Kickapoo and Potawatomi reveal that these groups actively responded to Anglo-American contact through resistance, change, continuity, and innovation. Although change did occur, these groups retained cultural practices and artifacts crucial to their identity as Native Americans.

**Wagner, Ursel [2]** see *Gebhard, Rupert*

**Wagner III, William J. (University of Texas)**

[19] *Prehistoric Cultural Contact and Exchange along the Gulf Coast Corridor: A View from the Lower Rio Grande Valley*

The prehistoric coastal hunter-gatherer populations of the Lower Rio Grande (Bravo) Valley of South Texas and Northeastern Tamaulipas produced and exchanged surplus shell tools and jewelry for subsistence goods as well as Mesoamerican artifacts used as burial goods in isolated burials and cemeteries. Cultural contact and exchange between these coastal populations with their adjacent neighbors is discussed in light of their intermediate geographical location in the Gilmore Corridor between the Southeastern United States and Northern Mesoamerica.

**Waguespack, Nicole (University of Wyoming)**

**[162] Clovis Hunting and the Organization of Subsistence Labor**

I examine the relationship between the dependence on hunted resources and the organization of labor in foraging populations and explore the implications of a gendered division of labor for Clovis foragers. Ethnographic relationships between male and female subsistence efforts are examined in terms of resource procurement, time allocation, and task differentiation. Findings indicate that female foragers generally perform a variety of non-subsistence activities and procure high return resources in hunting based economies. An interpretation of Clovis labor organization is developed, emphasizing female labor in the production of material goods and the procurement of low risk plant and animal resources. **Waguespack, Nicole [162] see Surovell, Todd**

**Wake, Thomas (UCLA), Jason De Leon (Penn. State U.) and Carlos Fitzgerald (INAC Panama)****[92] Sitio Drago, Panama, results of the 2003 season**

Sitio Drago, located on the northeast corner of Isla Colon, in Boca del Toro Archipelago of northwest Panama, is a large, undocumented coastal habitation site covering over 15 hectares. The Bocas del Toro Region is poorly known, having seen just one rigorous project and two testing investigations. The results of the 2003 season, included a dated ceramic sequence, an overview of the lithic and subsistence remains, and information on newly discovered sites are presented. The 2003 findings are compared to those from the neighboring site of Cerro Brujo, and other western Panamanian and southern Costa Rican sites.

**Walker, Caroline (York University, Toronto)****[26] Round and Rolled: Mapping Horizon Markers for 1550-1650**

Traditionally Canadians have held that in the early Contact period, most European trade goods entered along the St. Lawrence drainage. However, Bradley (1987) and Pendergast (1994) have demonstrated a significant trade from the south, from Chesapeake Bay. Recent excavations at Jamestown, 1608-1610, have revealed archaeological confirmation of the production of copper and brass trade items. The distribution and time of appearance of certain exotic artifacts, such as "serpent pendants," "spirals and hoops" and elaborately rolled bracelets and rings, suggest exchange relations between Ontario, Susquehannock, Fort Ancient and Five Nations Iroquois sites.

**Walker, Chester (University of Texas) and Kent Reilly (Texas State University)****[19] Shared Visions: Thematic Links between the Shell Carvings of the Huasteca of Mexico and the Mississippian Southeast**

The Huasteca of Mexico and the Eastern Woodlands of the United States shared a remarkable shell carving tradition between AD 1100 and 1500. The relationship between these two traditions has been a matter of debate for 50 years. Recent investigations by Mexican archaeologists have demonstrated the presence of Mississippian period traits in the geographical and cultural region of the Huasteca. An investigation of the thematic content of carved shell for both regions reveals iconographic and stylistic similarities. The shared components of these temporally related shell carving traditions strongly suggests a pattern of elite exchange between the two regions.

**Walker, Chester P. [101] see Schultz, T. Clay****Walker, Debra (Florida International University)****[135] Terminal Classic Migration along the Rio Hondo Drainage: The Evidence from Xaman K'iwik, Belize**

The Maya Terminal Classic was a time of major social upheaval. No matter what causes one proposes for these events, a severe demographic collapse ensued in Peten. One question not sufficiently answered is whether population loss implied mass death or evacuation. Assessment of the emerging settlement pattern in Corozal District, Belize, suggests significant migration along the Rio Hondo and New River drainages facilitated evacuation from Peten. Sites such as San Estevan, Aventura, Strath Bogue and Cerros experienced substantial growth as Peten emptied. This paper describes new evidence from Xaman K'iwik linking Terminal Classic refugees to interior sites.

**Walker, Doug [13] see Widga, Chris****Walker, John (University of Pennsylvania Museum)**

**[107] A Social Connection Between Ceramics and Agriculture** Connections between changes in both agriculture and social organization have been studied for many decades. At issue is the

nature of power and the origin and spread of political and social forms. Features of built landscape, such as canals, causeways and raised fields, are linked to, but not determined by, features of social landscape, such as centralization, complexity and inequality. Illustrated with new evidence from eastern Bolivia, this paper describes a connection between the organization of production and consumption of ceramics, and agriculture. This region encompasses several different examples of such connections, so the model may be applicable more generally.

**Walker, Karen (Florida Museum of Natural History) and William Marquardt (Florida Museum of Natural History)**

[127] *Subtropical Climate Change at the Pineland Site Complex, Coastal Southwest Florida: Archaeological Signatures for the A.D. 500-800 Period*

A.D. 500-800 was a time of climate change for people of coastal southwest Florida. Prior episodes of warming, sea-level rise, and storminess were replaced abruptly ca. AD 500-550 with cooler temperatures, sea-level retreat, and drought, impacting the estuarine shoreline, wetland, and bay environments. Settlement, technology, foods, and fuel-wood usage changed in response. By A.D. 750-800, Pineland may have been abandoned due a threshold loss of water, fish, and shellfish in the adjacent, shallow, seagrass-bottom bay. Comparisons are made with climate and sea-level records elsewhere, including droughts that played a role in the ca. A.D. 800-900 abandonment of many Mayan settlements.

**Walker, Phillip L. (UC Santa Barbara), Jacqueline Eng (UC Santa Barbara), Kaethin Prizer (UC Santa Barbara) and Per Holck (Department of Anatomy, Anthropological Laboratory, University of Oslo)**

[112] *Bioarchaeological Evidence for the Health Status of an Early Icelandic Population*

Burials excavated at Hrísbú in Iceland provide important new evidence of the health status and living conditions Iceland's early inhabitants. Skeletal lesions associated with infectious disease, heavy labor, and traumatic injuries are common in this conversion period population. One young man from this cemetery is of special interest owing to the presence of lesions associated with a chronic ear infection that resulted in a brain abscess. Another adolescent male has lesions on the pleural surfaces of his ribs. Although other diagnoses are possible, the lesions in both of these cases suggest that tuberculosis was present in the Hrísbú population.

**Walker, Phillip L.** [112] see Eng, Jacqueline T.; [112] see Schwarcz, Henry; [112] see Prizer, Kaethin; [112] see Erlanson, Jon M.

**Walker, Renee B. (Oneonta State College)**

[79] *Investigations of Manufacture and Typology of Antler, Bone and Shell Artifacts from New York State.*

This research investigates over 3,000 bone and shell artifacts recovered from ceremonial contexts in New York State. These artifacts include materials constructed from antler, bone and shell for use in utilitarian and non-utilitarian situations. Examination of these objects entailed basic identification, detailed descriptions, determination of methods used for manufacture (where possible), and typological classification. A new typology was developed to classify objects which could not be placed in a previously existing category. Artifacts were from both prehistoric and historic Native American sites, which allowed for investigation of changes in Native American lifeways occurring after contact.

**Walker, William (New Mexico State University)**

[132] *Warfare and the Strategies of Supernatural Agents*

How does the agency of supernatural agents contribute to the study of prehistoric war? I advocate surrendering some of the agency, now ascribed to people, and giving it to the ancestors, deities, ghosts and other forces. It is easy to dismiss the dichotomy thought-action and assert that "practice" encapsulates them only to undermine that analytical decision by referring to spiritual forces as beliefs rather than facets of the social world. To accord agency to supernaturals is to take seriously the agency exercised by warriors and war leaders. To illustrate these ideas I draw on evidence from the American Southwest.

**Walker, William** [45] see Lucero, Lisa

**Wallace, Erin (Washington State University) and William Andrefsky, Jr. (Washington State University)**[83] *Prehistoric Land-Use Continuity and Obsidian Source Analysis in the Northern Great Basin*

Julian Steward suggested that Great Basin hunter-gatherers were organized sociopolitically at the "family level" of integration. Supposedly, such an organizational level was conditioned by the

environment and availability of food resources. Family groups were the most effective demographic package to circulate through this harsh environment exploiting available resources. Our study explores the circulation of hunter-gatherer populations from one location (Birch Creek Site) using obsidian provenience analysis. Assuming family level sociopolitical organization and obsidian sources as proxy for human land-use, it appears that prehistoric populations at Birch Creek Site exploited the same resource range for approximately 5,000 years.

**Wallace, Laurel [102]** see *Clifton, Julia*

**Wallace, Patrick (National Museum of Ireland)**

[131] *Disentangling Irish, English and Scandinavian Contributions in the Archaeology of Viking Dublin*

One of the largest urban excavations in Western Europe was in Dublin, Ireland. The well preserved remains of whole neighbourhoods (late 9C. - later 11 C.) were unearthed along with defences and waterfronts dated to 9-13C. Research has identified native Irish and even English influences among the physical characteristics and artefacts of ninth century Scandinavian (Viking) foundation. Quantification of the respective degrees of ethnicity in the assemblages has become easier with more recent excavations. However, this has to be treated cautiously and in the context of overall patterns of similarity in both town and rural assemblages from early medieval transalpine Europe.

**Waller, Joseph (PAL/UCONN)**

[188] *The Memorial Park Locus 2 PaleoIndian Site in Northeastern Massachusetts.*

Cultural Resource Management archaeological investigations have identified a previously unrecorded PaleoIndian encampment within the lower Shawsheen River Drainage of northeastern Massachusetts. In response to the challenge of some New England-Maritimes region prehistorians, this presentation will report on the initial discovery of the Memorial Park Locus 2 PaleoIndian Site and describe the categories of information contained therein. Memorial Park Locus 2 represents one of few professionally investigated PaleoIndian sites within the state of Massachusetts. This site contributes to the ongoing inventory of known PaleoIndian sites within the combined lower Shawsheen and Merrimack River Drainages of northeastern Massachusetts and southern New Hampshire.

