THE ANNUAL MEETING of the Society for American Archaeology provides a forum for the dissemination of knowledge and discussion. The views expressed at the sessions are solely those of the speakers and the society does not endorse, organizers, not the society.

ABSTRACTS OF INDIVIDUAL PRESENTATIONS

Qin, Zhen (Washington University in St. Louis) [51]  
An Exploration of the Process of Agricultural Intensification at Sanyangzhuang Site, Henan Province, China: A Geoarchaeological Approach  
This paper focuses on the process of agricultural intensification, especially the evolution of agricultural technologies from the Early Bronze Age to the end of Western Han dynasty (roughly from 4000 B.P. to 2000 B.P.). During this period, three advances in agricultural technology were probably invented and applied: (1) The plow was intensively used by farmers to make ridges and furrows, and to maintain the porosity and permeability of the cultivated soil; (2) various kinds of manures, such as ashes and human/animal dungs, were adopted to keep the soil fertile; (3) irrigation systems were constructed to keep water accessible in the semi-arid climate condition. However, these "advances" are nothing more than hypotheses or possibilities because they have not tested by archaeological findings. In the research, the author will integrate existing findings and samples from Sanyangzhuang site and conduct geoarchaeology-based research by analyzing soil samples to see if the advances of agricultural technologies in historical documents are true or false. [51]  
Chair

Quates, E.W. Duane (U.S. Army, Fort Drum, NY) [54]  
Moderator

Quave, Kylie [121] see Covey, Ronald

QUESADA, OCTAVIO (Universidad Nacional Autónoma de México) [62]  
Olmec Iconography: Prevalence of Naturalistic and Abstract Signs in a Visual Language  
In this paper, after comprehensive study of a wide sample of Olmec plastic monuments (1400-100 B.C.) the distribution of naturalistic and abstract signs of what can be called an Olmec visual language is described. In 890 Olmec pieces analyzed, four main natures were found: human (80%); serpentine (8.3%), avian (6.6%) and feline (3.1%). Among the pieces studied were found those whose whose nature was single and those whose whose nature was combined. In both cases one nature is the "noun", while subsequent natures work as "adjectives". Combinatory analyses of the four single natures and twelve possible combinations between two, show highly asymmetric data. There is a remarkable prevalence of serpentedized humans, followed not closely by humans and snakes alone; other groups that are present include humans stylized with avian or feline traits; snakes bearing human attributes and serpentedized birds and felines; five of the twelve possible combinations are completely absent. Furthermore, the iconic set of two opposing snakes and four abstract signs which stand for serpentine traits, are recognizable. The conclusion is that both types of signs -figurative and abstract- are the elements of a visual communication system, each with a specific function in the concerted task of creating sense.

Quick, Russell (Cultural Resource Analysts, Inc.) [196]  
No Toe-Bone Left Behind: Multi-Method Geophysics for Historic Cemetery Delineation  
In the last decade, the delineation of unmarked historic cemeteries has become increasingly important as development encroaches on defunct churchyards and family cemeteries. Geophysical methods have increasingly been employed to meet the need for a fast, accurate, and inexpensive way of delineating these resources in a non-invasive manner. A recent poorly conceived study at Arlington National Cemetery, however, concluded that geophysical methods are ineffective for locating graves. This paper presents the results of surveys conducted at several historic cemeteries across the Midwest. These surveys indicate that, in a sense, the critique of geophysical methods is partially correct: the use of
individual methods is not always effective. Here it is argued that the use of multiple geophysical methods, including ground penetrating radar and magnetometry, can increase the confidence in geophysical cemetery delineation to a level that is acceptable for cemetery management.

Quinlan, Angus (Nevada Rock Art Foundation)  
Focusing on the western Great Basin, this paper explores spatial variability in rock art styles, themes, and archaeological and landscape contexts as a first step in reconstructing how prehistoric populations may have categorized their environments as social landscapes. Rock art locales may be understood as assemblages of visual symbolism, produced by repeated social actions that inscribe social memory in time-space. These enduring symbolic marks in the landscape potentially establish places of cultural meanings that social agents draw upon to create precedents for the veracity and authority of their social practices and roles. Rock art in the western Great Basin is only found at certain places in the landscape, both settled and remote, raising the question of what aspects of social life were performed against a backdrop of cultural symbolism and why these locales and the activities performed there were selected for symbolic treatment? The roles of western Great Basin rock art and social landscapes in social reproduction are explored through a regional sample of 130 rock art sites that range from the Middle Archaic through the Late Archaic.

Quinn, Colin (University of Michigan)  
[20] Modeling Dynamics of Community Organization in Resource Procurement Zones: A Bronze Age Transylvanian Case Study  
Due to a paucity of anthropologically-oriented archaeological projects, theory, and models to systematically evaluate resource procurement, the long-term dynamics of communities in procurement zones, areas where resources are extracted locally and exchanged widely, remain poorly understood. Using settlement and mortuary data from the metal and salt-rich region of southwest Transylvania during the Bronze Age, this paper explores and problematizes the dynamics of political economic models for change in community organization in procurement zones. By looking at multiple resources, across multiple social dimensions, and at multiple scales, it is possible to begin to characterize shifts in community organization in resource-rich areas.

Quinn, Colin [153] see Lowry, Justin

Quinn, Colin (Dartmouth College), Deborah Nichols (Dartmouth College), Michael D. Glascock (University of Missouri) and Jason Paling (Plymouth State University)  
[311] Chiquilistagua Archaeological Project 2013 Obsidian Analysis and Sourcing  
We will report on obsidian artifacts that have been analyzed; found in 2013 with the Chiquilistagua Archaeological Project in Nicaragua. The site of Chiquilistagua is located west of modern day capital Managua and began preliminary excavations in 2012. The 2013 field season marked the first official excavations with follow up analysis and cataloging of artifacts ranging from compacted floor, obsidian, other lithics, and ceramics. Collected obsidian artifacts underwent in depth physical analysis as well as X-Ray Fluorescence Analysis at the Missouri University Research Reactor to chemically fingerprint and identify geological sources. There were 137 pieces of obsidian found consisting of small blades, flakes, core fragments, exhausted cores, and a nodule fragment. The identification of geological sources allows for a basic trade network to be established for the domestic village site of Chiquilistagua, Nicaragua; Tempisque to Bagaces Periods (B.C. 500-300 A.D., 300 A.D.- A.D. 800 respectively).

Quintana Owen, Patricia [164] see Vazquez De Agredos Pascual, Maria Luisa

R. Segura, Oliva (UAQ), Mahinda Martínez (Universidad Autónoma de Querétaro) and Luis Hernández-Sandoval (Universidad Autónoma de Querétaro)  
[336] Microscopia electrónica de barrido para la identificación de textiles arqueológicos: el caso de El Rosario, Querétaro  
La identificación de textiles arqueológicos requiere diferentes técnicas, entre ellas el uso de
microscopia electrónica de barrido (MEB), que permite usar fragmentos pequeños de muestras con
diferente grado de deterioro, como materiales carbonizados. Los fragmentos textiles analizados se
encontraron carbonizados y cubiertos por sedimento sobre el segundo piso (650 d.C) del Edificio
Principal del sitio arqueológico El Rosario en Querétaro, México. Para determinar el material vegetal de
elaboración, la muestra se comparó con siete tipos de fibras vegetales locales tanto de
monocotiledóneas como de dicotiledóneas, entre ellas algodón (Gossypium hirsutum) y maguey
(Agave), utilizadas ampliamente en Mesoamérica para textiles. Las muestras fueron cubiertas con oro y
observadas al MEB. También se diafanizaron y tiñeron con safranina para observarlas al microscopio
de luz. La microscopía de luz permitió reconocer que el textil es una mezcla de fibras de dico y
monocotiledóneas. Con el MEB se observan detalles para reconocer las fibras a nivel de especie, como
el algodón que se caracterizan por ser filamentos aplastados y retorcidos con lumen amplio. También
permitió reconocer que la fibra de monocotiledónea no era maguey.

Rabbysmith, Steve [117] see Cyr, Howard

RabbySmith, Steve (Brockington and Associates), Carrie Williams (Naval Air Station Pensacola)
and Kad Henderson (Brockington and Associates)
[125] Archaeological Investigations at the Barrancas Site, 8ES1354: American Period Occupation
and Use during the Nineteenth Century.
The Barrancas Site (8ES1354), a large multi component archaeological site located at Naval Air Station,
Pensacola, has produced a wide variety of cultural material and intact deposits related to its extensive
occupation and reflective of its strategic importance on Florida’s Pensacola Bay. Past investigations of
the site have focused primarily on the substantial first Spanish Period occupation at the Presidio Santa
Maria de Galve and associated fortification San Carlos de Austria. However, a recent cultural resources
compliance study carried out on other portions of the site  have revealed deposits associated with
American nineteenth century cultural components, including an Antebellum Creole home site, a Civil
War Union encampment, and a post-Civil War Army installation. This paper provides an overview of the
site’s later historical occupation and related archaeological remains and seeks to exemplify the Navy’s
commitment to preserving this and other important historic properties while maintaining its mission

Racila, Ana-Monica [241] see Mack, Jennifer

Raczek, Teresa (Kennesaw State University) [35] Discussant

Radde, Hugh (California State University Northridge)
[142] Interpreting the Cultural Landscape at Toyon Bay (CA-SCAI-564) on Catalina Island
Previous research on Santa Catalina Island off the coast of Los Angeles has provided valuable insight
about the indigenous islanders through the lens of cultural ecology. These studies have contributed to
our understanding of complex maritime hunter-gather-fisher practices that sustained Native people for
over 8000 years of occupation. While this body of work speaks volumes to the prehistory of Catalina,
it i here argued that Landscape theory can lend an alternative perspective that compliments previous
research and builds on our understanding of social activity and the relationships of islanders. Utilizing
the prehistoric village located at Toyon Bay (CA-SCAI-564) as a case study, this paper aims to present
how the interpretation of satellite sites in the adjacent canyon can be analyzed through landscape
theory, specifically by taskscapes as defined by Ingold. Through this powerful perspective, one can hope
to vie the symbolic ordering of space and place as perceived by a given group of occupants. In this
sense, the landscape provides much more information to archaeologists than simply dots, boundaries,
and resources. The canyon and village tell a story of generations of use tied to social relations and
community.

Rademaker, Kurt (University of Maine), Gregory Hodgins (University of Arizona), Gordon Bromley
(University of Maine) and Daniel Sandweiss (University of Maine)
[69] Late-Glacial Settlement of the High Peruvian Andes
The Pucuncho Basin, located at 4480 m elevation in the southern Peruvian Andes, contains some of the
oldest known archaeological sites in the Andes Mountains and the highest ice-age sites yet discovered in the Americas. Two linked Terminal Pleistocene sites occupy landforms where Alca obsidian crops out and are proximal to productive wetland habitats home to herds of Andean herbivores. The Pucuncho open-air site has fluted Fishtail projectile points diagnostic to ~12.8-11.7 ka. Seven kilometers east, Cuncaicha rockshelter contains robust occupation evidence spanning the past ~12.4 ka. Our high-resolution chronology at Cuncaicha shelter includes 35 AMS ages on ultrapurified bone collagen obtained at two laboratories, with 23 AMS ages constraining the Terminal Pleistocene component. The Cuncaicha sequence and a high-resolution glacial-geologic record developed at Nevado Coropuna just south of the basin demonstrate that despite colder temperatures, more extensive glaciers, and low-oxygen conditions, successful human colonization of the high-altitude Andes began at the end of the last ice age. Raw material and tool assemblages at Pucuncho Basin sites and the Terminal Pleistocene fishing site Quebrada Jaguay 150 km south on the Pacific Coast suggest linkages between early sites with very different adaptations situated in diverse ecological zones.

Radewagen, Erika [242] see Herdrich, David

Radovanovic, Ivana, Rolfe Mandel (University of Kansas) and Dusan Mihailovic (University of Belgrade)

Mesolithic Settlement in the Iron Gates Region: Integrating Current Archaeological and Geoarchaeological Evidence

This paper presents results from a recent survey of the Mesolithic sites in the flatlands and mountainous hinterlands of the Danube Iron Gates region. Previously explored and currently submerged sites located along the Danube Gorges’ riverbanks represent only a fraction of the regional early Holocene hunter-gatherers’ settlement network. Based on previous studies of stratified archaeological sites, there appear to be gaps in the record of human occupation during the early and middle Holocene in the region, which has sparked questions about the cause of such chronological discontinuities. Our study included a geoarchaeological assessment of the Holocene and terminal Pleistocene alluvial stratigraphy at a newly recorded site on the Danube River. Also, stable carbon isotope values were determined on soil organic matter from buried alluvial paleosols. Results of the investigation allow us to address the temporal and spatial patterns of recorded archaeological sites and consider geomorphic processes that have shaped that record. Our findings also provide a more reliable framework for understanding Mesolithic hunter-gatherer land-use in the Iron Gates region.

Chair

Rafferty, Janet (Mississippi State University)

Site Occupation: Repeated or Continuous Use

Even in sedentary settlement patterns, occupations can be short- or long-term and sites may be reoccupied. Short-term sedentary settlement has been documented for the Woodland through Protohistoric periods in the upland Tombigbee River valley of north-central Mississippi. It is important to examine variability within this sequence to detect and explain changes that occurred. The Middle Woodland Cork site (22Ok746) had ca. 200 1x1 m excavation units placed along an east-west ridge. Ceramic seriation shows that the west end was used first, followed in sequence by areas increasingly farther east. The site is fairly small, 20x150 m. Whether the artifacts represent a continuous occupation or reoccupation and whether each part of the site was used the same way are two issues of interest. To confirm the chronological order, a detailed stylistic analysis of hafted bifaces was done. The main variation found is in intensity of occupation, as measured by quantity and kind of artifacts recovered per cubic meter. Exotics (quartz crystal flakes, galena, and copper), while rare, have a broad distribution. The site appears to represent one occupation rather than reuse. In sedentary settlement patterns in the region, there is repeated use of landscapes, but not usually of particular small locations.

Ragsdale, Corey [103] see Edgar, Heather
Ragsdale, Corey (University of New Mexico) and Heather JH Edgar (University of New Mexico)

Cultural Effects on Phenetic Distances among Postclassic Mexican and Southwest United States Populations

The Southwest United States (US) and Mesoamerica are often thought of as disparate regional networks separated by Northern Mexico. Chaco Canyon in the Southwest US, Tlatelolco in Central Mexico, and Casas Grandes in Northern Mexico all had large inter-regional trade centers that economically connected these networks. This study investigated how factors such as geographic distance, shared migration history, trade, and political interaction affected biological relationships and population affinities among sites in Mexico and the Southwest US during the Postclassic period (A.D. 900~1520). Distances based on cultural and ecological variables derived from archaeological and ethnohistoric data were compared with phenetic distances obtained from dental morphological traits. The results of the Mantel tests show trade ($p = 0.012$), shared migration history ($p = 0.004$), and geographic distance ($p = 0.05$) to be significantly correlated with phenetic distances, while political interaction ($p = 0.133$) was not. Partial Mantel tests show trade ($p = 0.049$) and shared migration history ($p = 0.003$) remain significant when controlling for similarities with geographic distance, but geographic distance is not significant when similarities with trade ($p = 0.681$) and shared migration history ($p = 0.667$) are controlled. These results highlight the importance of economic relationships and shared migration history among contemporaneous populations across geographic regions in prehistoric Mexico and the Southwest US.

Raichlen, David [16] see Wallace, Ian

Raichlen, David, Brian Wood (Department of Anthropology, Yale University), Adam Gordon (Department of Anthropology, University at Albany), Frank Marlowe (Department of Anthropology, Cambridge University) and Herman Pontzer (Department of Anthropology, Hunter College)

Scale-Free Foraging in Human Hunter-Gatherers: Lévy Walks Are a Fundamental Feature of Human Mobility

When searching for food, many organisms adopt a super-diffusive, scale-free movement pattern, called a Lévy walk, considered optimal when foraging for heterogeneously located resources with little prior knowledge of distribution patterns. While memory of food locations and higher cognition may limit the benefits of random walk strategies, no studies to date have explored search patterns during human foraging. Here, for the first time, we show that human hunter-gatherers, the Hadza of Northern Tanzania, use Lévy walk searches much of the time. Lévy walks are used when searching for a wide variety of foods, suggesting even in the most cognitively complex forager on earth, random walk searches are an essential element of foraging strategy. Lévy walk foraging is likely a key element of human prehistory, given the adoption of a hunting and gathering lifestyle nearly 2 million years ago. Super-diffusive foraging may have allowed hominins to explore larger home ranges, and may have played a role in patterns of raw material transport and residential camp distributions in the archaeological record. In the end, a greater understanding of mobility patterns and search strategy may help us better interpret interactions between humans and their environments in both the present and the past.

Railey, Jim (SWCA - Albuquerque)

Long-Term Trends in Far Southeastern New Mexico: Zooming In and Out

Hundreds of radiocarbon dates from the BLM’s Carlsbad Field Office region, in far southeastern New Mexico, reveal long-term trends reflecting climate change and variation in hunter-gatherer mobility, subsistence economics, and settlement organization. How mobile hunter-gatherers responded to climatic downturns, such as the onset of the Medieval Dry Period, remains a key question for this on-going research. Did groups in the Mescalero Plain concentrate at surviving water sources, did they migrate to better-watered locations (such as the Pecos River and mountain foothills to the west), or did some combination of both occur? To explore this question, I zoom into the Cedar Lake Playa Depression. This presumed oasis has hosted numerous archaeological excavations, which have produced over 70 radiocarbon dates. The cumulative frequency of dates from here is, overall, similar to that for the region as a whole. Compared to the broader region, however, dates from the Cedar Lake area show an even
more precipitous frequency plunge following the onset of the Medieval Dry Period. This suggests the possibility that many people may have simply left the Mescalero Plain at this time, or perhaps the Cedar Lake Playa was not a favored oasis at this time.

Rains Clauss, Lee [97] Discussant

Rakita, Gordon F.M. [44] see Krug, Andrew

Rakita, Gordon (University of North Florida), Shaza Wester Davis (University of North Florida) and Elizabeth McCarthy (University of Missouri)

[44] **Scratching the Surface: Surface Sampling of the 76 Draw Site, Luna Country, New Mexico**
Archaeologists in the American Southwest have long used examinations of surface artifacts to assess potential subsurface deposits, relatively date sites, assess cultural affiliation, and select locations for excavation units. However, various factors including alluvial and aeolian processes and historic and contemporary land use can impact the distribution and density of surface materials. This poster reports the results of an intensive surface sampling and mapping of the 76 Draw site in southwestern New Mexico. The purpose of this sampling was to assess how useful surface artifacts are at providing indications of subsurface deposits, provide guidance for future subsurface excavations, and assess cultural connections between the Casas Grandes, Salado, Black Mountain, and El Paso Phase Jornada in the Animas region.

[144] Discussant

[44] Chair

Rakita, Nicholas [44] see Fernandez, Andrew

Ramage, Lauren

[285] **Patterns of Settlement Hierarchy in the Lurin Valley during the Late Intermediate and Late Horizon**
The purpose of this research will be to examine the patterns of settlement hierarchy present at various sites located throughout the Lurin Valley during the Late Intermediate and Late Horizon periods. My work will attempt to first establish these patterns and then also to identify potential similarities between them at sites such as Panquilma, Tijerales, and numerous other areas. Using computer-based models, I seek to analyze the spatial relationship of these sites both in relation to one another and also in relation to their location within the valley as a whole. Furthermore, I intend to examine how the positioning of these sites and, subsequently, how the relationships between them potentially influenced the intra-site characteristics present within their respective locations. In essence, my work will first discuss the ways in which physical location as well as site proximity in the valley shaped the intra-site characteristics of many of the Lurin Valley settlements. It will then examine the social dynamics present at each of these sites in relation to settlement hierarchy and compare them to surrounding areas in order to better understand the socio-political relationships between sites in the valley during this time period.

Ramirez, Susana [21] see Liot, Catherine

Ramirez, Susan (Texas Christian University)

[245] **Fish[i]stories: Seafolk of the Northern Peruvian Coast**
This paper summarizes chroniclers’ accounts and other primary source references to fisherfolk in the colonial era found in the archives of Spain and Peru. It focuses primarily on the sixteenth century, years in which coastal inhabitants suffered devastating losses from exotic, unknown diseases; confronted the arrival of foreign invaders who did not speak any of the Andean languages; witnessed the breakup of ethnic groups and the assignment of different segments to new masters with needs that were very different than those associated with Inca hegemony; resisted pressures to change gods and disavow ancestor worship; heard about and saw new cultural forms – including new definitions of morality, right
and wrong; built newly mandated homes and settlements sometimes far from their previous homesteads; and protested the loss of geographical mobility so crucial to the exploitation of the multiple available resources necessary for basic subsistence. The analysis shows that fisherfolk formed an integral and important segment of the populations of all the major curacazgos (chieftainships) on the north coast, interacting actively with their farming neighbors.

Ramirez-Urrea De Swartz, Susana (Universidad de Guadalajara)  
[339] Social Organization in the Aztatlán Tradition (850-1350 A.D.): The Sayula and Chapala Basins (Jalisco), a Case Study  
Social organization during the Aztatlán Tradition is quite unknown. Research in several areas in Western Mexico has given some insights about how Aztatlán groups were politically, economically and ideologically structured. Archaeological research in the Sayula Basin, together with comparative studies in the Chapala Basin, indicates that the Aztatlán network could be organized into political units that shared different ritual activities, burial patterns, ceramic styles, specialization, exchange, etc. Each political unit had a major site, a cabecera, where the high status people lived and perhaps controlled the regional exchange and specialization within that political unit.

Ramon Celis, Pedro  
[238] La fortaleza de Yagul, investigaciones recientes a través del estudio de su topografía  
Desde mediados del siglo pasado se han realizado estudios relacionados a la invasión de los grupos mixtecos al Valle de Oaxaca y la reacción que los habitantes zapotecos tuvieron a este efecto. Uno de los fenómenos que se pueden observar fue la construcción de puntos defensivos en el valle de Tlacolula. En este escrito analizaremos uno de estos asentamientos a la luz de nuevas investigaciones realizadas mediante técnicas arqueométricas, nos referimos a la fortaleza de Yagul, la cual ha estado en debate sobre si se trata de un área de defensa o con otro tipo de propósito.

[238] Chair

Ramsey Ford, Dawn (HDR Engineering, Inc.)  
[316] Hydropower and Cultural Resources Management: A Case Study from California’s Sierra Nevada  
The Federal Power Act (16 USC ch.12) provides the Federal Energy Regulatory Commission (FERC) the authority to license non-federal hydropower projects on navigable waterways and federal lands. Over the last decade, many utility and power agencies have been in the process of renewing their FERC licenses and as such are required to comply with federal laws and regulations, including Section 106 of the National Historic Preservation Act. HDR Engineering, Inc. has been instrumental in this process and has been tasked with the inventory, evaluation, and treatment of historic properties affected by the ongoing operations and maintenance of a number of hydropower projects. This poster explores some of the challenges for inventorying cultural resources at large hydroelectric projects through a case study of the Yuba River Development Project, located in the northern Sierra Nevada of California. Much of the landscape, particularly around the project reservoir, is extremely steep terrain with dense vegetation. This environment presented a number of difficulties in conducting intensive archaeological surveys in order to thoroughly identify cultural resources that might be affected by the project.

Randall, Lindsay (Robert S. Peabody Museum of Archaeology)  
Linda Cordell was more than a supporter of the Robert S. Peabody Museum of Archaeology in Andover, Massachusetts; she was one of the museum’s most eager hands-on partners. Linda’s passion to support student learning and her enthusiastic guidance influenced several educational programs at the Museum. Pecos Pathways, one of the Peabody’s signature educational programs, brings together students from Phillips Academy, Jemez Pueblo, and Pecos, New Mexico to learn about ancestral and contemporary native communities. This program allows students personal interactions with tribal elders and archaeological experts. Among the professional archaeologists, Linda stood out to the students as the most relevant and accessible. Students enjoyed her expertise and supportive nature, but also her
sincere desire to listen to and learn from them. Linda’s passion for teaching young adults also extended into the Phillips Academy classroom. Linda championed the integration of experts and real world experiences into the classroom to enhance student knowledge and understanding. Linda Cordell was an unparalleled mentor and educational resource for the Peabody Museum, and helped to positively shape not only students, museum educators, but the Peabody Museum as a whole.

Randall, Asa (University of Oklahoma)

[213] Migrating Mounds Unsettled by Climate Change: Insights from Archaic Period (ca. 7400-3500 B.P.) Communities of Florida

Movement defines hunter-gatherer lifeways. Ecological approaches have foregrounded the necessity of seasonal mobility between patches for successful resource acquisition. In contrast, a consideration of hunter-gatherer social landscapes highlights the centrality of movement to ongoing community identity construction and social memory work. Landscapes emerge from pathways and itineraries that connect places, times, and persons. In this relational view, movement between and experiences within places are naturalized as social and mythic histories such that moving between place is also movement in time. In this paper I consider how social landscapes are reconstituted when histories are unsettled by climate change. In particular, I focus on the culture history of Archaic period (ca. 7400-3500 B.P.) communities of the St. Johns River valley in Northeast Florida. A prominent component of Archaic landscapes was the creation and management of a network shell mounds. These places had various lives as residences, ceremonial platforms for aggregations, or burial mounds. Although physically enduring, the social and ecological conditions that sustained them varied historically. Site biographies reveal that shell mounds - as socially significant places - migrated as old mounds were displaced and new ones were incorporated into the social geography of the St. Johns.

Ranhorn, Kathryn (The George Washington University), David Braun (The George Washington University) and Alison Brooks (The George Washington University)


The Levallois reduction strategy is often considered a key component of Middle and Later Pleistocene industries. It has been linked to derived degrees of planning and forethought associated with “prepared core” techniques. However, unambiguous quantitative methods for identifying Levallois reduction in the archaeological record remain problematic. The debitage products of Levallois reduction are often employed to identify Levallois technology but these flakes may be obtained through other knapping strategies. Instead, Levallois cores are likely to preserve a better understanding of the reduction strategy, especially if refitting is possible. Boëda defined diagnostic criteria of Levallois reduction, yet identifying these criteria remains subjective. Here we develop a quantitative technique for identifying Levallois reduction guided by principles in Boëda’s definition, namely the presence of two asymmetric, hierarchical faces with opposing convexities. To test the validity of these criteria we employ photogrammetric methods to capture three-dimensional form of cores from various archaeological sites across Southwest Asia, Europe, and Africa. Core forms were captured as high-resolution 3D models. This enabled the visualization and shape quantification of portions of cores (e.g. hemispheres) that would otherwise be unattainable with conventional measurements. This research lends new perspectives on the quantitative identification of Levallois technology in the archaeological record.

Rasmussen, Amanda [304] see Jaillet-Wentling, Angela

Rasskazov, Sergei [287] see Suda, Yoshimitsu

Rathgaber, Michelle [30] see Payne, Claudine

Rauch, Rebecca (The University of Utah Press) [314] Discussant
Rauscher, Erika (Wagner College), Shevan Wilkin (University of West Florida) and Danielle Kurin (University of California Santa Barbara) [103] 

Trauma and Trepanation in Highland Peru

This paper evaluates whether increasing violence during the Andean Late Intermediate Period (LIP, ca. A.D. 1000-1400) is associated with an increase in trepanation (ancient cranial surgery). Crania (n = 113) excavated from cave burials at two LIP settlements, called Sonhuayo and Ranracancha, located in the Chanka heartland of Andahuaylas, Peru, were evaluated for evidence of trauma and concomitant trepanation. The total number of wounds and total number of trepanations were calculated for these two contemporaneous communities. Results demonstrate that over 60% of observed individuals possessed at least one cranial injury, with several displaying numerous wounds. Trepanations were present on several crania with trauma. Social factors also structured trepanations as all affected individuals in this sample had modified crania. Evidence for multiple surgical techniques including scraping and circular grooving show definite signs of healing, and signal attempts to ensure the survival of wounded patients.