**Walshaw, Sarah (Washington University in St. Louis)**

[108] *Swahili Food Production: Feeding Towns and Villages on Pemba Island, Tanzania AD 800-1600*

Swahili towns and cities arose along Africa's eastern coast by AD 1000, demanding increased food production for local consumption and foreign trade. Significant questions remain regarding the identities of the farmers, crops, and consumers involved, and how these changed as settlements shifted and trade relations evolved. These questions are best answered by examining the spatial and temporal patterning of plant remains at Swahili sites, including crop processing evidence and introduction of foreign plants into the local economy. Paleoethnobotanical data from four sites on Pemba Island are presented in a discussion of changing patterns of food production and consumption through time.

**Walter, Marni Blake (Boston Univ. and Archaeological Institute of America)**

[89] *World Heritage, Contested Values, and Site Presentation*

In national and world heritage archaeological parks, scientific research, education, tourism, politics, and modern and past cultures can intermingle but often clash. While these sites are players in international social and political arenas, they function within and affect local communities and interest groups. In this paper, I discuss the history of site presentation and management policies in examples from archaeological parks in the Americas and elsewhere, to analyze how changing site presentations relate to new interpretations and meanings for these sites and to contrast the promotion of local interests with that of national and world heritage identity.

**Walz, Gregory [9]** see *Edging, Richard*

**Wandsnider, LuAnn (Department of Anthropology and Geography/University of Nebraska-Lincoln) and Mathew A. Dooley (Department of Anthropology and Geography/University of Nebraska-Lincoln)**

[172] *Landscape Approaches to Regional Archaeological Variation*

Currently, archaeologists often refer to a "landscape approach," as though only one such approach is in use. Rather, we argue that a "landscape" trope has supplanted and, in some cases, incorporated the earlier "settlement system" trope. It harbors many different approaches, which we review here, analyzing the conjoined paradigms, theories, and methods that comprise them. Case studies from the American Plains, American Southwest, Mediterranean and elsewhere illustrate.

**Wang, Li (Institute of Genetics, China), Daisuke Satoh (University of Tokyo, Japan), Kunihiro Kurosaki (Tokyo Medical University, Japan), Naruya Saiton (Institute of Genetics, Japan) and Shintaro Ueda (University of Tokyo, Japan)**

[118] *Genetic Structure of the Ordinary People in Ancient Teotihuacan*

There has been less information about people in ancient Teotihuacan. Here we present genetic structure of the ordinary people in Teotihuacan. DNAs were extracted from tooth samples in laboratories exclusively devoted to ancient DNA analysis to avoid contamination. The hypervariable region I of mitochondrial DNA was successfully amplified through PCR and the nucleotide sequences were directly determined. We estimated the nucleotide diversity within the Teotihuacan ordinary people and the genetic distances between populations. The neighbor-joining phylogenetic tree and multi-dimensional scaling scattergram were used to portray graphically the genetic relationships between the Teotihuacan ordinary people and the contemporary Amerindian people.

**Ward, Christine (U. of Colorado)**

[66] *An Outside Perspective on the Chaco System: Chipped Stone from the Northern San Juan Region*

A large quantity of non-local chipped stone is present among the many exotic artifacts found at Chaco Canyon, New Mexico. It is in part the presence of these exotics that has led to the interpretation of Chaco as the center of a large regional system in the northern Southwest. In this paper, I examine the evidence for chipped stone exchange in the regional system from the perspective of great houses in the Northern San Juan region, and focus on possible explanations for the widespread exchange of generally mundane materials.

**Ward, Christine [66] see Cameron, Catherine**

**Warren, Claude N. (University of Nevada, Las Vegas)**

[37] *Elizabeth Crozer Campbell, Archaeologist of the Western Deserts*

Elizabeth Crozer Campbell, born in 1896 to a wealthy southern Pennsylvania family, well educated and well traveled, later found herself deprived of both money and comfortable surroundings. In 1924 she "exiled" herself to the Mojave Desert, searching for a cure for her husband, a mustard gas victim. From 1924 to WWII they conducted archaeological surveys in western deserts. Elizabeth achieved professional status, developing an early form of environmental archaeology and accurately dating early sites by their association with Pleistocene Lake Mojave.

**Warren, Robert (Illinois State Museum)**

[38] *Rockshelters, Animal Resources, and Human Foragers in the Western Ozark Highland*

Historically, the western Ozark Highland of southwest Missouri was a diverse mosaic of prairie, forest, and aquatic habitats. Faunal remains from late-Holocene cultural deposits at 10 caves and rockshelters in this area reflect both the structure of local environments and the foraging behaviors of human shelter occupants. Foragers focused on locally available natural resources and may have rotated their exploitation of different habitats on a seasonal basis. It is proposed that natural shelters functioned primarily as short-term logistical encampments for people who at other times lived in more permanent agricultural communities in or near the region.

**Warrick, Gary (Brantford Campus Wilfrid Laurier University)**

[63] *Iroquoian Land Use and Settlement Patterns of the Six Nations on the Grand River*

In the spring of 1785, over 1,800 Six Nations and Native allies left their homelands in New York State and settled the Grand River valley in southern Ontario, Canada. Recent historical archaeology has revealed that Six Nations households and communities are located on the banks of the river in precisely the same locations as ancient Iroquoian settlements. Persistence of a centuries-old Iroquoian land use and settlement pattern despite European contact and colonization and despite relocation from ancient homelands suggests that this forms part of the core of Iroquoian cultural identity. It will be argued that Six Nations people resisted the colonial efforts of the British government's Acivilization policy and continued to occupy and use the Grand

River and environs in an Iroquoian manner, even in communities that had adopted Christianity, participated in the fur trade and were surrounded by British settlement.

**Warrick, Gary [105]** *see Pearce, Robert*

**Wartho, Jo-Anne [13]** *see Muller, Wolfgang*

**Waseta, Jeffery (ZCRE) and Davis Nieto (ZCRE)**

[66] *The Battle of Hawikku in 1540*

Pueblo of Zuni archaeologists are investigating the battle that took place in 1540 between the Spanish under Coronado and the Zuni. During that year Coronado entered Zuni lands in modern-day eastern Arizona and western New Mexico and laid siege to Hawikku during his search for the Seven Cities of Gold. Archaeological investigation of the battlefield included remote sensing, limited excavation, and geoarchaeological studies. These studies revealed the probable location of the battlefield just south of Hawikku. Additional results indicate that other skirmishes took place during the presence of the Spanish in the area.

**Waters, Michael [138]** *see Driver, Jeana L.*; [138] *see Forman, Steven*

**Waters, Michael R. (Texas A&M University) and Harry J. Shafer (Texas A&M University)**

[138] *Physiographic Setting and Geoarchaeological Investigations at the Gault Site*

Gault is a large (~16 ha) site with evidence of human occupation spanning from the Late Pleistocene to the historic time period. The site is located at the head of a small stream in the Balcones Ecotone where resources of the limestone uplands mingle with contrasting landscapes occurring on the adjacent coastal plain. Geoarchaeological studies of the Gault site show a complex stratigraphy of alluvial and colluvial sediments that can be correlated across much of the site. Of particular importance are the well-stratified Clovis layers. Geochronologic control is provided by diagnostic artifacts and luminescence dating.

**Waters, Michael R. [15]** *see Onken, Jill*; [39] *see Ravesloot, John C.*

**Watkins, Joe (University of New Mexico) [76]** *Discussant*

**Watson, James [48]** *see Carpenter, John*

**Watson, Patty Jo (Washington University, St. Louis) [161]** *Discussant*

**Wattenmaker, Patricia (University of Virginia) and Benjami Arbuckle (Harvard University)**

[153] *Food Production Systems and Sources of Inequality in a Sixth Millennium Halaf Community*  
Models for middle range societies increasingly acknowledge the subtle, ephemeral, and often masked inequalities that characterized ancient polities. These models go far toward enhancing our understanding of past societies, but pose new methodological challenges for archaeologists seeking to track sociopolitical dynamics in antiquity. This study examines the spatial distribution of food remains within a Halaf settlement as a means of recognizing social inequality in a society that apparently downplayed social differences. Results will establish whether unequal access to protein and suprahousehold distribution of meat contributed to, and served as an expression of, socially unequal relations within the community.

**Watters, David (Carnegie Museum of Natural History)**

[92] *Volcanic devastation of archaeological resources, Montserrat, West Indies*

Since 1995, Montserrat has experienced episodic volcanic eruptions resulting in massive cultural, economic, and ecological changes to the island, including to its archaeological resources.

Volcanism has caused the loss of archaeological resources in three senses: (1) destroyed, in which sites are obliterated and their integrity totally compromised, (2) entombed, in which sites are buried and made inaccessible for the foreseeable future, and (3) off-limits, in which access currently is prohibited because of ongoing volcanic activity. Pre-eruption research established a baseline for determining the magnitude of lost prehistoric and historic sites in the devastated southern third of the island.

**Watters, David [37]** *see Fonseca Zamora, Oscar*

**Watts, Joshua [142]** *see Aldana, Gerardo V.*

**Weatherby, Shannon (Florida State University)**

[164] *Formative Period Mesoamerican Figurines: A Comparative Study of Gender Ideologies and Ritual Function*

Ceramic figurines are found throughout Formative period Mesoamerican sites and predominantly depict representations of females. Ceramic figurines are almost always recovered from household contexts and are most often intentionally broken before deposition. This paper explores both anthropomorphic and zoopomorphic figurines from Formative period sites specifically focusing on gender roles and ritual function. The Olmec sites of La Venta and its subsidiary site, San Andres, are the main focus; however, other sites are included for comparison. Ethnographic examples are also explored in order to compare the figurine data with modern accounts of gender roles in both rituals and in daily life.

**Weaver, Wendy [177]** see Garrison, Ervin

**Webb, Elizabeth (University of Western Ontario), Henry Schwarcz (McMaster University) and Gyles Iannone (Trent University)**

[95] *Identification of Maize Agriculture on the Terraces of Minanha Using the Stable Carbon-isotope Composition of Humic Substances*

The carbon-isotope composition of maize (a C4 plant) is distinct from that of the native subtropical broadleaf forest of the North Vaca Plateau. Consequently, maize cultivated by the ancient Maya in this area has imparted a distinct carbon-isotope composition to the underlying soil organic matter. Through the analysis of the oldest soil humic substances, we have identified a weak maize-isotope signature in the deepest layers of terraced soils on hillsides surrounding the centre of Minanha. These findings confirm that these terraces were used for maize agriculture and that the soil has been well mixed as a result of bioturbation.

**Weber, Robert [48]** see LeTourneau, Philippe

**Webster, David (Penn State University), Jay Silverstein (U.S. Army), Timothy Murtha (Westchester Community College), Horacio Martinez (IDEAH) and Kirk Straight (Penn State University)**

[27] *Revisiting the Tikal Earthworks: Bigger than Ever*

The Tikal earthworks, discovered in the 1960s, constitute one of the most impressive emic landscape boundaries ever created by any Mesoamerican peoples, and have long been interpreted as Early Classic fortifications. Despite their importance, they have been ignored by archaeologists since 1967. Remapping with GIS during 2003 has established the exact location and configuration of the North Earthwork, and recorded a survey corridor of associated settlement. The eastern segment of the earthwork has been mapped, along with a hitherto unexpected western arm, bringing the total known length of the system to almost 26 km.

**Weedman, Kathryn (University of South Florida St. Petersburg)**

[42] *Are Wilma Flintstone and Betty Rubble Archetypes for Stone Age Women? An Ethnoarchaeological Model of Women Stone Tool Makers From Ethiopia*

The tasks of men and women in the Stone Age cartoon *The Flintstones* reflect our western ideologies concerning gender roles and our archaeological models of past behavior. Locked in western stereotypes Paleolithic researchers generally either assume a male flintknapper or marginalize women as producers of informal tools made with inferior local resources. Ethnoarchaeological studies provide an opportunity to elucidate other worldviews concerning gender roles. This paper will present an ethnoarchaeological study of the Konso women of Ethiopia and their stone scraper procurement, morphology, and spatial distribution as a model for exploring gender roles and lithic technology in the past.

**Wegener, Robert M. (Statistical Research, Inc.), Bruce A. Bradley (Primitive Tech Enterprises, Inc.), Karry L. Blake (Washington State University) and M. Steven Schackley (Berkeley Archaeological XRF Lab)**

[140] *Prehistoric Lithic Traditions and Raw Material Procurement Patterns in West-Central New Mexico*

Occupation of the Fence Lake Project area started during the Paleoindian period when knappers relied upon distinctive flaking technologies. It was then occupied by Archaic foragers who used a biface technology and dart points that represent the Cochise Culture and Oshara and Great Basin Traditions. An eventual reliance upon a generalized flake core technology typifies the Formative period, X-ray fluorescence analysis of obsidian artifacts resulted in identification of the widest

"point-to-source" distribution in the American Southwest, along with significant diachronic obsidian procurement trends. This presentation summarizes what we know about these phenomena and provides several recommendations for future research.

**Weigand, Phil C. (El Colegio de Michoacan)**

[181] *The Architectural Sequence at the Guachimontones de Teuchitlan*

After 5 years of excavations, the building sequence at the region's largest precinct of concentric circular architecture, which covers 19 has., is now clear. We have excavated 8 of the 10 circles. Four circles have been extensively excavated. We have been able to document how the circular structures were articulated and how they are related to the 2 ball-courts and 4 rectangular plazas. Interior construction detail of many platforms and pyramids has been obtained. It is evident that teams of workers, often utilizing different traditions of construction techniques, were employed during the edification of many platforms. This is a characteristic of public architecture.

**Weigand, Philip (El Colegio De Michoacan) [181] Discussant**

**Weinberger, Jeffrey (ASC Group, Inc.)**

[156] *Exploring the Late Archaic Period in Fairfield County, Ohio*

The recently completed Lancaster Bypass project collected a wealth of information related to Late Archaic activities along the Upper Hocking River drainage. The survey recorded 37 Late Archaic components, with additional Late Archaic components identified during 28 site assessments and 8 site mitigations. This paper utilizes the Lancaster Bypass data to discuss Late Archaic site structure, function, subsistence, and settlement patterns in the Upper Hocking River Valley and how this information may relate to our regional understanding of Late Archaic activity in Central Ohio.

**Weinstein, Elka (Haley Sharpe Canada, Inc.)**

[96] *Proyecto Las Costenas: Museology, Ecology and Tourism at a Site Museum in Ecuador*

In August 2000, Proyecto Las Costenas, a week-long course in museology, was offered at the Cultural Complex of Real Alto on the Santa Elena Peninsula of Ecuador. The complex includes a museum and the archaeological site of Real Alto (ca. 4400-1700 B.C.). The goal of the course was to train indigenous women as museum docents and tour guides sensitive to issues involving the natural environment and national heritage in coastal Ecuador. In this paper issues about cultural tourism, ecotourism and education in Ecuador are addressed through a discussion of the students' experiences during the project.

**Weinstein, Richard [19] see White, Nancy**

**Welch, John R. (White Mountain Apache Tribe Heritage Program)**

[179] *Ndee Bá Dayuweh Gozhoo; Doleel (Goodness for Apache Coming from the Past)*

Having established a historic preservation office under the direction of a non-Ndee professional, the White Mountain Apache Tribe is now reorganizing their THPO to explicitly incorporate Ndee cultural values and the Tribe's longstanding and contemporary interests and goals. Among the guiding principles for the reorganization is the view that archaeological endeavors are worthy to the extent they (1) address historical questions important to Ndee, (2) engage Ndee as project participants, and (3) contribute to Ndee goals. The Tribe's straightforward and increasingly rewarding insistence on archaeology of, by, and for their people deserves attention as a powerful model for public archaeology. **Wellman, Howard [130] see Galke, Laura**

**Wells, E. Christian (University of South Florida) and Karla L. Davis-Salazar (University of South Florida)**

[143] *Situational Sacredness: Creating Temporary Ritual Space in Ancient and Modern Honduras*

The modern Honduran Lenca *compostura* is a complex set of ceremonial performances that imbues everyday mundane spaces with temporary sacredness through ritual action. In this paper we discuss two archaeological cases, the main plaza at El Coyote and residential lagoons at Copan, where evidence suggests that aspects of the *compostura* may have pre-modern antecedents. We argue that ritual activities, including feasting and mortuary practices, carried out in these locales created temporary sacred spaces along with opportunities for certain individuals to experience, and sometimes exploit, situational authority.

**Wells, Joshua (Glenn A. Black Laboratory of Archaeology, Indiana University) and Staffan Peterson (Glenn A. Black Laboratory of Archaeology, Indiana University)**

[30] *Some Relationships of the Mississippian Angel and Vincennes Phases in Southwestern Indiana*

The Angel and Vincennes Mississippian phases are known from investigations in the Ohio and Wabash river valleys, respectively. Although their central towns are approximately only 100 kilometers apart overland, and twice that distance by river, the connections between these cultures have not previously been well understood. The Angel phase is regarded as a simple chiefdom; the Vincennes phase is likely a less complex manifestation which shared traits with neighboring Late Woodland groups, Fort Ancient groups, and Angel. This paper integrates new research data with reanalyses of existing collections to posit models for relationships between the Angel and Vincennes phases.

**Wells, Peter (University of Minnesota)**

[43] *Representing New Identities After Rome's Fall*

As new peoples emerged in the frontier regions of the Roman Empire, communities created new styles of decoration and new modes of representation. Drawing on both pre-Roman traditions and Roman styles, they created new patterns that expressed both their separateness from the power that had ruled for four centuries, and, paradoxically, their identification with that power. This case provides a model for all situations in which powerful authority wanes and emergent groups create their own new identities and material remains to express them.

**Welsby, Derek [15] see Woodward, Jamie**

**Wendrich, Willeke (NELC / UCLA)**

[82] *Greener pasture at the other side: attempt to a definition of nomadism*

Before we can even begin to broach questions on how to recognize nomads archaeologically, on whether nomads have territories and ownership of land or resources, on the relation between the nomadic and the settled population, on the social organization of nomadic populations, etcetera, we will first have to define what nomadism is. This paper explores different approaches and discusses the various archaeological and anthropological definitions of nomadism in order to clarify the discourse and have a common ground on which to position and discuss the contributions of the symposium at the SAA Meeting and the follow-up seminar in Los Angeles.

**Wendt, Carl (Cal State University, Northridge)**

[189] *Early Formative Domestic Organization and Community Patterning at El Bajío, Veracruz, Mexico*

Excavations conducted at the Early Formative site of El Bajío in the San Lorenzo region, Veracruz provide data on Olmec domestic organization and community patterning. Construction debris, disposal patterns, and feature arrangement at El Bajío were used to infer construction technique, community configurations, and structure location, size, and shape. Findings suggest that structures at El Bajío were relatively large in size, housed multifamily residential units, and were occupied on a year-round basis. Data further indicate that household spatial layout at El Bajío ascribed to a house-lot type of spatial patterning.

**Wenzel, Kristen E. (Center for Environmental Management of Military Lands at CSU) and Karl Kleinbach (Center for Environmental Management of Military Lands at CSU)**

[183] *Bison on Fort Hood: Finding Data in the Database*

Hundreds of prehistoric archeology sites have undergone limited testing over the past 12 years on the Fort Hood Military Reservation in Central Texas. As a result, a large body of data has accumulated over the years. In order to learn more about the utilization of Bison in the Central Texas region, the Fort Hood data are used to examine prehistoric subsistence and land use. Spatial relationships and chronological sequences are explored with ArcGis, demonstrating the potential of "limited testing" data to provide insight into past human behavior.

**Werkheiser, Gregory (Piper Rudnick LLP)**

[40] *Black Creek Rising: The Legal Battle to Save New Jersey's Lenape Heritage*

As lead pro bono counsel for the Nanticoke Lenni-Lenape Indians of New Jersey, I will share the story of our battle to save the Black Creek Site, a 42-acre parcel of public land owned by a New Jersey Township that reveals a continuous textbook of human history reaching back ten millennia. My paper will chronicle the legal battle as well as lessons learned from working with the Tribe.

**Wernecke, D. Clark (The University of Texas at Austin) and Michael B. Collins (The University of Texas at Austin)**

[138] *A Preliminary Synopsis of Clovis Occupations at the Gault Site*

Gault in Clovis times was a campsite in an ecotonal setting where diverse stone tools were made, used, and discarded. Activities included processing of game, working of hides, working of wood, cutting of grass, digging, and working of bone. Faunal evidence indicates considerable diet breadth. There were numerous Clovis occupations of the site, each evidently of extended duration. The evidence is that of generalized foraging, not of big game specialization.

Wernecke, D. Clark [138] see Boisvert, Richard

**Werner, Alyssa (LaPorta and Associates Geological Consultants) and Philip LaPorta (City University of New York)**

[106] *Task Subdivision in Prehistoric Quarries in the Eastern Appalachians*

Partial confirmation for the existence of organized task subdivision in prehistoric quarries comes in the form of a diagnostic mining technology largely fashioned from glacial till. The zone of extraction is associated with boulders of sandstone, arkose, and metaconglomerate. Milling stations are associated with a class of mining instruments fashioned from clay-rich rocks. The zone of ore processing is evidenced by yet a class of smaller orthoquartzite mining instruments. Refinement stations occurring above the quarry face are found with large non-portable anvils. Within these stations are the smallest class of mining instruments, fashioned from quartzite.

**Werneke, Steve (University of North Carolina, Chapel Hill)**

[117] *Inka Imperialism and Community Structures in the Colca Valley, Peru*

Settlement pattern and architectural evidence from a full-coverage survey of the core area of the Collagua ethnic polity in the central Colca valley (highland southern Peru) illustrate overall settlement continuity between the Late Intermediate Period and subsequent Inka occupation during the Late Horizon. Close associations between local elite and Inka public architecture resulted in hybrid local/imperial settlement arrangements, while the establishment of a probable administrative center suggests that Inka rule was both centralized and coordinated through local elites. These physical manifestations of community hybridity are also compared to ethnohistoric descriptions of the sociopolitical organization of the Collagua province.