Rauscher, Taylor [103] see Wilkin, Shevan

Rautman, Alison (Michigan State University) [246] Theorizing Archaeological Cultural Landscapes: Local Knowledge and Archaeological Practice

Archaeological study of cultural landscapes considers both natural and constructed places that were inhabited and also imagined by particular human communities in the past. Archaeologists of the deep past such as the European Mesolithic thus commonly engage with theory from human ecology, phenomenology, material culture studies, and other fields. Notably absent (by definition) is the significant input provided by collaboration or connection with indigenous perspectives, or by partnership with people who trace a direct historical, biological, and/or cultural connection to the past inhabitants of a region. Thus, archaeologists who can engage with a well-defined local descendent community might seem to have a much easier time in understanding the varied interactions between humans and their natural, social, and cultural setting. However, a brief review of the literature in cultural anthropology and in the philosophy of social science reminds archaeologists of some of the more ambiguous political, ethical, and theoretical issues involved in integrating local knowledge (sometimes called indigenous knowledge) into diverse research contexts. This cautionary note highlights archaeologists’ shared problems of describing, interpreting, and understanding the past, regardless the time depth involved.

Ray, Erin (University of California, Merced), Hector Neff (California State University, Long Beach) and Holley Moyes (University of California, Merced) [277] Ritual Cave Use at Las Cuevas, Belize: Preliminary Results of Geochemical Analysis

The cave at Las Cuevas located in Belize, C.A. is unique as it features an extensively modified entrance chamber. To date 64 platforms, 7 staircases, and 2 sets of terraces have been mapped and recorded. Most of the architecture has been plastered and some of the plaster is still intact. Our research aims to discover the function of the platforms in the cave entrance. We hypothesize these platforms were used for rituals that may have included burned offerings, dancing, and bloodletting. To test this we have used morphological and geochemical analyses. We have used high resolution mapping to examine minute differences in topography. Geochemical analyses were conducted in the field using portable XRF (pXRF). Additional samples were collected for laboratory analysis including Inductively Coupled Plasma Mass Spectrometry (ICP-MS) and Fourier Transform Infrared Spectrometry (FTIR). In this paper we will present our preliminary results and discuss possible ritual practices.

Ray, Jack (Missouri State University) and Neal Lopinot (Missouri State University) [280] Calf Creek on the Eastern Horizon

The eastern distribution of Calf Creek appears to terminate in the western Ozarks region. Although Calf Creek artifacts are found in this region, they are not as common as other contemporaneous point types. The presence of Calf Creek in this area is viewed as an expansion of the Calf Creek manifestation into the western portion of the Eastern Woodlands during terminal Middle Archaic times. This expansion involved an adaptation toward the exploitation of forest and stream resources. The Calf Creek expression
in the western Ozarks is discussed in terms of settlement distribution, chert resource procurement, technology, and subsistence.

Raymond, Tiffany (Mississippi State University)

[260] Exploring Freshwater Mussel Shell Ring Sites in the Mississippi Delta: Preliminary Results from 22YZ605 and 22YZ513.
In recent years, research has been focused on shell ring sites along the Atlantic and Gulf Coasts. These sites have been demonstrated to represent sedentary, hunter-gatherer populations during the Archaic (Russo 2006). Relatively unknown to the archaeological community are the numerous freshwater mussel shell rings located in the Yazoo Basin of the Lower Mississippi Valley. Dozens of these sites recently have been identified using aerial photographs (Peacock et al. 2011). These freshwater shell ring sites are mainly documented in gray literature reports, where a very limited amount of information is available. This paper will present preliminary results from excavations at two freshwater shell ring sites in Yazoo County, Mississippi. These results will include a comparison of LiDAR data and aerial images of the sites, as well as the age as determined from surface collection and excavation.

Raymond, J. Scott (University of Calgary) [281] Discussant

Raynal, Jean-Paul [299] see Wragg Sykes, Rebecca

Rayson, Gary [330] see Bianco, Briana

Rebellato, Lillian [75] see Isendahl, Christian

Redmond, Brian (Cleveland Museum of Natural History)

[48] Hilltop Enclosures and Changing Uses of Ritual-ceremonial Space in Woodland Northern Ohio
Debate over the builders and users of hilltop enclosures in northern Ohio has gone on for more than a century. Originally viewed as “Moundbuilder” fortifications, these important sites are now seen as multi-component habitations of local Woodland and Late Prehistoric-era societies. Questions concerning the relationships between ritual, domestic, and defensive activities at these sites remain. Recent study of the Heckelman site in north-central Ohio provides evidence for Early Woodland (cal. 600 to 100 B.C.) construction of two parallel ditches (and presumably embankments) to enclose a 0.60 ha section of riverine promontory. In addition, a ritual/ceremonial precinct demarcated by a 0.13 ha oval (ditch) enclosure was constructed within the larger enclosed space. Activities here focused on the erection and removal of large (ceremonial) poles and limited domestic-residential functions. The succeeding Middle Woodland, Hopewellian, occupation (cal. A.D. 235 to 435) significantly altered this ceremonial landscape and established a domestic presence marked by discrete household clusters, which were in part focused on the production of mica artifacts, cache blade/preforms, and possibly mound ceremonialism. This Ohio Hopewell-inspired occupation is currently undocumented at any other hilltop enclosure in the region and marks a distinct shift in the perception and use of ritual space.

[48] Chair

Redmond, Brian [172] see Nolan, Kevin

Reed, Paul (Archaeology Southwest)

[56] Puebloan Occupation of the Middle San Juan and the Chaco Frontier
Research completed over the last dozen years has clarified and enhanced our understanding of the area between Chaco Canyon and Mesa Verde. Ancient Pueblo people in this Middle San Juan region blended characteristics of both areas north and south but nevertheless created their own unique manifestation. Chacoan migration into and colonization of the area in the late eleventh century brought substantial change and lasting but diverse hegemony for 200 years. Despite Chacoan influence and
minor presence in the greater Mesa Verde region to the north, the northern limits of the Middle San Juan (roughly the current New Mexico-Colorado state line) arguably represent the beginnings of the northern Chacoan frontier. Manifestations of Chacoan hegemony north of this line were much weaker than those south of the line. In this paper, I explore this apparent boundary and its implications for our understanding of the dynamic Chacoan and post-Chacoan periods.

[18] Discussant

Reed, Lori (Aztec Ruins National Monument), Linda Wheelbarger (San Juan College) and David Witt (SUNY Buffalo)

Ancestral Great Houses in the Northern Borderlands: Chacoan Hegemony at Aztec North and Point Pueblo

As Chacoan hegemony expanded into the Middle San Juan region, the great house communities at Aztec North and Point Pueblo were local representations of a growing frontier. Point Pueblo and its surrounding community were established as early as the mid to late A.D. 900s and may represent one of the earliest and longest lived great houses along the San Juan River. Aztec North and its community along the terrace north of the Animas River was established during the late 1000s, but eventually was transformed by the monumental built-environment of Aztec West and East. These two great house communities developed along different trajectories representing the dynamic cultural landscape characteristic of the Middle San Juan river valleys prior to the expansion of Chacoan colonies at Salmon and Aztec West. Point Pueblo and Aztec North were engaged in regional networks and power structures, which necessarily reacted to the evolving nature of political, religious, and economic boundaries. Through an examination of site layout, architecture, and ceramics, among other material items, this paper investigates how local Middle San Juan folks negotiated the shifting centers of power as Chacoan hegemony was established.

Reeder-Myers, Leslie (Smithsonian Institution)

Climate Change and the Archaeological Record of North America’s Coasts

Twenty-first-century global warming poses a significant threat to the archaeological record of coastal regions, but the effects of sea level rise and changing weather patterns will not be evenly distributed. This study compares the vulnerability of cultural resources in three parts of North America—the mountainous coast of southern California, the sandy shores of the Texas Gulf coast, and the tidal reaches of the Chesapeake Bay estuary. All of these areas have already seen sites submerged under rising tides or lost to storm erosion, but variability in coastal geomorphology, rates of relative sea level rise, and the structure of prehistoric settlement systems produce different patterns of vulnerability. Spatial modeling using geographic information systems allows survey and testing to target the areas that are most threatened. Results suggest that the archaeological records of all three areas will be impacted by global warming, but that the Texas Gulf coast faces the greatest double threat from sea level rise and erosion. The rich cultural heritage of North America’s coasts is likely to be severely damaged, along with the record of how ancient people adapted to similar problems.

Reedy, Chelsea (Chelsea Aurelea Reedy)

Experimental Spiral Fractures Based on Butchering Analysis at the Bull Creek Site

Bull Creek is a 9,000 year old campsite in the Oklahoma panhandle affiliated with the late Paleoindian Plainview culture. Excavations uncovered bison bones with strong indication of human manipulation. Based on the argument that experimental butchering can provide evidence that the manipulation of the bison bones at the Bull Creek site was the result of human activity, an archaeological experiment was set up which focused on creating “green bone” spiral fractures seen on the Bull Creek specimens. The experiment successfully replicated the breakage patterns observed at Bull Creek suggesting that the bone modification was the result of human activities rather than trampling by animals.

Reese, Ashante (American University) and Rachel Watkins (American University)

Ancestry in Progress: The Construction of a Descendant Community for a Cadaver Skeletal Collection
This paper reflects upon past attempts to identify a living descendant community for the W. Montague Cobb skeletal collection, a cadaver skeletal collection based in Washington, D.C. The paper moves on to highlight current strategies being employed for this purpose. In doing so, it explores the construction of descendant community as a political and research strategy that enhances the skeletal biological study of ‘communities’ of people whose remains are housed in research institutions. The paper argues that the construction of a descendant community is an integral part of understanding the shared past connectedness of the people whose remains we study, as well as understanding longitudinal connections between these persons and those living in the present. This includes a critical examination of our relationship to these collections as part of a community of researchers situating the individuals therein as both agents and subjects. As such, this discussion also presents an opportunity to explore issues of accountability that are associated with how of researchers’ work linking communities together in the past and present is perceived.

Reese, Kelsey (Washington State University)

[289] Letting the Data Define the Terms: Mapping Community Size and Expanse in Mesa Verde Proper

Producing a succinct and accurate definition for a “community” has been a challenge for scholars of Southwestern archaeology. Quantitative definitions consider temporal, geographic, demographic, and social dimensions to produce a definitive region in which individuals are expected to interact on a regular, if not daily, basis. Conversely, qualitative definitions are concerned with the presence or absence of kin members within the sphere of interaction, or the use of kinship as an organizational strategy. Regardless of the approach, the researcher is hindered by the limitations of the data set—incomplete survey data, lack of excavation to support observations made during survey, etc. The dataset available in Mesa Verde National Park provides a unique opportunity to explore the periods of aggregation and disaggregation that occurred between A.D. 600–1280. The analysis is done by calculating the least cost paths among all contemporaneous habitation sites on Mesa Verde proper and determining the likely degree of aggregation and expanse of community through time. This paper offers a means of defining “community” based on empirical data, taking into account temporal fluctuations of aggregation, and addresses the difficulties of manipulating and analyzing large data sets.

[289] Chair

Reese, Kelsey [289] see Kohler, Tim

Reese-Taylor, Kathryn

[61] The Preclassic Landscape of Yaxnohcah

The Preclassic landscapes of the lowland Maya reflected their understanding of cosmic and social order. E-groups are situated at the heart of these landscapes and are among the first constructions people create upon colonizing an area. However, in many cases, they are not the only, or even the initial, complex established within early communities. At Yaxnohcah, the Brisa complex, an early E-group, lies in the center of a vast dispersed settlement comprised of voluminous platforms. Recent excavations have revealed that the Fidelia complex was initially constructed during the early Middle Preclassic, prior to the earliest E-group platform. During the later Middle Preclassic and again during the Late Preclassic, the site was enlarged and the architecture amplified and elaborated. Ramps and sacbes lead out from several platforms. One sacbe links the Alba complex, a large triadic group, to a ballcourt and establishes a strong north-south orientation to the civic precinct. Therefore, within this paper, I consider the corpus of architectural forms at Yaxnohcah. These architectural constructs, the E-group, the triadic group, the ballcourt, and sacbes are essential elements of a founding landscape and work in concert to embody the evolving cosmological and social worldview of the lowlands Maya during the Preclassic.

[123] Discussant

Reeves, Matthew (James Madison's Montpelier)

[152] Transforming Metal Detectorists into Citizen Scientists
In 2012, the Archaeology Department at James Madison's Montpelier began an experimental program with Minelab Americas to encourage metal detectorists to become more involved in the scientific process of archaeological research. Specifically, the program was designed to be a week-long experience where archaeologists and metal detectorists would work together to identify and preserve archaeological sites at the 2700-acre Montpelier property. In the process, the metal detector participants were taught the importance of site preservation through background lectures and detailed information on how the survey methods they employ during the week with their metal detectors ensure minimal disturbance of the site while identifying enough information regarding the site to ensure its preservation. Participants learned how gridded metal detector surveys were conducted and the importance of proper context and curation of recovered objects. In turn, participants provided feedback on what would enhance the experience to inspire continuing learning and interaction with archaeology in the future. The success of this program led to a new public-set of programs that are held three times per year and are open to the public. Having previous participants recommend this program to their friends and community members has been integral to the success of the programs.

Regnier, Amanda (University of Oklahoma) [240]  
Ceramic Studies and Feminism in the Southeast
Throughout my career, my research has been focused on the analysis of styles of ceramic production and decoration, and how both reflect social practices across communities in the prehistoric Southeast. While my studies are focused on an aspect of material culture generally attributed to women, I have been reluctant to identify my research as explicitly centered on the activities of and relationships between women. In this paper, I explore possible reasons why, as women have gained a greater foothold in the archaeological community, I have downplayed the extent to which my own research is focused on the activities of women in the past.

Regnier, Amanda [327] see Hammerstedt, Scott

Rehren, Thilo [211] see Maldonado, Blanca

Reichel, Clemens [329] see Gopnik, Hilary

Reid, Jefferson (University of Arizona) [32]  
Discussant

Reid, Chardé [77] see Trocolli, Ruth

Reid, Elizabeth [138]  
Ceramic Thin-Section Analysis and Early Postclassic to Middle Postclassic Discontinuity at Colha
Petrographic and Type:variety analyses of Colha ceramics are used to investigate changes in ceramic production technology and organization during the Early and Middle Postclassic. Postclassic sherds from Colha are grouped by petrofabric, surface treatment, and modes. This dissertation focuses on the petrofabric analysis of the ceramic sherds. The groupings are then compared to locally available raw materials. Changes in technological homogeneity, production specialization, and origin will be examined and related to the general economy of Postclassic Colha.