Wescott, Konnie [103] see Pace, Brenda Ringe

**Wesler, Kit (Murray State University)**

[91] *Ceramics and Chiefdom Organization in St. Mary Parish, Jamaica*

The Green Castle, Newry, Wentworth and Coleraine sites in Jamaica yielded radiocarbon dates indicating that the occupations form a sequence from approximately AD 900 to 1500. Green Castle probably was occupied as late as the Spanish entrada, and may belong to a Taino province that the Spanish called Guaiguata. Ceramic assemblages show patterned changes in decorative and rim features and an increase in the carinated form. Seriation of a key subassemblage from Newry suggests that the site may have hosted a minor occupation at the same time as later Green Castle, implying that Guaiguata incorporated more than one village.

**Wesson, Cameron (University of Illinois at Chicago)**

[137] *How to Get A Head in (Social) Business: Trophy Heads, Body Mutilation, and Social Status in the Pre-Columbian Southeast*

The archaeological record of the Pre-Columbian Southeast is replete with evidence of the post-mortem dismemberment and ritual display of human heads and other body parts. The patterning of human trophy taking in archaeological contexts and ethnohistoric descriptions of these practices suggest that such actions frequently took place within highly competitive sociopolitical contexts. As such, human trophies became important mnemonic devices for recounting success in both warfare and sociopolitical competition. This paper examines the importance of human trophies in the cultivating and expansion of hierarchical social status in nascent sociopolitically complex societies in the Mississippian period Southeast.

Wester, Carlos [147] see Klaus, Haagen

**Weymouth, John (University of Nebraska) and Mark Lynott (National Park Service)**

[15] *Geophysics and excavation study of the Hopewell Hopeton site: The third season.*

As a part of the continuing study of the complex Hopeton earthworks in Ohio 7.2 hectares were

covered in 2003 with a cesium gradiometer survey bringing the total for three seasons to 19.7 ha. The large square had been previously covered. The 2003 season surveyed part of the great circle resulting in magnetic signals as strong as in the square survey in spite of over 100 years of farming. Two trenches were excavated across parts of the great circle. The overall results and local anomalies will be described. The results of the trench excavations will be discussed and interpreted.

**Whalen, Michael (University of Tulsa) and Paul Minnis (University of Oklahoma)**

[133] *Modeling the Collapse of Casas Grandes, Chihuahua, Mexico*

Chiefdoms are known to be politically unstable structures, and this often results from a conflict of interest between power-seeking elites and the non-elite public that supports them. This idea is applied to the case of Casas Grandes, Chihuahua, Mexico, which many have argued to be the largest and most complex polity of the prehistoric pueblo world. We identify strategies used by elites to build and maintain power, and we argue that these placed increasing pressure on nonelite populations. Their ultimate response was withdrawal of support, resulting in rapid deterioration of the primate center of Casas Grandes.

**Whalen, Michael E. [39] see Minnis, Paul E.**

**Whallon, Robert (University of Michigan) [61] Discussant**

**Whallon, Robert (University of Michigan) and Robert G. Reynolds (Wayne State University)**

[129] *Environmental Effects in the Simulation of Foraging and Sharing in Pre- or Protocultural Foraging Systems*

Previous multi-agent simulation studies have shown striking differences in the success of different strategies of decision-making and of distribution of foraged resources (sharing) in bands of pre-linguistic foragers. These studies were made in a model environment that was patchy and with a limited carrying capacity. In this paper, we investigate the effects of different environmental configurations and "richness" on the relative success of decision-making and sharing strategies. The results are used as a basis from which to begin a consideration of the selective pressures leading to the emergence of language and culture in early hominid groups.

**Wharton, Jennifer (University at Albany)**

[189] *Open Wide: Aztec Ceramic Size and Its Relationship to Vessel Form and Function*

Excavations at the sites of Cuexcomate, Capilco, and Yautepec in Postclassic Morelos, Mexico recovered an abundance of ceramic material. In this paper, I examine the variability that exists among vessel size and shape as reconstructed from sherds excavated from midden contexts. By doing so, I refine existing form-based classification schemes by using metric data on vessel sizes. I then test the archaeological data against ethnohistoric data about the relationship between ceramic vessel form and function as depicted in Central Mexican codices. I also explore how this information relates to other variables including decorative types, changes over time, and differences between urban and rural contexts.

**Wheat, Patricia (Pam) (Texas Archeological Society)**

[138] *The Dialogue between Archeologists and Volunteers: Opportunities to Learn at the Gault Site*

The archeological project at the Gault Site was unique in the extent to which volunteers were involved. Hundreds of volunteers contributed over 50,000 hours to the work over three years. Volunteers came to the project (1) as part of a group - members of the Texas Archeological Society (TAS) field school, (2) as individuals - drop-ins who returned faithfully on designated work days, (3) as youth - involved in a museum field event, scouts' merit badge or science fair project. As volunteers came, the archeologists encouraged their participation and a rich dialogue developed between them.

**Wheaton, Thomas (New South Associates) [171] Discussant**

**Wheeler, Dean (University of Pittsburgh)**

[3] *Ancient Maya Politics and Economy In The Upper Grijalva Basin*

The documentation of settlement in the Morelos Piedmont and San Lucas River Valley (two adjacent but ecologically distinct parts of the Upper Grijalva River Basin, Chiapas, Mexico), indicates Ancient Maya occupation from the Late Preclassic period (beginning about 250 B.C.) through the Late Classic period (A.D. 650-950). Population reaches a pinnacle during the Late Classic and is followed by demographic collapse. Evaluation of settlement in these distinct

ecological settings reveals differing opportunities for resource exploitation and land utilization that would have affected Ancient Maya political and economic organization, as well as provides clues to demographic change through time.

**Wheeler, Derek [7]** see *Bon-Harper, Sara*

**Whitaker, Adrian (University of California, Davis)**

[99] *Implications on Native Hunting Practices of a Single Component Faunal Collection: House 35 at Cape Krustenstern, Alaska*

The faunal assemblage of House 35 at Cape Krustenstern, Alaska, is analyzed against bone density, meat utility and age indices. An overwhelming majority of the assemblage consists of ringed seal (*Phoca hispida*). Bearded seal (*Erignathus barbatus*) are also present as is fragmentary evidence of caribou (*Rangifer tarandus*), dog (*Canis sp.*) and whale (*Cetacea sp.*). Results of Age and Meat utility indices support a direct historical analogy of Breathing Hole Hunting as a primary procurement technique at this Proto-Historic Inupiat dwelling.

**White, Christine D. (University of Western Ontario), Fred Longstaffe (University of Western Ontario) and Henry Schwarcz (McMaster University)**

[86] *Maize and the Maya: Past and Future Directions for Isotopic Anthropology*

Isotopic data from human skeletal remains have been used to test the theory that ecological degradation caused the collapse of the Maya during the Classic period. However, variability in the consumption of maize by time and region suggests that the cause of the Classic Maya collapse was multifactorial. Isotopic research involving maize consumption in Mesoamerica may now be more usefully employed in reconstructing: social and economic structure, the relationship between social class and the rise of states, ethnic identification and assimilation, gender and status, trade relationships, and ideology. Examples are provided from a variety of Maya sites and Teotihuacan.

**White, Christine D. (University of Western Ontario), Michael W. Spence (University of Western Ontario) and Fred J. Longstaffe (University of Western Ontario)**

[169] *Gender and Ethnic Persistence in Tlailotlacan: the Evidence from Oxygen-isotope Ratios*  
Tlailotlacan, a Zapotec enclave, survived for five centuries as an ethnically distinct community in Teotihuacan. The explanation for this remarkable persistence lies partially in demographic factors: the size and age/sex structure of its population, the cultural and gender identities of immigrants, and the patterns of geographic movement of its residents. Oxygen-isotope ratios, which act as markers of an individual's geographic location, were analyzed for 56 bone and tooth samples. The results reveal a surprising pattern of subadult sojourning, and some important insights into the role of women in ethnic maintenance.

**White, Christine D. [118]** see *Pereira, Gregory*

**White, Devin Alan (University of Colorado - Boulder)**

[72] *Searching for Architecture: Remote Sensing at the Pinnacle Ruin*

This poster highlights the methods and results of a remote-sensing-based architectural analysis at the Pinnacle Ruin (LA 2292), New Mexico, carried out during May and June of 2003. The goals of this project were to discern how much and what types of surface rubble at the site were indicative of prehistoric architecture (site extent) and to produce a room count estimate for the pueblo. These goals were addressed using high quality low-altitude air photos, texture filtering in ENVI, surface modeling in ArcView, data from known architectural elements at the site, and pedestrian survey. The results were both surprising and encouraging.

**White, Nancy (University of South Florida) and Richard Weinstein (Coastal Environments, Inc.)**

[19] *Prehistoric Cultural Interaction Around the Whole Gulf Coast*

The Gulf of Mexico is a warm, shallow, small sea surrounded by rivers reaching well into the continental interior. There is tantalizing evidence of cultural interaction around the Gulf throughout prehistory, including specific artifacts and crops, subsistence adaptations and response to sea-level fluctuations, mound building, and general stylistic and ideological connections. There are also glaring absences of evidence. Here we summarize data and ideas from many sources originating from a 2001 SAA symposium on circum-Gulf archaeology and a resulting volume in preparation. We see common cultural and some environmental foundations, short-distance interactions, and sporadic long-distance connections.

**Whitehead, William (University of California, Berkeley) [77]** *Discussant*

**Whitehead, William (University of California, Berkeley)**

[117] *Pathways of Domestication in the Altiplano Formative of Bolivia: An example from Lake Titicaca*

The process of plant domestication in the Lake Titicaca region of the Altiplano has a different trajectory and species composition than in other parts of South America. Maize and potato agriculture seems to be much less important than previous thought and wild food procurement a larger part of the economy. The unique climate of the Lake Titicaca basin offered other modes of economy and alternative interpretations of how Formative residents produced and collected their food will be presented.

**Whitley, David (ICOMOS-CAR) [176] Discussant****Whitley, David (ICOMOS-CAR)**

[45] *Cognition, emotion and belief: First steps to an archaeology of religion*

Development of an archaeology of religion requires first an understanding of religion's importance and relationship to human behavior. Reflecting European intellectual biases, science traditionally dismissed religion as epiphenomenal. A review of recent cognitive neurosciences research changes this view, situating religious experience in our neurological system and suggesting its centrality to biosocial evolution. These facts are considered partly in reference to Foucault's history of the social control of madness, suggesting that the manipulation and control of states of consciousness are necessary components of a cognitive social theory.

**Whitley, Thomas (Brockington and Associates, Inc.)**

[103] *Risk, Choice, and Perception: Elements of an Immersive GIS*

One of the benefits of GIS is the ability to rapidly analyze massive amounts of spatial data. This typically means using a "top-down" or aerial view of large expanses of terrain. Given that few inhabitants of any region make observations by orbiting satellite, we must assume that spatial choices are made using a series of cognitive landscapes visualized from an individual or "immersive" perspective. Through the creative use of standard spatial tools it is possible to simulate an immersive perspective for a wide variety of archaeological situations and address the sociocultural issues of decision-making, risk management, and site selection processes.

**Whitney-Smith, Elin (Netalyst Inc.)**

[162] *Clovis-Age Extinctions: Testing Combinations of Climate Change, Overkill, and Second Order Predation*

The revised Pleistocene Extinctions model (PEM 1.1, <http://quaternary.net/extinct2000>) was used to test the Climate Change hypothesis, both alone and in various precisely specified combinations with anthropogenic impacts, i.e. Overkill and Second Order Predation (2OP: H. Sapiens killing of other carnivores, leading to herbivore overpopulation, environmental degradation, and differential herbivore extinction) hypotheses. PEM 1.0, a quantitative description of the interrelationships between four plant stocks, four herbivore stocks, carnivores, and H. sapiens presented at SAA 2002, was expanded to allow exogenous reduction of vegetation. PEM 1.1 provides a rigorously quantitative environment for testing extinction hypotheses. Implications for Clovis Age archaeology are discussed.

**Whitridge, Peter (Memorial University of Newfoundland)**

[134] *Thule cyborgs and Dorset chimeras: hybridity, actor-networks, and hunter-gatherer imaginaries*

Lacking a substantial written or pictorial record, hunter-gatherer archaeology has been effectively abandoned to a functional-ecological paradigm. However, the recent mingling of materialist and sociosemiotic interests within such fields as actor-network theory (ANT), science studies, and political ecology, puts technological and ecological phenomena back into interpretive play. The ANT conceptualization of hybrid networks of things, representations, and social practices - akin to Donna Haraway's 'cyborg' - is usefully combined with the notion of 'imaginaries', to arrive at an analytically tractable framework for reconstructing prehistoric hunter-gatherer Weltanschauungen. This approach is illustrated through a case study in contrasting sociotechnical imaginaries drawn from arctic prehistory.

**Whittaker, John [72] see Kamp, Kathryn****Whyte, Thomas R. (Appalachian State University), Mary Jane Berman (Miami University)**

**and Perry L. Gnivecki (Department of Anthropology, Miami University)**

[92] *Parrotfish for Dinner Again?: Vertebrate Archaeofaunal Remains from the Pigeon Creek Site, San Salvador Island, The Bahamas*

Archaeofaunal remains from the late prehistoric Pigeon Creek site on San Salvador Island, Bahamas, reveal a meat diet composed almost exclusively of marine fauna and dominated by reef fishes, land crabs (Gecarcinidae), and mollusks (mainly *Codakia orbicularis*). Few remains of sea turtles, iguanas, birds, and hutias were recovered. As for most coastal sites in the Bahamas and West Indies, the vertebrate remains are dominated by bones of parrotfishes (Scaridae) and groupers (genus *Epinephelus*), fishes most obtainable from the nearby shallow reefs. The study also reveals potential discrepancies in identifications of fishes due to taphonomy and interspecific variations in bone density.

**Wicker, Nancy (University of Mississippi)**

[43] *Scandinavian Migration Period Animal-Style Art as Marker of Group and Individual Identity*

During the Migration Period of the fifth and sixth centuries A.D., Nordic animal-style ornamentation on Scandinavian jewelry was used to indicate rank, gender, age, marital status, and association with particular deities. Scandinavian smiths knowledgeable in runic writing and Nordic iconography fashioned this jewelry for a local clientele and may also have accompanied northern chieftains as they moved into new lands. The animal style continued to signal high status beyond Scandinavia, but certain degrees of personal identification probably were indistinguishable to outsiders. Throughout greater Europe, the style expressed general religious differentiation from Christian Europe rather than revealing specific local alliances.

**Wickham, Michelle (University of Calgary)**

[187] *Digging Up The Past: Current Investigations at EfPm-27*

Nestled on the second terrace above Fish Creek, EfPm-27 offers us a glimpse into the past 8,000 years of human occupation within Fish Creek Provincial Park. Current investigations however, have focused on the last 500 years of occupation, when this area was utilized as a Late Prehistoric bison kill site. The development of spatial model within a GIS environment, has allowed researchers to analyze clusters of faunal remains in order to delineate temporally concurrent activity areas, as well as identifying diagnostic cultural practices associated with these specific activity areas within the kill site.

**Widell, Magnus (University of Chicago), David Schloen (University of Chicago), Jacob Lauinger (University of Chicago) and Jonathan Tenney (University of Chicago)**

[54] *Text-based Modeling of Upper Mesopotamia in the Third and Second Millennia B.C.*

Ancient textual evidence can be integrated with a computational model of Upper Mesopotamia during the third and second millennia B.C. After surveying the character of the extant texts and their geographical and chronological distribution, this paper investigates the benefits and risks of utilizing this evidence to reconstruct economic and social practices. A principal benefit is that texts provide both input data for the computational model (e.g., seed amounts) and data to check the output (e.g., crop yields). Furthermore, in conjunction with ethnographic and archaeological data, the texts also constrain the socioeconomic models (e.g., Max Weber's patrimonial household) that inform our agent-based computational model.

**Widga, Chris (University of Kansas), Lisa Stockli (University of Kansas) and Doug Walker (University of Kansas)**

[13] *Following the herd: Isotopic Perspectives on bison mobility and life histories*

Models of bison behavior and availability that are based on ethnohistoric documentation, archaeological data or modern analogues are important to scenarios of human subsistence in the Great Plains. These existing models can be evaluated through isotopic examination of individual foraging histories. Down-tooth  $87\text{Sr}/86\text{Sr}$  values from the Spring Creek site (25FT31), a Middle Archaic bison processing site in southwestern Nebraska, indicate little large-scale movement of these animals. Also, a narrow range of  $\delta^{13}\text{C}$  (coll.) values from four animals may suggest a single-episode kill event. In this analysis, isotopic data are combined with zooarchaeological techniques to better understand bison life histories.

**Widmer, Randolph (University of Houston)**

[142] *The Role of Lapidary Craft Production in the Economy of Teotihuacan.*

This paper explores the social and economic context of lapidary production in a low status Teotihuacan apartment complex, S3W1:33 in the Tlajinga barrio. Extensive excavations revealed two economic craft specializations: Lapidary and ceramic production. It is argued that lapidary

manufacture of jewelry from low status raw materials provides an important economic supplement to low status residents of a Teotihuacan apartment complex and that this economic activity was an augmentation to ceramic production. Both craft specializations were for market production and exchange that was necessary for the economic well being of the compound in lieu of agriculture, which was not practiced.

**Wiessner, Polly (University of Utah)**

[132] *Ceremonial Warfare and Political Complexity: An Ethnohistorical Example*

The importance of war as "prime mover" toward political complexity has long been a matter of debate. This paper will use ethnohistorical data from the Enga of Papua New Guinea to: (1) briefly discuss the limitations of conventional war in an egalitarian society as a mover towards complexity and (2) show how Enga experimented with ceremonial warfare to circumvent the constraints of conventional warfare to make warfare a productive force. It is proposed that ceremonial warfare may have been more prevalent in the pre-contact era and might leave different archaeological signatures than conventional, destructive warfare.

**Wiewall, Darcy (University of California at Riverside)**

[67] *Los Sompapos: Results of the 2003 Field Season at Lamanai, Belize*

This paper presents the results of the 2003 field season at Lamanai, Belize. The field season was composed of a two-part research strategy designed to identify house-lots occupied in the Late Postclassic (ca. A.D. 1450-1546) and early colonial periods (ca. A.D. 1546-1650). The approach integrates traditional systematic survey methods with specific methodologies to locate and identify sub-surface platforms and refuse deposits through an intensive post-hole excavation program, as well as, collection of non-observable remains accessible through soil chemical residues and paleoethnobotanical samples.

**Wiggins, Sean M. [138] see Driver, Jeana L.**

**Wilcox, Michael (Stanford University)**

[151] *Integrating Native American Perspectives: Working With Educational, Professional and Cultural Barriers to Multivocality*

Why are there so few Native American archaeologists? Given the perpetual glut of advanced degrees in archaeology, how do we integrate the perspectives of Native Peoples who lack traditionally recognized credentials? How do the theories and methods of archaeologists make the practice of multivocality difficult? This paper takes a practical approach to the challenges and opportunities presented by collaborative archaeological projects through an examination of educational, professional and cultural hurdles encountered by archaeologists in the post-NAGPRA age.

**Wilkie, Laurie A. (University of California, Berkeley) and Paul Farnsworth (Louisiana State University)**

[12] *Those who were Traded: African-Bahamian Archaeology and the Slave Trade*

People have been objects of trade, with profound, long-lasting, socio-cultural impacts. Four-hundred years of the transatlantic slave trade led to a multitude of cultural responses in Africa and the Diaspora. This paper explores impacts of the Bahamian trade during the late 18th and early 19th centuries. We will discuss global and national trends and preferences that shaped the African trade to the Bahamas, and the resulting demographic profile of Africans brought to the Bahamas. Through an archaeological consideration of 10 households, we will demonstrate how the dynamics of the slave trade shaped opportunities for African cultural expression in the Bahamas.

**Wilkinson, Tony (University of Chicago) and Jason Ur (University of Chicago)**

[54] *Reconstruction of settlement and land use systems as a basis for the simulation of interactions between humans and the environment: Examples from northern Syria and northern Iraq*

Settlement, cultivated and pastoral areas can now be estimated from landscape data derived from ground survey and satellite imagery. These data can form either the foundation for the reconstruction of model Bronze Age communities, or alternatively they can be used as a cross check on the output of simulation modeling. Examples from selected areas within northern Mesopotamia are used to show to what degree Bronze Age communities were exerting stress on the environment and how these stresses may have manifested themselves. In addition, trajectories of demographic growth and decline derived from survey data provide the main long-

term yardstick against which the simulation models can be measured.

**Wille, Sarah J. [50]** *see Andres, Christopher R.*

**Williams, Arnold [31]** *see Dittmann, Jack*

**Williams, Eduardo [36]** *see Shott, Michael*

**Williams, Patrick (The Field Museum, Chicago) [71]** *Discussant*

**Williams, Patrick Ryan (The Field Museum)**

[80] *Comparing Wari and Inka Integration Strategies in Southern Peru*

Between AD 600 and 1000, Peru's first expansive highland state spread throughout the highland sierra. In its far southern realm at the provincial center at Cerro Baul, this involved interfacing with many different groups, from coastal chiefdoms to the altiplano state of Tiwanaku. The nature of the relationships between the Wari empire and its many constituencies varied widely, and I assess the disposition of indigenous incorporation as a means of characterizing Wari statecraft. Finally, I compare the nature of this interaction to that of the Inka empire, which conquered the same region some 400 years later.