Reilly, Frank (Texas State University) [251]  
Sacred Languages of the Southeast: Writing Without Words in the Memory Theaters of Mississippian Ritualism
Despite notable efforts over the past twenty years, visual systems of communication in Pre-Columbian America remain largely unrecognized by the scholarly community. In eastern North America, certain
hide paintings from the Great Plains and the sacred scrolls of the southern Ojibwa have been interpreted as carrying specific information including ritual spaces and even music. In this presentation, I suggest that certain Mississippian objects bore symbols that when organized in patterns functioned in ways similar to other New World pictorial systems, in that they were not dependent on spoken language, and in that they served an important function in Native American ritualized theaters of memory.

Reindel, Markus [154] see Richards-Rissetto, Heather

Reindel, Markus (German Archaeological Institute, Bonn, Germany)

[154] New Discoveries from 3D-Modeling of the Paracas site of Collanco, Peru
In our research project on the Paracas culture in southern Peru we discovered hitherto unknown settlement structures in the highland regions of the Andes. The size (up to 3 km²) and complexity (densely packed settlement clusters) of these settlements constitute a serious challenge for archaeological documentation. In cooperation with the German Archaeological Institute and the ArcTron3D company, the latest methodologies and techniques of remote sensing and 3D-modelling were employed in order to achieve a satisfactory documentation of the settlement structures. In our contribution we present the ongoing work for the documentation of the settlement of Collanco. The 3D documentation of Collanco in 2013 took four days on site and produced a three-dimensional record of a 4.5 km² area—including archaeological terrace structures on about 2.5 km². The airborne image documentation (SFM - Structure from Motion) was carried out from a paraglider. Additionally, a high-resolution landscape model including the terrace structures was recorded using a long-range terrestrial 3D laser scanner (Riegl VZ-400). Photogrammetry and laser scanning were deployed in combination as well for a detailed record of a selected small settlement area with subcentimeter accuracy. All 3D models were brought together in the archaeological 3D information system aSPECT 3D.

Reiser, Marcy (University of Arizona) and Lawrence Todd (University of Texas, Austin)

[265] When Trees Won’t Talk: Authenticating Potential Modified Trees with an Unknown Past
Dendroarchaeology can be an exceptional scientific tool for chronicling past human land use. The scars left on culturally peeled trees, injury caused by ancient harvesting and bark removal activities, are often distinct and recognizable. They are symmetrical and ovate in shape, located well above the ground with a midsection at roughly breast height, and, with any luck, the indisputable presence of cut marks. But what to do when scarred trees display few or none of the tell-tale signs of human modification? Trees in the Caldwell Basin of northwestern Wyoming are a case in point. Ravaged by the 2011 Norton Point Fire, these trees no longer retain conclusive evidence of cultural modification—if, indeed, they ever did. The trees themselves are mere shadows of their former existence and even the scar morphology—when it can still be detected—has been irretrievably altered by the fire and any potential cut marks obliterated. With no archetypal cultural indicators, a broader set of criteria must be used to identify and authenticate potential culturally peeled trees including: fire history and ecology, estimations of scar morphology, spatial and temporal distribution of scars, and the archaeology of the area.

Reiser Robbins, Christine (Texas A&M University-Kingsville)

[168] Examining Nostalgia in the Old Town Square: The South Texas Urban Parks Public Archaeology Project
The South Texas Urban Parks Public Archaeology Project (STUPPA) is a multi-site, multi-year community archaeology program which examines the long histories of iconic civic spaces in South Texas. Combining archaeology and oral history on site, the project brings together university faculty, museums, local governments, students, and more than 600 community members to investigate the nostalgic narratives and contested histories of sacred 19th century public parks in Corpus Christi and Victoria, Texas. We discuss the research potential and limitations of “parkaeology,” including preserved space and long depositional histories, as well as the particular contributions the public archaeology,
mixed methodology framework can make to urban historical archaeologies of the Old Southwest.

Reitz, Elizabeth (University of Georgia), Daniel Sandweiss (University of Maine) and Dolores Piperno (Smithsonian National Museum of Natural History)

Cultural Responses to Mid-Holocene Environmental Changes along the Pacific Coast of Peru

Sito Siches (PV 7-19) is a preceramic site located at 4o 24’ S on the Pacific coast of Peru. The occupation is divided into three cultural phases: Honda (5150-4550 14C B.P.), Siches (6000-7100 14C B.P.), and Amotape (9000-9500 14C B.P.). The vertebrate assemblage is dominated by marine vertebrates; 57% of which are warm-water individuals and 37% are typical of cool-water settings. Warm-water vertebrates increase from half of the individuals in the Amotape and Siches collections to over 80% in the Honda collection, suggesting a change in marine conditions. This is accompanied by an increase in mean trophic level and a decline in diversity. At the same time, invertebrate remains from Amotape and Siches levels are warm-water, while the Honda invertebrate assemblage is mixed warm-and cool-water species. These trends likely reflect cultural responses to mid-Holocene environmental changes occurring between 6000 and 5000 B.P. Due to preservation, plant remains are more poorly represented than faunal remains. The plant assemblage includes phytoliths of Cucurbita spp. from the Early Holocene Amotape assemblage identified by Dolores Piperno. Siches and Honda deposits include Lagenaria sp. The early presence of plant domesticates at Siches may reflect, in part, the site’s location above a permanent seep.

Reitze, William [43] see Erickson, Katrina

Reitze, William (University of Arizona)

The Kinchloe Site: Agate Basin Occupation in Central New Mexico

The Kinchloe site is a Late Paleoindian (Agate Basin) site in the Estancia Basin, New Mexico. The Estancia Basin contained the eastern most pluvial lake in the Southwest, presenting a unique opportunity for Paleoindian foraging groups during the Pleistocene/Holocene transition. The Late Paleoindian occupation, however, postdates the final desiccation of the lake. Drawing comparisons between Kinchloe and Early Paleoindian occupation in the basin allows for the reassessment of models of Paleoindian mobility, landscape use, and site distributions as they shift during the Pleistocene/Holocene transition. This paper presents a reinterpretation of the Kinchloe site in the context of an ongoing full reassessment of the extant Paleoindian and Archaic surface collections from the Estancia Basin.

Remondino, Fabio [154] see Richards-Rissetto, Heather

Rendu, William (CIRHUS)

Neandertal Mobilities in Southwestern France: A Zooarchaeological Perspective.

Recent works on the late Middle Paleolithic from Southwestern France have identified the existence of diverse populations characterized by distinct cultural features, attesting that several Mousterian societies succeeded one another through time. These societies evolved under different paleoclimatic contexts, adopting original strategies to exploit their biotope. However, the majority of the zooarchaeological approaches focusing on the spatial distribution of the activities within the territory has considered the Neanderthal populations as a unique entity and few studies have really discuss the diversity of the mobility pattern developed by the Mousterian societies in Southwestern Europe. We propose here to tackle this issue through the study of two distinct groups from this region: the Quina Mousterian and the Mousterian of Acheulean Tradition. By taking into account several zooarchaeological criteria—faunal spectra, game selection, selective transport, hunting seasonality—we highlight the choices made by these populations, leading them to major modifications in the spatial organization of their subsistence activities. Indeed, we advance that have developed different hunting behaviors that might have for consequence the adoption of two distinct mobility patterns and therefore two different social organizations.
Reneau, Brittany (Florida Atlantic University) and Valentina Martinez (Florida Atlantic University) [104]  
Phosphate Analysis of Prehistoric Structures in Rio Blanco, Manabi, Ecuador

Archaeologists have identified many prehistoric structures affiliated with the Manteno culture (500 C.E. to 1532 C.E.) of coastal Ecuador, but the function of those constructions is rarely understood. A few are associated with U-shaped seats, suggesting elite or ritual use, but the majority of the buildings have not yet yielded clear evidence of their function. As part of an ongoing project to explore the function of these buildings by Florida Atlantic University, I conducted systematic soil phosphate testing in and around two archaeological structures and, for ethnoarchaeological comparison, four contemporary households. I collected the samples in a grid pattern at 2-m intervals both inside and outside the structures. I measured the concentration of soil phosphates using a modification of the Melich II method developed by Richard Terry and his colleagues. I found clear spatial patterning in phosphate concentrations in and around the archaeological structures. The concentrations were higher inside the structures, while outside they decreased with distance from the structure. Also, the patterns associated with the two archaeological structures are different, implying different functions for the constructions. Comparison with the modern households suggests one structure was a storage area for organics and the other structure was a habitation.

Renette, Steve (University of Pennsylvania)

[84]  Islands in the Mountains: Insularity and Socio-Political Developments of Societies in a Mountainous Landscape

The Zagros Mountains in western Iran consist of countless valleys in between intimidating mountain ranges. Studies of this region have focused mostly on major trade routes crossing the Zagros Mountains. Site-specific research in the Zagros Mountains usually attempts to fit each site within a supraregional framework of long distance interaction, both chronologically and culturally. As a result, current scholarship presents the communities that occupied the Zagros as peripheral to the major political and cultural developments of the ancient Near East, thereby modeling this mountainous region as a borderland passively absorbing outside influences. Drawing on robust models of intra- and inter-regional interaction developed to understand the archipelago of the Aegean world, I demonstrate that Zagros valleys can best be understood as islands delimited not by a body of water but by mountain chains which put restraints on patterns of communication. I show that a model which includes concepts of insularity and a multiscalar network approach can be a productive way to describe modes of communication and the formation of complex societies in mountainous regions.

This model can be applied to socio-cultural developments in mountainous regions generally, thereby offering a methodology to move beyond standard approaches that emphasize their peripheral nature.

Renfrew, A

[249]  Discussant

Renfrew, Colin [249] see Cann, Johnson

Renninger, Sasha [273] see Daniels, Brian

Renouf, M.A.P [325] see Miszaniec, Jason

Reunert, Toke [33] see Nielsen, Jesper

Revay, Zsolt [13] see Wagner, Ursel

Reveles, Javier [21] see Liot, Catherine
Reyes, Antonio, Bridget Zavala (Universidad Juarez del Estado de Durango) and Maria del Roble Rios Ortega (Universidad Autonoma de San Luis Potosi)
[200] Landscapes in the Making in the Sextín valley of Durango, Mexico
In this paper we present the results of recent investigations along the Sextín river valley in Durango, Mexico. Specifically we consider how the inhabitants built and resignified the spaces they inhabited, focusing on architecture and material culture. We take into account the centuries of occupation in the valley as we reevaluate models proposed by previous studies in the region and analyze the relationships between diverse actors as reflected in objects and architecture through time.

Reynolds, Richard, Barbara Roth (Department of Anthropology, UNLV), Darrell Creel (University of Texas, Austin) and Roger Anyon (Pima County)
[32] Communal Structures and Village Integration at the Harris Site
When Emil Haury excavated at the Harris site in the 1930s, he excavated three sequentially used communal structures that surround a large central plaza. During current work at Harris, we have excavated a fourth communal structure and a small portion of the plaza. In this paper we look at the role of both the communal structures and plaza in village integration. We discuss the important role that both played within the village and within this portion of the Mimbres Valley.

Reynolds, Cerisa (Aims Community College), Meredith Wismer-Lanoë (University of Iowa), Robert Brunswig (University of Northern Colorado) and Frédéric Sellet (University of Kansas)
[206] Fragmentation of Late Prehistoric Faunal Remains in Northeastern Colorado
Site 5JA421 is located in North Park, Colorado and represents a Late Prehistoric processing camp. Our analysis of faunal specimens recovered from this site revealed that the assemblage is highly fragmented, with 86.54% of the specimens measuring less than 5 cm at their maximum length. This intense fragmentation has generally been interpreted by archaeologists working in northeastern Colorado as evidence for grease and marrow processing. With minimal evidence for severe damage to the assemblage by other taphonomic forces, it is likely that much of the fragmentation of the site's faunal remains can be attributed to processing by humans. Human processing could also account for the low frequency with which specimens appear to have been directly burned, as fat, grease, and various nutrients are acquired through the boiling of fragmentary faunal remains. As subsistence data from prehistoric sites across northeastern Colorado are relatively sparse, the evidence provided by the faunal remains at 5JA421 represents an important component toward creating more complete reconstructions of Late Prehistoric site use, prey choice, and processing decisions across northeastern Colorado and beyond.

Rheaume, Ernie [18] see Tuomey, Joseph

Rhode, David [23] see Scharf, Elizabeth

Rhode, David (Desert Research Institute), Lisbeth Louderback (University of Washington), Anna Camp (University of Nevada-Reno), Jonathan Grant (University of Nevada-Reno) and Anitra Sapula (WCRM, Inc.)
[148] Re-assessing Paleoarchaic Plant Use at Bonneville Estates Rockshelter
Preliminary analyses of botanical materials from features dating older than ~10,000 years cal B.P. at Bonneville Estates Rockshelter (BER) and Danger Cave have suggested dietary use of certain plants (particularly cactus pads, and possibly some seed plants; Rhode and Louderback 2007). Now that archaeobotanical analyses of the early Holocene BER record is completed, a reassessment of those preliminary results can be made, including comparisons with possible dietary plant usage derived from other Paleoindian sites in the Great Basin and western North America.
Rhodes, Jill [140] see Leriche, Christina

Rhodes, Jill, Barbara Omay (Drew University), Christina Leriche (Drew University) and Joseph Mountjoy (Universidad de Guadalajara)

[189] The People of the Shaft and Chamber Tombs: An Examination of the Human Skeletal Remains from the Middle Formative Period El Embocadero II Shaft and Chamber Tomb

Funerary rituals and humans remains, in their death, provide evidence of life. By examining population demographics, biological markers of status and identity, and skeletal pathologies within the funerary context, it is possible to get a better understanding of past lives. This contribution examines the Middle Formative period shaft and chamber tomb site of El Embocadero II. This cemetery includes textile wrapped burials and traditional interments with variation in grave goods, providing the opportunity to examine differences in identity, status, and health. Biological markers examined include enamel hypoplastic defects, oral health, cranial modification, and skeletal pathologies. There are 25 individuals from 14 tombs. 40% are subadults with most dying between 2-12yrs. Adult age at death is variable with some living beyond 50yrs, but most dying between 35-50yrs. There are twice as many females as males. There is little biologically distinctive in those tombs or interments with the greatest number of offerings. Those interred in the wrapped burial style show more signs of physiological stress and do not appear to be higher status. The children display the most severe pathological changes while adults primarily display degenerative joint disease. Cranial modification is seen in a variety of interments.