**Williams, Patrick Ryan [153]** *see Nash, Donna J.*

**Williams, Ryan [71]** *see Blom, Deborah*

**Williams, Sloan R. [147]** *see Forgey, Kathleen*

**Williamson, Andrew [17]** *see Knudsen, Garrett*

**Williamson, Bonny (University of the Witwatersrand), Paula Villa (University of Colorado Museum) and Lyn Wadley (University of the Witwatersrand)**

[126] *Residue and technological analysis of MSA scaled pieces: bipolar cores or woodworking tools?*

Scaled pieces (outil escailles, pieces esquillees) are considered as characteristic of the early Late Stone Age in South Africa and have been interpreted as exhausted bipolar cores although some archaeologists think they were used as tools. A number of scaled pieces have been found in MSA layers of Sibudu Cave, a rock shelter with a stratigraphic sequence spanning from Howiesons Poort at 70-60 ka to about 38 ka (C 14) for the top layer. These pieces are most often made of hornfels, a fine-grained rock, which was the preferred raw material for formal tools such as unifacial points and scrapers. Residue and technological analyses show that these pieces are by no means cores; their debitage products were not selected for making retouched tools and are too small compared to the size of formal tools and utilised pieces used at the site. The most common residues found on the pieces are resin and plant tissue indicating that these pieces were possibly used as wedges for woodworking.

**Williamson, Ronald F. (Archaeological Services Inc.), Jerimy Cunningham (McGill University) and Jane H. Kelley (University of Calgary)**

[105] *Approaches to Puzzling and Intractable Problems: The Many Influences of Bruce Trigger*  
Bruce Trigger is a true renaissance figure. In North America, he is the premier Huron scholar and ethno-historian; to Canadians, he has engendered an awareness of the power of archaeological knowledge and of our responsibilities using that knowledge. As an international theorist and historian, he has been an eloquent defender of the theoretical middle ground and a persuasive critic of dogmatism. His uniqueness is grounded in his exceptional ability to make the empirical theoretical and the theoretical empirical. Our discussion will offer a synopsis of the many influences Trigger has had on scholarship both in Canada and abroad.

**Williamson, Ronald F. [1]** *see Hart, John P.*

**Williams-Shuker, Kimberly (University of Pittsburgh)**

[110] *Close Encounters: Iroquois, Huron, and European Interaction at the Rogers Farm Site*  
Residents of the Rogers Farm site, a 17th-century Cayuga Iroquois village near Savannah, NY, lived during a period of cultural flux as contact with Europeans in their territory became more regular and frequent. Additionally, evidence suggests an adopted Huron population resided at the settlement, many of whom were captives from wars of revenge and mourning or conflicts over

hunting rights. In this paper, ethnohistorical records and archaeological remains are used to examine the nature of interaction between the two Native groups at the village and, in turn, how the community responded to the increasing European presence in the area.

**Willoughby, Pamela (University of Alberta)**

[126] *Middle and Later Stone Age technology in southwestern Tanzania*

Archaeologists and palaeoanthropologists are attempting to uncover the processes behind the evolution of our own species, *Homo sapiens*. While the first anatomically modern humans appear during the African Middle Stone Age (MSA), some researchers argue that there were no significant innovations until the subsequent Later Stone Age (LSA), after 50,000 years ago. This presentation reviews the technology of tool production in MSA and LSA assemblages from the Lake Rukwa rift valley of southwestern Tanzania. It also offers some suggestions for understanding the transition which may be associated with the emergence of behavioral modernity in East Africa.

**Willsey, Lynette (SUNY Geneseo)**

[188] *Applying GIS in Archaeology: Predictive Modeling of Proto-Iroquoian Settlement Location along the Allegheny River*

This poster represents the results of a GIS oriented study, the purpose of which is to determine if Proto-Iroquoian settlement location can be predicted. Data from known sites along the Allegheny River such as proximity to river and to other bodies of water, flora and fauna, geological formations, and soil type will be explored. The data used in this project was documented for excavated Proto-Iroquoian sites held in the collections of SUNY Geneseo and SUNY Buffalo.

**Willson, Kelli [53]** see *Ellwood, Brooks B.*

**Wilson, Jo [158]** see *Miracle, Preston*

**Wilson, Lucy A. [88]** see *Black, David W.*

**Wilson, Samuel M. [101]** see *Schultz, T. Clay*

**Windes, Thomas (Albuquerque, NM) and Elizabeth Bagwell (Univ. of New Mexico)**

[90] *A Village on the Edge: San Miguel del Vado*

San Miguel del Vado, once a prominent Hispanic New Mexican town, dared to be located on the very edge of the hostile Plains by 1794, then served as the Mexican port-of-entry along the Santa Fe Trail, grew to be the 6th largest town in the state and the county seat, and even served as the temporary prison for the failed Texan invasion. It has become a forgotten rural village since being bypassed by the railroad in 1880. Little of its rich history, except for travelers' accounts and legal documents, is recorded. Dendrochronological research of the remaining plaza architecture provides a new assessment of the social, economic, and religious impacts through time at this important village.

**Winkler, Daniel (University of Wisconsin-Milwaukee) and Dustin Blodgett (University of Wisconsin-Milwaukee)**

[156] *The Thermal Alteration of Silicified Sandstones from Western Wisconsin*

Numerous studies have been conducted on how thermal alteration affects flint or chert materials, but little research has been undertaken on how thermal alteration affects silicified sandstones. During the spring and summer of 2003 thermal alteration experiments were conducted on a number of silicified sandstones from Western Wisconsin. The results of these thermal alteration experiments are presented here. The focus of these experiments was to look for visible and physical changes that may occur when silicified sandstone is subjected to thermal alteration, and also to explore the possibility that silicified sandstone was thermally altered during prehistoric times.

**Wintcher, Amanda (New Mexico State University)**

[125] *Game Animals in Rock Art: An Analysis of Quadrupeds in Southeast Colorado*

Quadruped figures in the rock art at the Piñon Canyon Maneuver Site in Southeast Colorado appear to represent several native species of game animals. Formal properties of quadruped elements are classified into types, and these types are compared to physical characteristics of

specific game animals. The probability that these types consistently represent particular species is evaluated. The distribution of these types is assessed in terms of the broader archaeological record, and the significance of quadruped placement in the landscape is discussed.

**Winter, Zandra [83]** *see Goebel, Ted*

**Winzencz, Karon (University of Wisconsin-Green Bay)**

[144] *A Woven Cosmos: Sky Bands on Late Classic Maya Ceramics*

A group of Late Classic Maya ceramics contain sky bands that are painted with a textile-like sensibility and that incorporate some motifs that may be derived from cloth. It is possible that these embedded texts are visual analogs to creation passages in Maya inscriptions, in the PopolVuh and in books of the Chilam Balam, that describe the creation of the current era and the structure of the cosmos using metaphors related to spinning, weaving, and cloth. This ancient paradigm may have been in place as early as the Middle Formative Period and used by other Mesoamerican cultures as well.

**Wiseman, Dion [187]** *see Nicholson, Bev*

**Wolf, John (Stanford University)**

[117] *Crossing the Río Mosna: Investigations of a Highland Formative Community, Ancash, Peru.*

This is a report of recent field investigations directly across the Río Mosna from the monumental site of Chavín de Huántar. Evidence suggests an earlier Chavín occupation than previously reported. This necessitates a re-evaluation of the ceramic sequence and a significant expansion of the range of Chavín ceramic design motifs. Additional evidence suggests the presence of a pre-ceramic occupation in the area. The site in question is threatened by a road construction project that offers insights and cautions regarding relations among local communities, government agencies and archaeologists.

**Wolff, Christopher (Southern Methodist University)**

[99] *Middle Dorset in Southern Labrador*

This poster examines Middle Dorset demographics in Southern Labrador. Its focus is on three small sites on Huntingdon and Horse Chops Islands in the Porcupine Strand Region. Southern Labrador is relatively unknown archaeology in comparison to the adjacent regions of Northern Labrador and the island of Newfoundland. It has primarily been considered a relatively uninhabited landscape that the Middle Dorset, and other prehistoric cultures, traveled through on their way to the north, or south, for trade and/or social exchange. The research presented in this poster suggests a quite different picture of Middle Dorset activity in Southern Labrador.

**Wollstonecroft, Michele (The Institute of Archaeology, University College London), Jose Rolao (Department of Archaeology, Universidade Autonoma de Lisboa, Lisbon), Mirjana Roksandic (Department of Anthropology, University of Toronto at Mississauga) and Victoria Snowdon (University of Toronto and Mississauga)**

[108] *Archaeobotanical research at Cabego da Amoreira, a mid Mesolithic shell midden site in the Muge valley, Lower Tagus basin, Portugal*

This paper presents the first results of the archaeobotanical sampling of the Mesolithic levels of Cabeco da Amoreira, one of several large mid Mesolithic shell middens located on river terraces overlooking the Muge valley. Our research aims to address questions about why Mesolithic hunter-gatherers persisted much longer in this region than in other parts of Europe, where the "neolithisation" process was well underway; and how these hunter-gatherers coped with significant changes in local climate, sea-level, vegetation and demographic conditions.

**Wolverton, Steve (Northern Kentucky University)**

[30] *White-tailed deer mortality and carcass use during the Holocene in Central Missouri*

Humans were less efficient foragers during the middle Holocene (8500 to 5000 BP) than during the late Holocene (after 5000 BP) in central Missouri. This is clear because their predation strategy incorporated a greater abundance of small prey during the mid-Holocene. Here whether or not carcass exploitation was more intense during the mid-Holocene is examined. It is expected that mean utility of skeletal parts is lower in assemblages that date to the mid-Holocene and higher in those that date to the late Holocene.

**Wood, Amy [9]** *see Schulz, Margaret*

**Woodfill, Brent (Vanderbilt University)**

[49] *Speleoarchaeological Investigations in the Upper Pasión Kingdom*

The Upper Pasión Kingdom, located in northern Alta Verapaz and southwestern Peten, was one of the main centers of interaction between the highland and lowland Maya throughout its history. One of the most interesting syntheses of traits from the two regions is its use of sacred geography, using the witz, or sacred mountain cave, in parallel ways to the more typical lowland temple pyramid. Results of investigations by the Vanderbilt Upper Pasión Archaeological Cave Survey (VUPACS) will be discussed from different cave systems, including ongoing research in the Candelaria Caves, which had much public ritual paralleling more common Maya architecture.