Rice, Prudence (Southern Illinois University)

[147] Contact- and Colonial-Period Pottery in the Western Lake Petén Itza Basin

The western basin of Lake Petén Itza was continuously occupied from the Late Postclassic through the Contact and Colonial periods. Excavations at the sites of Nixtun-Ch’ich’ and Tayasal have yielded several kinds of pottery specific to these centuries. Some demonstrate long continuities with indigenous Maya types and wares and extend into modern times. Other material, for which we borrow the term “colono- ware” from the Southeastern U.S., exhibits a mixture of Maya and introduced (presumably European) characteristics. A third category of pottery is European-manufactured or -inspired, such as rare fragments of botijas (olive jars) and tin-enameded ware (majolica; loza) from primarily Guatemalan and Mexican sources. These ceramics provide insights into the changing interactions of the Itza Mayas in this isolated region.

[21] Discussant

[147] Chair

Rice, Erin (University of Illinois at Chicago)

[84] Obsidian in the Southern Levant: A Comparative Analysis Using pXRF

The importation of obsidian artifacts in the Southern Levant from Anatolian sources illustrates the importance of long-distance exchange networks during the prehistoric period. The vast distances over which this material is moving combined with its relative scarcity within archaeological assemblages in the Southern Levant allows for a unique perspective of the economic and social interactions in this region. This study provides a comparative view of the importation, distribution, and use of obsidian within and between several Pre-Pottery, Pottery, and Chalcolithic sites located in central and northern Israel. The primary method of sourcing the obsidian was conducted using portable X-Ray Fluorescence (pXRF) analysis on several hundred pieces of obsidian from six archaeological sites. In combination with pXRF, macro-analysis of obsidian artifacts was conducted to determine form, use-wear, and potential function. The two main goals of the study are to understand (1) the networks of trade and exchange both on a micro- and macro-regional scale, and (2) the production and use of obsidian objects within and between neighboring archaeological sites through time. This analysis of the distribution and use of an exotic prestige item such as obsidian allows for a more detailed assessment of social and economic interaction within the region.

Rice, Sarah

[166] Paleoindian Land Use and Mobility in the Carson Desert, Western Nevada
The Paleoarchaic record is poorly represented in the southern Lahontan Basin and this is in part because of avocational artifact collecting, incomplete survey coverage, and restricted land access. In the winter of 2011, Far Western Anthropological Research Group, Inc. located a unique upland Paleoarchaic site, 26CH3413, (The Seal Beach Overlook Site) while conducting pedestrian survey on Naval Air Station, Fallon, in Churchill County, Nevada. The site is a large lithic scatter located atop a promontory on the east side of the Dead Camel Mountains and the north end of the Desert Mountains. The surface assemblage contains numerous lithic tools and more than 1,000 pieces of debitage. Formal tools are noticeably denser in two areas of the site, indicating the surface assemblage retains a degree of spatial patterning. The site’s central sand sheet contains abundant artifacts, suggesting subsurface cultural deposits that may preserve buried features. Here I present the results of fieldwork at the site and preliminary analysis of the tools.

Rice, Jennifer [265] see Mauldin, Raymond

Richard, Andrew (University of Arizona)
[166] A Comparison of Fluted and Stemmed Projectile Point Strength Using Porcelain as a Medium

Projectile point breakage provides researchers with valuable information on hafting style, projectile point strengths and weaknesses and other valuable data. This study compares the different types of breakage between PaleoIndian fluted and stemmed projectile points to determine their strengths and weaknesses. The goal of this study is to ascertain the breakage characteristics of each style of point, the frequency of breakage, type of breakage and consistencies in the area of the break to determine which projectile point is stronger. Comparisons of fluted and stemmed traditions could shed light on transitions in projectile point morphology. To answer these questions a procedure was developed using porcelain to cast projectile points consistently, in large quantities, that mimic the characteristics of stone while increasing experimental control. Stone has inherent problems involving production time, production numbers, consistent morphology and expense when attempting to flintknapped large quantities of projectile points. In this study, fluted and stemmed points will be cast in porcelain, hafted to foreshafts, and then broken from different angles in order to quantify variation in fracture patterns.

Richard, Francois (University of Chicago)

Elite control over property, production, economic surplus, and long-distance trade is centrally featured in archaeological scenarios of political complexity. As Susan McIntosh remarks, however, such was not the case in many parts of pre-colonial West Africa, where the widespread availability of land, combined with relatively small, mobile populations, pose material headaches for would-be rulers. Here, conventional notions of dispossession, scarcity, and accumulation by themselves fall short of capturing the subtleties of political economy; rather, mechanisms rooted in a broad ethos of abundance – collective ownership, horizontal redistribution, wealth in people/knowledge, compositional forms of consumption – subtended the economic strategies of peasants and aristocrats alike. Using elements of Bataille’s ‘general economy,’ which draws on ideas of excess, dissipation, waste, and sacrifice, I examine broad trends in the relationship between labor, wealth, and social power in northern Senegal during the past millennium, and how these relationships were materialized in archaeological landscapes.

Richards, Michael [175] see Diaz, Alejandra

Richards, Patricia (University of Wisconsin-Milwaukee) and Thomas J. Zych (University of Wisconsin-Milwaukee)
[270] “All Lie Down Together and Are Soon Forgotten”: The 2013 Milwaukee County Poor Farm Cemetery Project

Excavations at the Milwaukee County Institutional Grounds (MCIG) in Wauwatosa, Wisconsin in 1991 and 1992 recovered 1649 individuals associated with Milwaukee County’s practice from the mid-1800s through 1974 of providing burial for institutional residents, unidentified or unclaimed individuals sent from
the Coroner’s Office, and community poor. In 2013, Historic Resource Management Services of the University of Wisconsin-Milwaukee recovered an additional 650 individual coffin burials from the MCIG. Burials recovered during the earlier excavations are predominantly single interments with an occasional extraneous body part representing incidental amputation or autopsy. However, the 2013 excavations include a high proportion of multiple interments composed of complete individual skeletons as well as body parts likely reflective of autopsy and medical school cadaver use. In addition, many graves contained debris consisting of general refuse and/or medical waste. This shift is likely associated with dramatic land-use changes resulting from the development of the MCIG property from a general county facility to its current use as home to the Milwaukee Regional Medical Center and the Medical College of Wisconsin. This paper presents the results of a land-use history of the MCIG site in order to contextualize differences in burial practices observed in different parts of the cemetery.

Richardson, Leesha [209] see Wilkins, Jayne

Richards-Rissetto, Heather (Middlebury College)  
[154] LiDAR Applications for Landscape Archaeology: A Case Study from Copan, Honduras

Airborne LiDAR opens up new research avenues, particularly in landscape archaeology where the rapid acquisition of high-resolution 3D data across vast landscapes and in impenetrable terrain allows archaeologists to contextualize larger (often already known) sites and perform regional analyses. This paper presents LiDAR data from Copan, Honduras flown for the MayaArch3D Project in May 2013 and the results of a ground-truthing campaign in January-March 2014. By comparing settlement maps and a Digital Terrain Model (DTM) derived from a 1980s pedestrian survey with new settlement maps and a DTM based on the LiDAR data, this project can contribute new accurate data to the existing topographic plans and terrain models, enabling the researchers to perform analyses with requirements for high accuracy like visibility and orientation studies. To assess the impact of increased mapping accuracy for archaeological research, we perform a sample visibility analysis among a sub-set of settlements. While LiDAR data expands the ways in which archaeologists study how past peoples constructed, shaped, and made use of their environment, we emphasize the value of and need for pedestrian survey as a critical component of landscape archaeology.

[154] Chair

Richards-Rissetto, Heather [154] see Von Schwerin, Jennifer

Richter, Kim (Getty Research Institute)  
[62] The Iconography of Postclassic Huastec Sculptures

The most frequent subject matter of Postclassic Huastec sculptures is the human form. Male and female figures, probably nobles, are represented in a standardized way: standing either in the standard-bearer pose or with the hands on the abdomen and wearing elaborate costumes. Those with the greatest artistic merit are masterfully elaborated with surface details, drawing attention to the bodily adornments, in particular the headdress. The analysis of Huastec sculptures reveals iconographic links to Postclassic artworks from other regions, such as other artistic traditions along the Gulf Coast and the painted codices from Central Mexico. These links confirm that the sculptures date to the Postclassic (A.D. 950–1521) period. Inscribed with a regional variant of the visual vocabulary shared throughout the Postclassic elite interregional network, Huastec sculptures legitimized local rulership by advertising external cultural ties. These remarkable sculptures provide insight to how the Huasteca fit into the cultural fabric of the Postclassic Mesoamerica world system.

Richter, Tobias [149] see Jones, Matthew

Rick, John (Stanford University)  
[27] Evidence for the Role of Plazas at Chavin de Huantar, Peru

The Formative site of Chavin de Huantar, Peru, has long been recognized for its iconic plazas, thought
to be the ritual focus of successive architectural arrangements at the site. Plaza-like areas are more
differed at Chavin than previously thought, and the evidence for their use is similarly complex. The
evidence for ritual use of these spaces is discussed, including that for the number of people involved,
the nature of the activities performed there, and change over time in plaza function.

[154] Discussant

Rick, Torben (Smithsonian Institution)

[286] Oysters, Foxes, and Everything in Between: Reasserting the Importance of Chronology
Building in Zooarchaeology

Zooarchaeologists have increasingly focused on issues of taphonomy and preservation as we have
asked more sophisticated questions about human animal relationships and changes in faunal
assemblages. An important aspect of this research is the reliability of the age estimates for a given
faunal assemblage or individual bone or shell. In this paper, I draw on recent research focused on the
translocation of mammals to the California Islands and the harvest of shellfish along the Chesapeake
Bay where chronology building has been a core component of each project. Radiocarbon dating of
bones and shells from a variety of different sites and contexts revealed evidence for stratigraphic mixing
and other disturbances not recognized during excavation or previous chronology building and helped
raise questions about the reliability of some of our interpretations. While archaeologists have long
recognized the importance of having reliable radiocarbon chronologies, the growth of historical ecology
and applied zooarchaeology place new emphasis on the need to devote greater resources to this
important issue.

Rick, Torben [316] see Hofman, Courtney

Riddle, Andrew (Archaeological Services Inc.) and Amy Fox (University at Albany, SUNY)

Wiki Technology in Service of Archaeology

Our discipline has entered the digital age and is beginning to take advantage of new resources at our
disposal. Wiki technology is one such resource that can be effectively leveraged to disseminate key
information about the discipline, facilitating collaborative learning and research. The wiki framework is
well-suited to archaeology because the discipline's subject matter - method, theory, material culture - is readily organized into interrelated 'articles.' Content is searchable via user-defined attributes such as
temporal period, geographic location, and cultural affiliation. This aspect of wiki technology uniquely facilitates an understanding of topic interconnection, and the platform has great potential as a peer-driven forum for information dissemination and discussion that is accessible to all interested parties. To
this end, the ArchaeoWiki Project has been designed to test this medium and is structured to
accommodate an ever-growing body of archaeological knowledge. ArchaeoWiki moves beyond
traditional wiki functionality in order to address the needs of the scholarly community, incorporating a
robust, queryable reference database and dynamically-generated content into its existing framework.

With this structure in mind, it is argued that wikis can be forums for sharing knowledge and, most
importantly, become destinations for engagement with others interested in the discipline of archaeology.

Rideout, Jennifer (Missouri State University)

[232] A New Method of Ceramic Economic Indexing in Historical Archaeology: A Case Study
from Springfield, Missouri

The goals of this research are to develop an empirical method of quantifying post-Civil War household
ceramic expenditure patterns based on archaeological remains, and apply this new method to a case
study from historic Springfield, Missouri, to investigate socioeconomic inequality and consumerism in
the Ozarks and broader Midwest at the turn of the twentieth century. I used historic mail order catalogs
to develop economic indices of ceramics sold between the 1880s and 1920s. These indices were
applied to historic ceramic assemblages from Springfield, to calculate the mean ceramic expenditure of
households in several racially, ethnically, and economically distinct neighborhoods. In this poster, I
present these new indices, show results of the archaeological application, and interpret the
archaeological results in light of other, archival-based, socioeconomic status indicators.
Riebe, Danielle (University of Illinois at Chicago) and Paul Duffy (University of Toronto)
[222] Baroque by Whose Hand? Detailing the Regional Production of Finewares in Middle Bronze Age Hungary
The Early to Middle Bronze Age transition (2000-1500 B.C.) in Eastern Europe is characterized by a tremendous expansion in the trade of horses, ores, and finished metals. During the same time, finewares with a great number of new ceramic stylistic elements emerged in the middle of this trade nexus. Some scholars suggest the style on the Plain was the result of specialized products moving with a new mobile class of warrior elites. Others argue the distribution of these finewares was produced by a re-orientation of trade networks, but not by a smaller number of specialized producers. This paper presents the results of a recent study that uses Laser Ablation-Inductively Coupled Plasma-Mass Spectrometry (LA-ICP-MS) to compositionally analyze ceramic and clay materials from five Bronze Age sites across the Great Hungarian Plain. By ascertaining local clay signatures for each site, the primary goal of the project is to determine if local and imported ceramics can be identified. In doing so, we discuss the current evidence that Middle Bronze Age finewares were the product of a small number of specialized workshops controlled by a new minority class.

Riegert, Dorothy (University of Texas at Austin), Colene Knaub (Toledo University), Molly Roffers (University of Wisconsin- Oshkosh ), Andre Gonciar (ArchaeoTek) and Zsolt Nyaradi (Haaz Rezso Museum )
[102] A Biocultural Analysis of Infant Burials Interred at Telekfalva
The prevalence of perinatal individuals excavated from the Reform Church in the village of Telekfalva presents a rare opportunity to explore juvenile identity and the social role of infant burial in 17th century Transylvania, Romania. The assemblage of 49 infant burials recovered from the Reform Church fosters a discussion of why perinatal individuals, who were possibly unbaptized, were buried in sacred, consecrated space. Via the biocultural model we explore spatial burial data to recreate the dynamic relationship among these infants. We explore the role of this church as a designated space for infant interments and deviant burials while utilizing life-course analysis to examine the performed solidification of memory through mortuary practice as a possible means of baptism after death. We investigate the spatial relationship of burial position, the use or disuse of coffins, the inclusion of grave goods, and age-at-death data in order to extrapolate any relevant patterns. Following this analysis, we conclude that it is necessary to contextualize bioarchaeological data within a medieval historical framework in order to best investigate the pattern of infant burials observed at Telekfalva.

Riel-Salvatore, Julien (University of Colorado Denver)
[71] The Uluzzian and the Epistemology of the Middle-Upper Paleolithic Transition
Long thought to have been manufactured by Neanderthals, the Uluzzian has recently been argued to be the earliest modern human technocomplex in Western Europe. While this recent reevaluation of its authorship has been questioned, the current revisions of what the Uluzzian might have ‘meant’ for the end of the Neanderthals opens up an interesting opportunity to examine what makes certain scenarios about the nature of transitional industries a priori more or less plausible. The question of ‘how we know what we know in the Paleolithic’ has been a recurring focus of Prof. Geoff Clark’s work, and the current supercharged state of Uluzzian research lends itself to an epistemological assessment to contextualize where our interpretations of that particular Paleolithic ‘culture’ come from, and to highlight potential tensions among them. This study presents a historical review of the Uluzzian, followed by a critical perspective on the ‘Uluzzian question’ that identifies a series of factors that may have biased to various degrees how this industry has been interpreted over the past 50 years or so.
[71] Chair

Riel-Salvatore, Julien [71] see Barton, C. Michael

William A. Ritchie began his career as a curator and archaeologist at the Rochester Museum. In 1949, he accepted a position as State Archaeologist at the New York State Museum in Albany. He held this position until his retirement in 1972. During his tenure as State Archaeologist, he furthered New York archaeology through the excavation of more than 100 sites and published more than 150 papers in journals, books, and other scholarly publications. These excavations not only contributed to our understanding of regional settlement patterns but also helped to refine the chronology of the state's earliest occupants. In addition, Ritchie also helped develop early laws for the protection of archaeological remains on state owned land, oversaw one of the earliest cultural resource management programs in the state, and worked with state agencies to advocate for the preservation of archaeological sites. His contributions continue to be visible today and his publications continue to be cited in studies of the past. This paper will highlight the many contributions made by Ritchie to the discipline between 1949 and 1970 and their impact on archaeology.

Variation and Similarities in Vertebrate Faunal Exploitation in Early Deposits from Fiji and Samoa

The prey choice model of optimal foraging theory (OFT) provides a means for measuring diet breadth and foraging efficiency, which can be used to examine variation in prey capture relating to resource exploitation/depression and/or environmental change. Using this model, we track temporal changes in vertebrate faunal collections (overwhelmingly bony fish) from early deposits in Fiji (-2700-2300 cal. B.P.) and Samoa (2550-2195 to 2260-1876 cal. B.P.). The Fijian collection from Tavua Island, Mamanuca Group, includes Lapita and post-Lapita remains, while the Samoa collection comes from an early Polynesian Plainware deposit from Tula Village, Tutuila Island. Both collections document exploitation of pristine, or near-pristine, marine and terrestrial ecosystems. Whereas geographical variation has been noted in specific fish taxa present in Fijian Lapita deposits with an increased number of taxa captured in later centuries, previous analyses of Samoan material documents temporospatial stability in marine predation. Our results, therefore, are relevant for examining local and regional variation and commonalities in human predation of vertebrate prey, and how these activities interacted with, and adjusted to, dynamically changing environments.

Seasonal Plant Community Use by Late Prehistoric Hunter-Gatherers in the Eastern Trans-Pecos Archaeological Region of Texas

The Eastern Trans-Pecos archaeological region of Texas is an area of unique prehistoric cultural assemblages and high ecological variability, yet few analytically quantitative studies investigating human-environmental relationships have been undertaken. Research described in this paper augments the quantitative literature for the region. This analysis focuses on the Late Prehistoric (A.D. 1000—1535) period of the region to determine prehistoric seasonal plant community use. Using geographic information systems (GIS), United States Department of Agriculture—Natural Resource Conservation Service (USDA- NRCS) plant community descriptions were ranked by seasonally available native plant foods based upon recorded Mescalero Apache native plant diet. These data were then compared to published paleoethnobotanical dietary information from archaeological sites in the Eastern Trans-Pecos coupled with accessed plant communities determined by reconstructed foraging radii. Results indicate that plant community use by Late Prehistoric hunter-gatherers fluctuated seasonally and that use of USDA-NRCS plant community descriptions is well suited for examining human-environmental interactions in recent prehistory.
Riley, Jenny (Indiana University) and Mathew Maus (Indiana University)

[139] An Exploration of Marks on Extinct Sloth Bones and Lithics from a Flooded Cavern in the Dominican Republic

In June 2010, a dive team from the Indiana University Office of Underwater Science recovered numerous sloth remains from Padre Nuestro, a flooded cavern in southeastern Hispaniola. Due to the deteriorating condition of the remains, the assemblage was treated with PEG 4000 for preservation purposes. Previously identified sloth remains from this cavern include the extinct species Acratocnus ye and Parocnus serus. Attempts to date the bones have been unsuccessful. Casimiroid lithics and Chican ostionoid ceramics, also found in the cavern, indicate utilization of Padre Nuestro by the first peoples of the Caribbean and the late pre-contact Taino. Faunal elements, including humeri, vertebrae, femurs, ulnas, and innominate, rib, sacrum, and scapula fragments present possible cutmarks. It is assumed that prehistoric inhabitants of the Caribbean hunted sloths into extinction; however, no direct evidence has been identified. This poster will show a comparison between macroscopic, microscopic, and SEM photographs of the markings in order to explore their origins.

Riley, Tim (USU Eastern Prehistoric Museum)

[334] Incised Stones and Unsecured Localities: Authenticating Private Collections

The Prehistoric Museum at Utah State University Eastern has a collection of sixty-three incised stones donated by private individuals in the early 1990s. These artifacts, collected during the 1960s and 1970s, supposedly came from a rockshelter located near Fish Springs National Wildlife Refuge along the southern edge of the Great Salt Lake desert. The donated collection also includes an associated projectile point, basketry fragment and several other perishable objects. This presentation will focus on the problems associated with conducting research on museum collections with limited provenience data. Many of these stones have very precise, uniform walking or "rocker" lines. Attempts to replicate these lines with a variety of traditional and modern methods will be compared. Additionally, element analysis of the broad variety of designs in the collection may shed light on the claim that this is a single, authentic assemblage. The results of the design analysis and manufacturing experiment will be compared with excavated incised stone assemblages from three sites in neighboring Tooele and Millard counties. Further examination of the associated projectile point and perishable materials may expand our incomplete understanding of this assemblage.

Rinck, Brandy [125] see Hughes, Susan

Rincon Mautner, Carlos

[83] The Struggle for the Indian Soul: Zoological and Botanical Imagery in the Conversion to Christianity of the Native Peoples of the Mixteca Alta of Oaxaca.

This paper focuses on the belief system and ideological underpinnings upon which Post-Classic native polities in the Mixteca Alta of Oaxaca were organized. Beginning in the 1530’s, the vice-regal religious authority was charged with the extirpation of native religious practices. This effort would challenge the existing worldview and social order and as new technologies were introduced and adopted, the outbreak of pandemics and the forced relocation of the population into nucleated pueblos transformed the culture and the land. The manipulation of beliefs, by selecting indigenous zoological/botanical representations as metaphors for behavior, served to further the causes of the invaders while providing cognitive consonance and stability for the local inhabitants during a time of great stress in their transition to a Christian, colonial experience.

Ringberg, Jennifer (California State University - Stanislaus)

[219] Daily Life and Highland Identity in a Gallinazo-Early Moche Phase Community in the Moche Valley, Peru

Sociopolitical change during the Early Intermediate period led to development of the Moche polity centered at the Huacas de Moche on the coast, yet settlement patterns inland indicate a strong highland presence prior to and possibly overlapping with the Moche emergence on the coast. Previous
explanations focus on trade or migration to account for the predominance of a highland-style pottery assemblage at many middle valley Gallinazo and Early Moche phase sites. I evaluate questions of cultural identity and social dynamics in three middle Moche valley households at Cerro León (C.E. 1 to 400). My study of the pottery assemblage, including vessel function, petrography and raw materials analysis, demonstrates that migration and multi-generation settlement is a plausible explanation. Highland pottery was integral to particular activities, especially feasting, spinning, and certain daily food processing and storage activities. The majority of the vessel assemblage consists of highland pottery fabrics and distinct vessel forms that lead to the conclusion that Cerro León residents were of highland origin and chose familiar products for daily and feasting activities.

Ringelstein, Austin [142] see Lerman, Melanie

Ringelstein, Austin [142]  
Galleons, Temples, and Beads: Early Euro-Native Cultural Interactions at Two Harbors (CA-SCAI-39)  
Diary accounts from Sebastian Vizcaino’s sojourn at Santa Catalina Island in 1602 presents a rare glimpse into one of the few documented ship landings on California shores during the Protohistoric Period. The narratives consist of vivid accounts of the Spaniards’ interactions with natives at the large Village of Nájquqar (Archeological Site CA-SCAI-39) known today as Two Harbors. The Spaniards mention visiting a temple and exchanging glass beads and “other trinkets” with the natives. In 1875 Paul Schumacher of the Smithsonian Institute excavated numerous Spanish artifacts from burials at Nájquqar, including glass beads, Catholic medals, Spanish bowls, and a sword, all of which are all still in excellent preservation today. Salvage excavations by UCLA in 1969 still provide new insights about the significance of Nájquqar. Current research delves into the substantial amount of Native American trade items and European artifacts to look at the nature and duration of this relationship. Many of the artifacts in these excavations may represent well documented historic ship visits to Two Harbors by the crews of such ships as the Lelia Byrd in 1805. This presentation will discuss ongoing research on these early Euro-Native cultural exchanges during a dramatic and important period of American history.

Ringenbach, Paul [119] see Snow, Susan

Ringle, William (Davidson College), George Bey (Millsaps College) and Tomas Gallareta Negron (INAH/Centro de Yucatan) [31]  
The Genesis of Social Complexity in the Puuc Hills of Northern Yucatan, Mexico  
Narratives concerning the origins of Maya civilization, whether interpreted as the appearance of the earliest agriculture communities or the initiation of monumental construction, have tended to privilege the southern lowlands. Framed in this fashion, such narratives also imply the genesis of a common ethnicity in conjunction with these material manifestations, particularly the spread of the Mamom ceramic sphere during the Middle Formative period. This paper reviews recent evidence for Middle Formative settlement in the eastern Puuc Hills recovered by the Bolonchen Regional Archaeological Project. Formerly considered nearly uninhabited during the Preclassic, the Puuc Hills must now be viewed as yet another region of the northern lowlands undergoing dramatic social transformations very early in the Middle Formative, if not earlier. The implications of this evidence for questions of identity formation are then assessed in light of ceramic and architectural affinities to other Early-Middle Formative traditions.

Discussant

Rios, Jorge (Centro INAH Oaxaca) [238]  
Las grecas dentro del marco arquitectónico de la arqueología de los valles centrales de oaxaca  
Dentro de la arquitectura de los basamentos prehispánicos en la arqueología de los Valles Centrales de Oaxaca, elementos de piedra tallada insertos en tableros con figuras o diseños cognitivos,
son especialmente valorados para los periodos más tardíos. Sin embargo, estos elementos se van mostrando con diferentes técnicas y antigüedades dentro del contexto histórico oaxaqueño. Esta trabajo consiste en presentar diferentes sitios donde se puede ver el desarrollo de técnicas y materiales que nos permiten mostrar diversas aseveraciones para el tema.

Rios Ortega, Maria del Roble [200] see Reyes, Antonio

Rissolo, Dominique (Waitt Institute), Fabio Esteban Amador (National Geographic Society), Bil Phillips (Speleotech) and Robert Schmittner (Xibalba Dive Center)

[33] Visualizing Cave Architecture along the Central Coast of Quintana Roo, Mexico

Innovative imaging and visualization techniques allow for the capture and display of features or objects within their broader spatial contexts. With respect to Maya cave architecture, high-resolution panoramic visualization can be a powerful analytical tool, enabling the evaluation of potentially meaningful relationships between natural features – be they entrances, pools of water, or speleothems – and constructed features within a cave. Given their remarkable stylistic correspondence to Postclassic temple architecture, cave shrines and altars provide compelling and unambiguous evidence for religious practice in the cave environment. Initial comparative and multiscalar analyses across terrestrial and subterranean environments – facilitated, in part, by specific visualization techniques – provide insight into the form, function, and meaning of Postclassic cave architecture in the northeastern Maya lowlands.

Rissolo, Dominique [85] see Glover, Jeffrey

Ritchison, Brandon (University of Georgia)

[263] Investigating Community Organization: Spatial Distributions over 4000 Years on Sapelo Island, GA

The Native American occupation of the Kenan Field site (9MC67) spans nearly 4000 years. Kenan Field is located on Sapelo Island along the Georgia Coast, and pottery from every major time period from the Late Archaic to the Mission period is present. Using shovel test survey, excavation, and geophysical data collected in 2013 by the University of Georgia, I offer a preliminary discussion of its implications for understanding activity areas and monumental architecture at the site. This work forms the basis of a long-term study designed to investigate the changing nature of political systems and strategies on the Georgia Coast.

Ritenhouse, Jessica (Beloit College) and Kylie Quave (Beloit College)

[231] Faunal Remains from Two Heartland Inka Sites

In the highland region of Peru, the Inka employed diverse strategies of domination over neighboring groups. At Cheqoq, in Maras, the Inka forced the Ayarmaka to abandon their land and replaced them with resettled provincial laborers. At Ak’awillay, the Inka allied with the Anta and treated them as Inkas-by-Privilege. Recent test excavations (2012) at Ak’awillay allow us to look at site subsistence practices before and after Inka rule through faunal analysis. We examined taxonomic frequencies as well as meat yield and herd management patterns. We compare and contrast Ak’awillay and Cheqoq to see subsistence patterns and possible ritual use of fauna at two heartland sites. Both the Cheqoq and Ak’awillay sites show diets that were primarily made up of camelids and guinea pigs, with less frequent occurrences of wild and exotic fauna. This comparison was done in order to determine the differences between the domestic economies of households serving the nobility as retainer laborers (Cheqoq) and a group who had more freedom within the heartland (Ak’awillay) as allies of the state. Cheqoq shows differences in diet between households, while our data from Ak’awillay are not yet as clearly distinguishable.