**Woodfill, Brent (Vanderbilt University), Alvaro Ramirez (Universidad del Valle) and Cameron Griffith (Indiana University)**

[116] *Sustainable Community Development in the Candelaria Cave System, Alta Verapaz.*

VUPACS is engaged in an expansion of Proyecto Cancuen's sustainable development program of rural Q'eqchi' communities, helping communities to develop responsible tourism in local caves. We have assisted in training guides, leading archaeological workshops, created tourist routes, led negotiations between different interest groups, and worked with the Guatemalan Ministry of Culture to create a regional management plan. As part of this process, we also worked with BVAR/WBRCP to bring a group of guides, local committee members, and development workers to Belize to learn about responsible cave tourism and begin an exchange between the two archaeologically-rich regions of the Maya world.

**Woods, James C.** [24] *see Elston, Robert G.*

**Woodward, Jamie (The University of Manchester), Mark Macklin (University of Wales) and Derek Welsby (The British Museum)**

[15] *River System and Settlement Dynamics in Northern Sudan: Holocene Geoarchaeology of the Desert Nile*

Archaeological survey of an 80 km-long reach of the Middle Nile Valley in Northern Sudan located over 450 new sites on the valley floor that date from ca. 4000 BC (Neolithic) to the Medieval Period. The valley floor contains a series of palaeochannel belts with which there is a close association with human settlement, particularly for Kerma Period (ca. 2500 to 1500 BC) sites. Some of the palaeochannels and Kerma sites are located >15 km east of the Nile. We present the first well-dated record of Holocene river activity and valley-floor settlement dynamics for the desert Nile of Sudan.

**Woodward, Robyn P. (Simon Fraser University)**

[91] *The Early 16th Century Spanish Sugar Industry in Jamaica*

The history of European settlement in the Caribbean is intimately linked to the history of tropical agricultural products of which sugar was the most important. To date, historic and archaeological research has focused only on the late 17th to 19th century sugar plantations in the Caribbean and Brazil and no attention has been paid to the early attempts of the Spanish to establish sugar estates in the 16th century. In 2002 archaeologists excavated the earliest known mill in the Caribbean at Sevilla la Nueva in St. Ann's Bay, Jamaica, which was in use from 1517-1534. This paper will discuss the landscapes, structures, and artifacts of the earliest known mill in the Caribbean.

**Woody, Alanah** [43] *see Quinlan, Angus*

**Woollett, Jim (Hunter College, CUNY)**

[141] *Uivak Point: An Examination of the Subsistence Economy of a Labrador Inuit Settlement*

By the 18th century, the Labrador Inuit were well entrenched in the expanding European world system. This paper examines how Inuit communities' modes of organization changed in response to the opportunities and tensions created by this expanded economy, using the site of Uivak Point, an 18th century whaling community, as a case study. Zooarchaeological analyses are used to demonstrate the adaptation of traditional economic activities to participate in trade. This paper argues that changes in community organization reflect efforts to exploit contact-related economic opportunities and to cope with social stresses, in contexts of relative subsistence security and climatic amelioration.

**Workinger, Andrew** [3] *see Thieme, Mary S.*

**Worman, F. Scott (University of New Mexico) and James Boone (University of New Mexico)**

[52] *Conquests and Landscapes: The Geoarchaeology of Islamic Period Southern Portugal*  
Few historians or archaeologists have considered the anthropological and ecological forces that set the stage for the Islamic conquest, more than five centuries of Islamic domination, and the Christian 'reconquista' in Iberia. The authors report on geoarchaeological investigations focused on anthropogenic landscape change in southern Portugal from the late Roman through the Christian Medieval periods. Preliminary results suggest that dramatically increased rural population densities during the Islamic period caused widespread erosion and reduced agrarian potential. Ongoing archaeological research promises new insights into the nature of the Islamic state in Europe and the conditions that affected its rise and fall.

**Wright, James C. (Bryn Mawr College)**

[174] *Feasting and Fighting in the Late Bronze Age Aegean*

Feasting was fundamental to the formation of polities during the Late Bronze Age in the Aegean, especially in the evolution of the Mycenaean polities. Two practices, sacrifice and consumption of large numbers of animals by large groups and drinking of wine, are documented. Both were sponsored by aggrandizing elites. Both adapt foreign practices to local ones and are instrumental in the reproduction and dissemination of the culture of a warrior elite and eventually of state identity. The traditions of feasting and drinking carry over into Iron Age society and can be recognized in some respects in Homer's Iliad and Odyssey.

**Wright, Joshua (Harvard University)**

[154] *Stages of Nature, The life cycle of northern Mongolian khirigsuurs*

Khirigsuurs - stone mound monuments - are a common feature of the archaeological landscape of Mongolia and South Siberia. Far from being simple stone piles, they are characterized by an elaborate vocabulary of components, purposeful positioning in the landscape and multiple phases of construction and use. Archaeological survey and excavation provide insights into the scale of their construction and use as stages for social action and history. Data from the Lower Egiin Gol Valley, Mongolia, shows that khirigsuurs were built following a regular pattern, modified to fit their functions in group activities and revisited and added to over many centuries.

**Wright, Joshua [172]** see *Honeychurch, William*

**Wright, Lori E. (Texas A&M University) and T. Douglas Price (University of Wisconsin - Madison)**

[13] *Identifying immigrants to Tikal: Defining local variability in strontium isotope ratios of human tooth enamel*

Strontium isotope ratios have been measured in tooth enamel from 65 human skeletons buried at the Classic Maya city of Tikal, Guatemala. The data identify a number of migrants who spent their childhood elsewhere, and ultimately came to be buried at Tikal, one of the largest Maya urban centers. This paper explores strontium isotope variability in the Tikal series, and evaluates statistical means for defining a local range using the human data. We also discuss strontium data from local faunal remains, Tikal's geological context, and the influence of lime-treated maize on Tikal's human mean strontium isotope ratios.

**Wright, Lori E. [13]** see *Burton, James H.*

**Wright, Rita (New York University)**

[36] *Mapping Spaces: Households and Production at Rural settlements in the Indus Valley.*

Although Susan Kent's research focused primarily on hunters and gatherers, her insights into spatial distributions and household settings and gender-inflected analyses are applicable to societies of greater economic complexity. In this paper, I draw on Kent's research on spatial patterning to discuss the results of a regional survey conducted near the Indus city of Harappa during the third millennium B.C. Using GIS formats and surface collections, spatial distributions of production and household materials were plotted in order to characterize the degree of economic integration between the rural settlement and urban center and assess mutual influences.

**Wrigley, Bill (University of Toronto)**

[188] *The Iroquoian Longhouse: A structural engineering perspective.*

This paper examines the structural profile of the Iroquoian longhouse from the view of the structural (civil) engineer. It also examines the strength and the structural characteristics of building materials used by Iroquoian people. A primary goal of the research is to access various models of the cross-sectional profiles of these houses in terms of the most effective use of

building materials. Such an examination of the skeletal framing of the Iroquoian longhouse from the perspective of structural engineering substantiates and/or rejects popular concepts that we presently accept.

**Wrobel, Gabriel D. [50]** *see Andres, Christopher R.*

**Wyatt, Andrew [116]** *see Morehart, Christopher; [164]* *see Lentz, David L.*

**Wylie, Alison (Barnard College/Columbia University) [131]** *Discussant*

**Wylie, Alison (Barnard College)**

[105] *Moderate Relativism/Political Objectivism*

Trigger has engaged the philosophical issues that have united and divided Anglo-American archaeology throughout his long and distinguished career, refusing the scientism of the New Archaeologists as firmly as the hyperrelativism of their critics. In the process he has articulated a highly distinctive epistemological stance characterized both by a keen awareness of politics of knowledge production and by an unwavering commitment to objectivist ideals. I offer an analysis of this creative tension: what it involves and why it is essential to the emancipatory vision that animates all Trigger's research, empirical and theoretical, historical and philosophical.

**Wymer, DeeAnne (Bloomsburg University)**

[180] *Where do (Hopewell) Research Answers Come From?*

An invigorating resurgence in Hopewellian studies has focused on 'typical' processualist interests (settlement patterns/subsistence) as well as Hopewell ritual and cosmology. Recent excavations and work with archived museum collections are revealing unexpected information while fresh perspectives offered by symbolic/cognitive archaeologists are illuminating our theoretical landscape. However, it often seems as if two theoretical 'camps' face each other across a great chasm. But simply acknowledging that Hopewellian cosmology influenced all facets of their culture does not answer the fundamental question: how do we know when our ideas are valid? This paper will explore ways to perhaps bridge that theoretical divide.

**Yaeger, Jason (University of Wisconsin)**

[160] *Sticks, Stones, and Broken Bones: Representing and Reinforcing Elite Status in a Maya Hinterland*

Mayanists often define the elite in political-economic terms as the wealthy, powerful class. With data from San Lorenzo, a small heterogeneous community near the Classic Maya center of Xunantunich, Belize, I recast Maya elite as a dynamic status group open to negotiation and contestation. During Xunantunich's expansion, wealthier households at San Lorenzo sought to distinguish themselves from their neighbors. Although many economic and symbolic dimensions of elite status were inextricably tied to daily lived experience of hamlet residents, the elite in this community represented their social distinction most visibly through practices of feasting and house-building, and the ornaments they wore.

**Yaeger, Jason [153]** *see Stein, Susan*

**Yajima, Kunio (Meiji University, Japan)**

[58] *Evaluation of the 'Early and Middle' Paleolithic Problems in Japan*

S. Fujimura's confession on November 5, 2000, that he had planted artifacts at two of the 'Early Paleolithic' sites had an far-reaching impact beyond the archaeological community, on the Japanese society at large that enthusiastically supported archaeological activities. The Japanese Archaeological Association has undertaken to re-examine the 'Early and Middle' Paleolithic sites in whose excavations Fujimura had participated. Ten 'sites' were re-excavated, and artifacts recovered from over 150 sites were re-analyzed. I report on the procedure used in the evaluation, both in the field and in laboratory, as well as on the history of Fujimura's activities, and their social impacts.

**Yankowski, Andrea (SFSU)**

[149] *Traditional Technologies & Ancient Commodities: An Ethnoarchaeological Study of the Salt Manufacturing and Pottery Production Industries in Bohol, Central Philippines*

Ethnoarchaeological studies play an important role in archaeological interpretations of the past. They provide analogies and direct historical evidence for the ways in which material culture is made, used, traded and valued in society. A recent ethnoarchaeological study of the salt

manufacturing and pottery production industries in the Central Philippines demonstrates the value of combining ethnographic, archaeological and historic data to understand the past. In particular, this study highlights the regional characteristics of traditional technologies and industries, including product standardization and specialization; the development of lowland-highland and maritime trade networks; and the relationship between material culture and social identity.