Rivera, Angel (INAH)

Este estudio presenta diversos monumentos registrados en el reconocimiento de superficie del sitio Cerro Tortuga, ubicado en la región chatina del estado de Oaxaca. El análisis compara la tradición de escritura existente en la región durante el periodo Clásico (400 a 800 d.C.) entre las diferentes estelas, piedras grabadas y esculturas del sitio, además de una comparación con los registros epigráficos conocidos en otras comunidades prehispánicas cercanas.

Rivera, Mario (Universidad De Magallanes, Chile), Juan Carlos Tonko and Oscar Acuna [57]  
Chile and the XIX Century European Human Zoos

During XIX century members of different ethnic groups from Southern Chile were taken to Europe in order to be exhibited in “human zoos”. They could not be considered as kidnappers because the Chilean government consented to the operation. Several cases are presented, among them, that of Calafate, a young Selknam boy that was taken in 1889 (along with a group of nine other people) and only survivor who returned to his homeland, and the repatriation of remains of five Kawesqar people from Switzerland who were part of a group of eleven members that were taken from Patagonia in 1881 by Carl Hagenbeck. The presentation will introduce one of the last descendants of the Kawesqar ethnic group who speaks the language and who witnesses the tragedy of the Fueguian people.

Rivera-Collazo, Isabel (University of Puerto Rico, Rio Piedras) and Amos Winter (University of Puerto Rico, Mayaguez) [17]  
Human Adaptation Strategies of Abrupt Climate Change ca. 3.8 kya

Then Archaic period in the Caribbean (ca. Sky -1.5ky BP) presents an intriguing case study for the understanding of the socioenvironmental dynamics surrounding initial human occupations of tropical islands. The climate record of the end of the Mid-Holocene and the beginning of the Late Holocene in the Caribbean shows high variability and intense hurricane activity. So far, the archaeological record of the period suggests social continuity throughout the period. However, much of the information is coarse grained and large scale. Little research has been conducted on the local effect of climate variability or on the adaptation strategies or social responses to change at smaller scales. This study explores how people responded to climate change at the microscale and what adaptation strategies were implemented, if any. To these ends, we articulate high resolution speleothem data of abrupt climatic variability within the hydrological basin of the site of Angostura, one of the earliest archaeological sites in Puerto Rico, with archaeomolacological and geoarchaeological data from the site and its surrounding landscape. The study emphasizes the importance of considering scale when evaluating environmental data, and the possible existence of multiple coeval social adaptation strategies within individual occupation periods.

Rizzo, Florencia [90] see Scheinsohn, Vivian

Robb, John (Cambridge University) [126]  
Retheorizing Inequality and the Body

We cannot write a history of the body without considering inequality or a history of inequality without considering the body. Archaeologists usually argue that political inequality is visited upon the body through differential health, nutrition, stress or violence. This reproduces a theoretical divide between a “biological” body and a “social” body by treating the body as a blank canvas for society to write upon. This paper draws upon feminist theory, concepts of the body as social capital and examples from later European prehistory to show how the different bodies produced by inequality become social agents generating social relations and history.

Robbins Schug, Gwen (Appalachian State University) [67]  
A Hierarchy of Values: Order, Complexity, and Agency at Harappa

In the third millennium B.C., the Indus Civilization flourished in northwest India and Pakistan. Part of the Persian Gulf interaction sphere, Indus cities exerted cultural and economic influence over 1,000,000 square kilometers of territory. Shifts in these economic relationships occurred at the end of the second
millennium with increasing aridity, a weakened monsoon system, and increasingly high levels of hydro-climatic stress in the Indus River system (1900-1700 B.C.). I examined the biological consequences of climate change and socio-economic disruption, and a weakened state in the post-urban period at Harappa, one of the largest urban centers of the Indus Civilization. Bioarchaeological evidence demonstrates the prevalence of violent injury, infection, and infectious diseases increased through time. Furthermore, mortuary analysis supports the inference that the risk for infection and disease was uneven among burial communities. Socially and economically marginalized communities were most vulnerable in the context of climate uncertainty at Harappa. Our data suggest a growing pathology of power in the post-urban period of this increasingly incoherent state. Observations of the intersection between climate change, social processes, and pathology in this proto-historic city is interpreted in the larger context of vulnerability, insecurity, and state power in the face of climate change.

Roberson, Joanna (Far Western Anthropological Research Group) and Ryan Byerly (Far Western Anthropological Research Group)

Prehistoric Felsite Procurement and Use in the Twentynine Palms Region: Perspectives from Recent Site Evaluations at the Marine Corps Air Ground Combat Center and in Upper Johnson Valley, California

Early-Middle Holocene hunter-gatherers throughout the Great Basin and Mojave Desert preferred durable fine-grained volcanic (FGV) raw materials to manufacture a variety of tools. Archaeological investigations conducted over the last 15 years in the southwestern quadrant of the Marine Corps Air Ground Combat Center (MCAGCC) and adjacent portions of Upper Johnson Valley near Twentynine Palms, California, indicate that plutonic felsite quarried from local sources in the Hartwell Hills was also preferentially utilized by Early-Middle Holocene hunter-gatherers. This poster presents a summary of currently available data regarding felsite procurement and use at MCAGCC and in Upper Johnson Valley, highlighting recent test excavations of quarry sites conducted by Far Western, and provides an assessment of these data within the broader context of early FGV procurement and use throughout the Great Basin.

Roberts, Charlotte [67] see Caine, Alyson

Roberts, Heidi (HRA Inc., Conservation Archaeology)

Recording Pull-Tabs and Barbie Dolls: Have Our CRM Methods Become Artifacts?

Thirty-five years ago when I began my career in contract archaeology the artifacts I recorded seemed old, or at least they looked like something I might see in my grandmother’s attic. Today, I am required to save GPS coordinates for all pull-tabs from beverage cans and Barbie doll parts, and in some states one of each, if located less than 30 m apart, is an archaeological site worthy of documentation. Can these data shed new light on the past and provide information important to history? Was this the intent of CRM laws and regulations? In this paper I examine the development of CRM in the Western U.S. from the perspective of an aging “New” archaeologist who in the 1980s enthusiastically helped create the system, and has been forced to use it—virtually unchanged—ever since.

Discussant

Roberts, Theodore (PaleoWest)

Changes in Consultant Archaeology

Archaeological compliance has changed dramatically in recent years. Archaeologists adapting to these changes require training unavailable in most graduate programs. Advanced knowledge of GIS and other digital data proficiencies is now required to operate in this professional environment. Northern Arizona University (NAU) is well known for its terminal Master’s program aimed at preparing students for the rigors of careers in cultural resource management (CRM). This paper discusses the changing face of compliance archaeology and the ways that the graduate program at NAU prepares (or does not prepare) students to become successful CRM professionals.

Robertshaw, Peter (CSU San Bernardino)
African Perspectives on Pathways to Social Complexity: Ritual Authority, Public Healing and Knowledge Networks

Colonial ethnography in Africa played a key role in the establishment of political anthropology, but subsequent global archaeological emphasis on the study of pristine states relegated African archaeology to the periphery of debates on the development of social complexity. McIntosh’s edited volume, Beyond Chiefdoms (1999), revived global interest in Africa, while Blanton’s Collective Action Theory has also provided a new framework for thinking about complexity in Africa. Lately African archaeologists have embraced ethnographic, ethnohistorical, and historical linguistic evidence to construct more anthropologically informed interpretations of the development of complexity. One result of this has been the recognition of the centrality of creative (ritual) power in African political systems. The challenge has been to identify this type of power in the archaeological record. I briefly present three case studies from different parts of Africa where archaeologists have been able to recognize the role of ritual power, but I focus mostly on Uganda where exploration of ideas of networks of public healing and knowledge reveal the complexity of social complexity. In particular such networks could at various times be used to either develop or inhibit attempts at establishing hierarchical political systems.

Robertson, Ian (Stanford University), Oralia Cabrera Cortés (Arizona State University), Rubén Cabrera Castro (Zona Arqueológica de Teotihuacan-INAH, Mexico), Marisol Correa Ascencio (School of Chemistry, University of Bristol) and Richard Evershed (School of Chemistry, University of Bristol)

Ceramic Evidence for Urban Subsistence Practices at Teotihuacan

As in most other pre-industrial cities, urban life at Teotihuacan was deeply entangled with ceramic technology, perhaps nowhere more strikingly than in the realm of food-ways. In this paper, we consider information from two different sources—ceramic residues and intra-site distributional patterns of potsherds—in an attempt to shed new light on the city’s subsistence economy. We consider various forms of domestic pottery thought to be important in food storage and cooking practices, including distinct types of San Martín Orange, a ware manufactured in a large potters’ barrio on the southern edge of the city. Absorbed organic residue analyses aimed at identifying animal and plant remains in sherds derived from recent excavations in a range of contexts are used to evaluate both functional and social differences associated with these types. Spatial autocorrelation measures distilled from the surface collections of the Teotihuacan Mapping Project address similar kinds of differences at broader spatial scales.

Robertson, Elizabeth [117] see Gilliland, Krista

Robertson, Robin (University of Texas, San Antonio)

Cerro Maya Ceramics Revisited

The Late Preclassic ceramics from Cerro Maya in northern Belize were initially analyzed as dissertation research in 1978-80. Thirty years later, the increase in the amount and quality of the comparative material from sites throughout Belize, Guatemala and Mexico necessitated a revision of the typology and the sequence. In this work the unusually high frequency of primary deposition events has shaped the chronology, but, more importantly, made possible a focus on the role of function and context in the classification of the ceramic material. That focus has been enhanced by the digitization of the records and catalogs from the site undertaken by Debra Walker. Her work has enabled the integration of various data bases with the ceramics, all of which were excavated in an environment without electricity and recorded and analyzed with paper and pencil. The resulting model has implications for our understanding and documentation of the Late Preclassic Maya ceramic system of production, use and disposal of pottery, illuminating the private and public domestic and civic activities that were essential to the economic, political and sacred world order as the Maya elite consolidated their authority and status.

Robin, Guillaume (University of Cambridge)

How Recording Techniques Impact Our Knowledge of Neolithic Tomb Art: The Example of Sardinian Rock-Cut Tombs
The aim of this paper is to show how new recordings using diverse photographic techniques can significantly change our empirical knowledge of Sardinian decorated tombs. As for many rock art sites around the world, such standard modern techniques, never used before on the island, allow to revaluate already known motifs and to discover unknown motifs that are not visible with the naked eyes. Two case studies from recent fieldwork will be presented to illustrate this. The rock-cut tomb of Pubusattile 4 in Villanova Monteleone, where DStretch processing of photographs has shown new details of a painted panels and helped producing a much more accurate recording than the one published in the early 1990s. The second example is Tomba Maggiore in the S’Adde ‘e Asile necropolis in Ossi, where a recent photographic survey of the art using the VeDPOL technique has resulted in the discovery of 8 carved bull- head motifs that were unsuspected before despite frequent visits on the site. A generalization of such photographic surveys and recordings has a big potential in Sardinia where about 250 decorated tombs are known, including 65 that have never been visually recorded.

Robinson, David R. [36] see Wienhold, Michelle

Robinson, Kenneth and Stephen Whittington (Wake Forest University)
[152] The Road Goes Ever On and On: Public Archaeology at Teozacoalco
Co-creation in public archaeology can be challenging outside of the United States, particularly when a project provides the first opportunity people have to meet an archaeologist, or even to hear of archaeology. The staff of the Teozacoalco Archaeological Project has been working since 2002 with citizens and authorities of San Pedro Teozacoalco and other small communities to undertake the first archaeological research in a remote part of the Mixteca Alta in Oaxaca. The project is attempting to collect data and respond to the desires of rural communities while negotiating regulations and politics at local, national, and international levels.

Robinson, Erick (Ghent University) and Philippe Crombé (Ghent University)
[246] Exchange Networks and Early Holocene Ecological Change in the Southern North Sea Basin
This presentation honors Mike Jochim’s contribution to our understanding of the relationships between diachronic changes in ecology, land use, and exchange in the European Mesolithic. It focuses specifically on the long distance exchange of quartz arenites between the Paris and North Sea basins throughout the Mesolithic. During the Early Mesolithic period two distinct quartz arenite types were procured from the same outcrop region in central Belgium and distributed to different geographical regions where they were differentially utilized within different technological systems. The Middle Mesolithic witnessed the consolidation of these different industries, the disappearance of one variety from the archaeological record, and the increase in the distribution of the other variety to 80,000 km². These changes occurred between two abrupt climate change events and the final inundation phases of the southernmost North Sea basin. This presentation proposes the hypothesis that these changes facilitated the development of a social network that enabled hunter-gatherers to cope with a period of considerable inter-regional environmental variability and uncertainty.

Robinson, David (Texas Archeological Research Lab, UT-Austin)
Petrographic data from East Texas ceramics and from surrounding regions has been produced on a project basis controlled by the needs of cultural resource management, since the early 1970s. Syntheses of the data employed few quantitative comparisons, but remained on a summary discussion, or previous work review, basis. Comparative syntheses of greater validity have slowly emerged, since 2000. Research goals have been directed to cultural issues of locality of manufacture, cultural interaction, postmanufacture function, and trade in raw materials and finished ceramics. Greater attention to sedimentology and petrology of the East Texas geological zone can give more precision to research findings in these study areas, particularly with regard to particle sorting and detrital minerals. New research findings support this position. Additional combined research in tandem with Instrumental Neutron Activation Analysis (INAA) provides a valuable research direction for the future.
Robinson, Mark (Louisiana State University)

[277] Building Identity at Las Cuevas: Architectural Excavations in Plaza B
The site of Las Cuevas located in the Chiquibul reserve centers around a large cave system with a small to medium sized site core positioned directly above the cave. The architectural layout is closely linked to the natural landscape, incorporating elements that reveal the function and identity of the site, including a ballcourt as well as two plazas, surrounded by temples, range structures, and low linear platforms. In this paper excavations in Plaza B, at the ballcourt and a series of linear structures that ring the lip of the sinkhole, are discussed in terms of form, function, landscape and identity.