**Yao, Alice (University of Michigan)**

[149] *Looms and Gauntlets: configurations of gender ideals in the economy and politics of Dian culture*

Archaeologists often study gender in relation to economic activities—perhaps because material remains become more coherent when filtered through conventional constructions of gender. However, such an interpretive process can obscure understanding of gender and power. That is, the sexual division of labor becomes a metaphor for gender politics as well. I will explore how the gendered organization of economic tasks does not correspond to the ordering of political power through an examination of grave goods in the Dian culture, a bronze age society of the first millennium B.C. in southwestern China. I will show how prescribed participation in specific realms of production does not either define, or socially limit one's access and position in politics.

**Yellen, John (National Science Foundation) [129] *Discussant*; [152] *Discussant***

**Yellen, John E. [129] *see Brooks, Alison S.***

**Yellowhorn, Eldon (Simon Fraser University)**

[105] *Awakening Internalist Archaeology in the Aboriginal World* The professionalization of archaeology by Indians marks a turning point in their relationship with the discipline. Since the archaeological record preserves the traces of Indian cultures from antiquity, the present generation is receptive to adopting the methods that would expand their understanding of their ancestors. They are in the process of defining an approach to archaeology that emanates from their internal dialogue with antiquity. This paper discusses the status of this project.

**Yerkes, Richard (Ohio State University) and William Parkinson (Florida State University)**

[123] *The Körös Regional Archaeological Project Field School, 2003*

The Körös Regional Archaeological Project operates a field school that allows ten American undergraduate students to participate as researchers during the field season. In 2003, undergraduates conducted independent research projects on faunal analysis, ceramic stylistic variability, spatial analysis, GIS, soil chemistry, and bioarchaeology. This paper discusses the importance of the field school and the contribution of the student researchers.

**Yerkes, Richard [123] *see Parkinson, William***

**Yerkes, Richard [149] *see Kashyap, Arunima***

**Yesner, David (University of Alaska, Anchorage)**

[18] *Ethnicity and Identity in the Boreal Forest: Holocene Hunter-gatherers in Interior Alaska*

Poor preservation of organic materials in the western boreal forest has generally limited the Holocene archaeological record to lithic and structural remains. After around 2,000 years ago, archaeological settlements and tool-kits can be confidently linked to contemporary Na-Dene peoples, with strong connections to elements of economic, social, and ritual behavior. Before then, connections are tenuous, with largely unproductive arguments focusing on the significance of notched point, microblade, and other lithic assemblages. Greater insights into these issues occur in areas of better organic preservation. The archaeological data must be linked to linguistic and genetic data to flesh out a more complete prehistory of Na-Dene origins.

**Yevtushenko, Alexander [122] *see Burke, Ariane***

**Yoffee, Norman (University of Michigan)**

[105] *Social Evolutionary Theory as World History*

Social Evolutionary theory in anthropology and archaeology has passed through various stages. In this paper I review the contributions of Morgan and Tylor (and some predecessors); Boas and the Boasians; Childe; White and Steward and their "neo-evolutionist" archaeological acolytes whose main task was to "identify" the state (and other types of societies). I consider Bruce Trigger's critical assessments of these scholars and the implications of his historical and

crosscultural perspectives for building new social evolutionary theory.

**Yohe, Robert [113]** *see Heikkinen, Deanna*

**Yohe II, Robert (California State University)**

[173] *An Update on the Archaeological Applications of Immunological Protein Residue Analysis*  
Application of immunological protein residue analysis to archaeological materials is a source of some controversy over two decades. Debates over durability and detectability of ancient protein molecules have raged, but the evidence to date suggests that complex proteins can be isolated and recognized through cross-over immunoelectrophoresis (CIEP) under certain conditions. Such analyses have been used recently to assist in dietary reconstruction and improve our understanding of flaked and ground stone artifact function. Success with the isolation of ancient DNA (aDNA) from artifact surfaces and fossil bone has given further credence to the durability of complex organic molecules over time.

**Yoshida, Bonnie (University of California, Santa Barbara) and Corina Kellner (University of California, San Diego)**

[147] *Lovely Bones: Interpreting the biological effects of social and environmental challenges on two prehistoric Andean populations*

The effects of socio-political complexity and environmental constraints on past populations are key issues in Andean archaeology. Bioarchaeological data is ideal for investigating the effects of these social and environmental changes on humans as it can track patterns of disease, demography, and interpersonal violence. Comparing bioarchaeological data from a Moche Valley population from the Peruvian north coast and a population from the south coast Río Grande de Nazca region reveals how the changing social and physical environment affected community health in these two similar regions.

**Yoshida, Osamu [118]** *see Koga, Yuko*

**Young, Adrienne (University of Michigan)**

[10] *In Memory of Bob: Humor, Surrealism, and Anthropology*

Bob Humphrey was an archaeologist, a cartoonist, and a surrealist artist, as well as a teacher and friend. This paper will explore ways in which Bob combined his talents and how humor and surrealism partner well with anthropological studies. More generally, I will give an overview of the ways that anthropologists have studied humor and why it is an important topic in all subfields of the discipline.

**Young, Amy [42]** *see Carr, Philip*

**Yu, Haiguang [6]** *see Lanehart, Rheta E.*; [6] *see Cunnar, Geoffrey*

**Zambrana, Jorge [165]** *see McCafferty, Geoffrey*

**Zaragoza, Diana (INAH)**

[19] *Not So Different Neighbors*

During the last 25 years I have been working in the state of San Luis Potosi, in several sites with diverse environments. Through the research I can say that the theory, abandoned in the 60's, about the relations between Mesoamerica and Southeastern United States, has been brought to life under the light of new investigations. This presentation deals with the comparison of ceramic types from the sites I have explored, with those of northeastern Mexico and southeastern United States. However I will not only refer to archaeological research, but also to anthropological approaches like linguistics and ethnology.

**Zarins, Juris [82]** *see Brandt, Steven*

**Zaro, Gregory (University of New Mexico)**

[163] *Agricultural Landscapes and Micro-Environmental Adaptations at Wawakiki Spring, South Coast, Perú*

Intensive agricultural terracing strategies have long been documented in many Andean mid-valley and highland contexts, but much less is known of local production strategies along the hyper arid

coastline that characterizes much of Perú. The coastal spring site of Wawakiki in southern Perú was utilized intermittently for agricultural purposes for at least the past 1200 years, with its most intensive use occurring during the late pre-Hispanic era (c. AD 800-1350). Recent excavations demonstrate that during this period, Wawakiki farmers employed an intensive spring-and-canal technology to irrigate steep, stone-faced hillside terraces that cover much of this small coastal peninsula.

**Zedeno, Maria-Nieves (University of Arizona)**

[45] *Traditional knowledge, ritual behavior and contemporary interpretations of the archaeological record*

Archaeological site and artifact assessments conducted in collaboration with Native Americans provide an opportunity for exploring the role of traditional knowledge, as expressed by contemporary Native American religious leaders and practitioners, in archaeological interpretation. This paper explores the conceptual pathways most commonly applied to the identification of ceremonial objects and contexts and their articulation with the surrounding landscape and its natural resources, and discusses implications for theorizing ritual behavior.

**Zeidler, James (Colorado State University)**

[159] *Dualism, Hierarchy, and the Evolution of Early Formative Valdivia Communities*

Circular communities have attracted considerable anthropological attention throughout lowland South America because of their widespread parallels in spatial organization, social structure, use of ritual and domestic space, and cosmological orientation. This paper examines Hornborg's (1988) concept of diarchy as a fundamental organizational principle of social space in circular communities of lowland South America. The concept is then explored with respect to the evolution of Early Formative Valdivia communities of coastal Ecuador (4400-1600 BCE) to show how dualism, quadripartition, and spatial hierarchy were differentially expressed as Valdivia society evolved from simple egalitarian to more complex hierarchical forms of political organization.

**Zeidler, James [183] see Sherman, Stephen; [136] see Holst, Irene**

**Zhao, Zhizun [136] see Holst, Irene**

**Zilhao, Joao (University of Lisbon)**

[68] *Gruta da Oliveira (Portugal): late Middle Paleolithic Chronology, Environment and Adaptations*

This cave site contains a high-resolution Middle Paleolithic sequence sealed by 4m of brecciated roof collapse. After thirteen field seasons, >4m of archeological stratigraphy are exposed under the collapse, spanning the period between ca.30 and >45 kyr BP. Preliminary data on the geology, the chronometry, the charcoal, the rodents, the large mammals, the human remains, the lithic assemblages and the occupation features found in this sequence provide the opportunity for a detailed diachronic appreciation of change and continuity in the long-term adaptations of the westernmost and latest surviving Neandertal populations in the millennia immediately preceding their disappearance.

**Zori, Davide (UC Los Angeles)**

[112] *Artifact Finds from Hrisbrú*

The Hrisbrú artifacts shed light on economic and ritual activities that have taken place at the site. At Hulduhóll, the artifacts, including several fragments of a worked bronze sheet, support the presence of a Viking Age cremation site. At Kirkjuhóll, the function of iron rivets is an interesting question, which is complicated by their multi-purpose nature. Some rivets were used in coffins, others were associated with possible grave goods, and others align with the structural remains. The vast number and differential applications of rivets provides a unique opportunity to clarify the use of these ubiquitous but still enigmatic artifacts.

**Zubrow, Ezra (SUNY Buffalo) [103] Discussant; [158] Discussant**

**Zunie, Jerome [66] see Damp, Jonathan**

**Zurita-Noguera, Judith (Instituto de Investigaciones Antropológicas UNAM) and Marcianna Lane Rodríguez (Smithsonian National Museum of Natural History)**

[136] *Considerations of the Importance of Maize in Olmec Subsistence*

The inadequacy of the data concerning subsistence strategies has been a major concern in Olmec archaeology. There is absence of reliable data regarding the adoption of agriculture as the predominant subsistence activity: the consequences of embracing maize .

**Zutter, Cynthia (Grant Macewan College)**

[141] *Archaeobotanical Investigations from the Canadian Subarctic*

Few archaeological sites in the arctic have investigated plant use practices of the peoples residing in northerly latitudes. This is likely the result of the traditional view that the cultures in these areas were strictly meat-eaters and the limited amount of edible plants in the arctic regions. Results from recent projects at Uivak and Oakes Bay in the Canadian subarctic suggest that these assumptions are not necessarily correct. The following paper will outline the initial findings from these sites and provide an example of the future possibilities that archaeobotanical analysis can bring to arctic archaeology.

**Zvelebil, Marek (University of Sheffield, UK) [134] *Discussant***

**Zvelebil, Marek (University of Sheffield)**

[61] *Mobility, Contact and Exchange in the Baltic Sea Basin 6000-2000 B.C.*

In my contribution, I survey the evidence for contact and exchange in the circum-Baltic area of northern and eastern Europe during the Late Mesolithic period and the subsequent transition to farming ca. 6000-2000 B.C. The emphasis is on understanding the social context of exchange relationships, the consequences of exchange for the participating hunter-gatherer communities, and on patterns of human mobility and gene exchange arising from such contacts.