Robles García, Nelly (Instituto Nacional de Antropología e Historia)

El conjunto monumental de Atzompa ha revelado diversas expresiones de la poderosa élite del estado zapoteco en su momento de mayor esplendor. Entre sus componentes se encuentra la arquitectura de sus palacios, tumbas, juegos de pelota, plazas ceremoniales, terrazas y conjuntos residenciales. Este trabajo aborda una aproximación a interpretar la interrelación entre los componentes arquitectónicos monumentales de la ciudad, abordando sus particularidades, para contribuir a dilucidar cómo funcionó este sector de Monte Albán en la Época IIIB-IV

[83] Discussant


Rocek, Thomas (University of Delaware)

[321] Hardware with no Software: The Rapid Late Adoption of Ceramics in the Highland Jornada Mogollon of Southeastern New Mexico.
This paper considers from a comparative perspective the spread of ceramics and the widespread but highly variable pattern of a two stage adoption of pottery: an initial sparse “software horizon” followed by a transition to intensified production of more durable pottery. It first illustrates this multi-step pattern not just as an issue in the initial invention of pottery technology but as relevant particularly to later cases of the adoption of ceramic production. Second, it summarizes a set of examples from the U.S. Southwest and adjoining areas to demonstrate variation in the software horizon pattern as well as highlight some of the implications of that variation for archaeological detection of ceramic use. Finally, it suggests that the multivariate nature of pottery technology and the low visibility of the software horizon has implications regarding variation in early Southwestern farming adaptations, and applies this observation to argue for a shift in settlement patterns—but not necessarily agricultural investment—associated with the mid sixth century A.D. appearance of pottery at Jornada Mogollon settlements in the highlands of the Southeastern/Central New Mexico.

Roche, Hélène [255] see Lewis, Jason

Rochette, Erick (Indiana University of Pennsylvania)

[31] “Of Very Great Value, and Held in the Greatest Esteem”: Norman Hammond’s Contributions to Preclassic Jade Research
Throughout his career investigating the origins and organization of Maya civilization, Norman Hammond continually revisited the changing role of jade in ancient Maya societies. Hammond’s research at Cuello, Nohmul, and in northern Belize contributed greatly to our understanding of the role of jade as a symbolic representation of Preclassic Maya cosmological beliefs and social distinction, as well as the evolving systems of ancient Maya political, economic, and social structure. Just as importantly, his role in early efforts to characterize mineralogical signatures of jade from the Motagua Valley source region proved foundational to our current understanding of ancient Maya economic systems. The present paper examines our current understanding of the role of jade in Preclassic Maya society and the ways in which
new archaeological, geochemical and other data have grown from the foundational contributions made by Norman Hammond.

Rockman, Marcy [87] see Yu, Pei-Lin

Rockwell, Heather (University of Wyoming) [133]  A Functional Perspective on the Organization of Mobile Toolkits during the Paleoindian Period Considerable attention has been paid to the organization of the mobile toolkit. Tool kit design, diversity, raw material choice, and the role of curation have all been major areas of discussion. What is often left out of this discussion, or inferred strictly from morphology, is the actual use of tools within a technology. This paper will explore the relationship between mobility and technology using a sample of artifacts from thirteen Paleoindian sites in New England and the Canadian Maritimes. The artifacts were examined using microwear analysis to assess their use. Particular attention is paid to the role of expedient technology within the toolkit, an area that has often been ignored in other technology discussions. This study sheds light on the relationship between technological use and mobility, especially the role of expedient technologies within the mobile toolkit.

Rockwell, Rae Ann (Missouri State University) and Billie Follensbee (Missouri State University) [192]  Fishing-Related Imagery and Ritual among the Gulf Coast Olmec Considerable research has been conducted on the practical and ritual importance of maize among Gulf Coast Olmec cultures, but much less attention has been paid to the importance of aquatic resources. Organic Formative Period artifacts are usually poorly preserved, but fragmentary stingray spines and jade effigies of shellfish have been found at La Venta; Gulf Coast Olmec sculptures depicting nets and fish-like creatures also provide evidence for analysis. Further evidence is found in enigmatic artifacts from Olmec sites and caches; while numerous interpretations have been suggested for these objects, systematic examination and replication studies reveal that these most likely functioned as luxury versions of everyday tools, such as net weights. Together, analysis of these data indicates that aquatic resources held considerable practical and ritual importance for these Formative period cultures.

Roddick, Andrew (McMaster University) [243]  “Legitimate Practice”: Time, Space, and Power within Communities of Practice In this introductory paper I explore the relationship between spatial scales, power and the situated learning scholarship. I begin with a summary of Jean Lave and Etienne Wenger’s (1991) work “Situated Learning: Legitimate Peripheral Participation” and its impact on archaeological research. Like others, I have found the situated learning literature as an ideal way to consider not just artifact patterning, but also the reproduction of culture, the emergence of shared skillful bodily practices and networks of relational communities. Yet archaeologists considering learning and material patterning must do so with an awareness of larger spatial scales (what Wenger has called “constellations of practice”), and the potential power differentials inherent in learning communities. Lave and Wenger remind us that power relations both enable and constrain the process of “peripheral participation,” and the movement into a particular community of practice may also include the “truncation” of particular possibilities. I explore these issues in my ongoing archaeological work on Formative Period settlements in the Lake Titicaca Basin, and ethnographic work in a specialized potting community in this same region of highland Bolivia. I use these case studies to specifically consider how “non-elite” actors produce political landscapes within contexts of everyday learning.

[243]  Chair

Rodgers, Jackie (University of West Florida) [232]  Crossing the Line: Reanalyzing Archaeological Investigations of Pensacola’s Red Light District At the turn of the 20th century Pensacola, Florida boasted of three things: a deep harbor, booming industry, and one of the most infamous red light districts on the Gulf Coast. One block within the district was excavated in 1975 and 2000 to document its earlier colonial deposits. Items in these
collections dating from the late 19th and early 20th century will be reanalyzed to demonstrate how residents of the district interacted with their community and went about their daily lives.

Rodning, Christopher (Tulane University), David Moore (Warren Wilson College) and Robin Beck (University of Michigan)

Material Culture on the Northern Frontier of La Florida

Between 1566 and 1568, expeditions led by Juan Pardo established six forts and related settlements in the Carolinas and eastern Tennessee, as part of an effort to establish permanent settlements along an overland route connecting the Spanish colonial province of La Florida with New Spain and the silver mines near Zacatecas, Mexico. Pardo's principal outpost was composed of Fort San Juan and the associated town of Cuenca, both built at the Native American town of Joara, at the northern edge of La Florida. The remnants of Joara, Cuenca, and Fort San Juan are located at the Berry site, in the upper Catawba River Valley of western North Carolina. This paper discusses the assemblage of sixteenth-century Spanish goods found at the Berry site; and it compares those finds with artifacts found at Santa Elena, the origin point of the Pardo expeditions in coastal South Carolina, and itemized lists of provisions issued to the Pardo expeditions and the forts they built. Sixteenth-century Spanish goods from the Berry site demonstrate innovation, improvisation, and impoverishment, and they contribute to our knowledge of life on the frontier of La Florida at the end of the period of Spanish entradas in the Southeast.

Rodrigues, Antonia [160] see Moss, Madonna

Rodriguez, Daniel (Texas State University-San Marcos)

Ongoing Investigations at Two Dry Rockshelters in Eagle Nest Canyon

Investigations of two adjacent rockshelters in the Lower Pecos Canyonlands, Skiles Shelter (41VV165) and Kelley Cave (41VV164), seek to evaluate and tap their research potential. Both shelters have Pecos River style rock art and additional indications of contemporaneous use. The talus slopes of both shelters are strewn with fire-cracked rocks, obvious evidence that they served as earth oven facilities for baking desert succulents. Small-scale excavations in Skiles Shelter revealed disturbed upper cultural deposits resting atop a thick flood-deposited alluvium from the nearby Rio Grande. Beneath this were relatively homogenous midden deposits containing large amounts of charred fuel wood and food plants. Small-scale excavations at Kelley Cave encountered intact layers of ash and earth oven refuse. Numerous artifacts were recovered including Late Prehistoric to Middle Archaic points, scrapers, and flakes with traces of red pigment. Investigations also uncovered a modified surface, consisting of burned and cut leaves and other fibers covered by a smooth layer of fine-grain sediment. The numerous bedrock grinding features in Skiles Shelter and the extensive fiber materials found in Kelley Cave may reflect differential shelter use by hunter-gatherer populations. Radiocarbon dating and analysis of the materials recovered from both shelters is in progress.

Rodríguez, Bernardo [63] see Sugiyama, Nawa

Rodríguez Ramos, Reniel [269] see Pestle, William

Rodríguez Zariñán, Nora [200] see Torvinen, Andrea

Rodríguez Zariñán, Nora (Universidad Nacional Autónoma de México)

Archaeology and Ethnology, Different Paths toward the Same End: Approaching the Huichol deity Águila Joven through Material Culture

In archaeology we rarely have the opportunity to verify the truthfulness of our interpretations, especially when they involve the cosmovision of extinct populations. Yet we know that the study of material culture is not limited to these populations: it applies to societies of any time and place. Making use of this idea,
this study contrasts ethnographic and archaeological data, in this case concerning the interpretation of a Huichol deity known as Aguila Joven identified in the context of Chalchihuites, Zacatecas (A.D. 650-800). The objective of this comparison is to verify the accuracy of archaeological interpretations regarding the cosmovision of Prehispanic societies. First I discuss the material culture with the image of Aguila Joven and the interpretation that archaeology could gather from it. I then compare it with data from Huichol ethnography performed by others and by me. In this respect, it is remarkable that both methods offer similar conclusions. This is important because it is seen as an example that validates archaeological interpretation even when oral or written sources are lacking. In summary, both archaeology and ethnography show that Aguila Joven is not limited to the celestial realm as traditionally described; rather, it is closely linked to the earth and to maize.

[200] Chair

Rodríguez-Alegría, Enrique [291] see Mata-Miguez, Jaime

Roepe, Kelsey (East Carolina University) and Megan Perry (East Carolina University)

[13] A Bayesian Approach to Investigating Age-at-Death of Subadult Archaeological Samples
Mortality profiles of children from archaeological contexts provide a sensitive indicator of overall population success. Estimating the age that subadults perished is the first step in this assessment, with dental formation remaining the most accurate aging indicator for children due to minimal environmental impact. Even the most accurate method, however, is affected by "mimicry bias", where the age profile of the target (ancient) population "mimics" the age profile of the reference population used to develop the age estimation method. Bayesian statistics and transition analysis can control for this bias in archaeological samples through calculating the average age that transition from one phase of development to another occurs, and then estimating the probability that someone of a certain age has a given phase of development based on a sample of individuals of known age. Here, robust age ranges related to the dental formation phases of Moorrees et al. (1963) were generated using a sample of 1377 children of known age (Orthodontics Case File System, Maxwell Museum of Anthropology). These ranges can be used by bioarchaeologists and forensic anthropologists wishing to control for "mimicry bias" in their mortality profiles that rely on age estimation via dental formation.

Roffers, Molly [102] see Riegert, Dorothy

Rogers, Jerry

[151] Honor Roll to Planning Process
Federal preservation of significant places originally focused on places of outstanding national significance. After WWII, federally sponsored development projects threatening the historical, architectural, and archaeological heritage of the United States led to the National Historic Preservation Act of 1966 and a network of State Historic Preservation Officers. Practical problems implementing the Act led to Executive Order 11593, requiring federal agencies to identify and plan for properties affected by their undertakings that met National Register criteria. This necessitated appointment of preservation officers and development of professional capabilities in federal agencies that had not previously needed them. Eventually the network of preservation officers grew to include tribes and local governments. Increased contracting for archaeological surveys, data recovery, and ethnographic studies, together with tax incentives to rehabilitate historic buildings significantly broadened private sector participation in the partnership. Statutory requirements for the National Park Service and the Advisory Council on Historic Preservation to "provide leadership" to this large and complex mix led to participatory approaches within general planning systems. The dual nature of the program as honor roll and planning system was inherent in the 1966 Act and it likely to continue indefinitely.

Rogers, Alexander (Maturango Museum) and Christopher Stevenson (Virginia Commonwealth University)

[287] Obsidian Hydration as “Diffusion-Relaxation”: A Polymer Model for the Hydration Process
A generally accepted physical model of obsidian hydration is currently lacking. We propose a model based on capillary action, describe the physical basis of the model, and show its applicability to obsidian hydration. We demonstrate that the model reproduces the observed time-dependence for water uptake in obsidian quite well. The model also provides a first-order fit to the sigmoid form of the concentration curve, but fine structure is not correctly represented, indicating a need for refinement. These initial data show that “diffusion-relaxation” models of obsidian hydration hold promise, and hydration models based on polymer science are worth pursuing further.

Rogoff, David (University of Pennsylvania)

Using Meta-Data as a Basis for Analyzing Communities Archaeologically

Archaeological investigations of social groups are common, but they have often lacked the strength of analogical thread needed to successfully connect past communities to material culture in the archaeological record. This paper aims to do just that. First, I systematically analyze meta-data about variables of archaeological interest to establish patterns of how archaeologists have previously related material culture to group identity and social differentiation. Then, I develop a frame of reference for a GIS-based analysis of the Classic-period civic-ceremonial site of El Coyote, Honduras, and future work on similar topics.

Rojas Vega, Carol [245] see VanValkenburgh, Parker

Roksandic, Ivan (University of Winnipeg)

Pre-Columbian Toponymy in the Greater Antilles

Toponyms—or place names—are very important for examining past events as they provide us with a wealth of useful information. They often remain in place, as a type of fossil, centuries after the language they belonged to died and its speakers disappeared, indicating the actual presence, at some point in the past, of a specific linguistic / ethnic group. Even in cases when it is impossible to successfully interpret the meaning of a toponym, its structure—phonological and morphological—can give us clues as to its linguistic affiliation. Given that the pre-columbian circum-Caribbean formed an intricate and multi-directional network of trade and cultural influences whose complexity is not at this point completely understood, a methodical investigation of the toponyms in the region can help us make the distinction between cultural influences or trade, on one hand, and actual population movements, on the other, and thus elucidate some of the problems of successive migrations into the Greater Antilles. This study proposes a systematic presentation and analysis of the possible linguistic parallels between Caribbean toponyms and indigenous language families spoken in the contiguous continental regions, as well as their evaluation as possible sources of the incoming migrants.

Roman Ramos, Israel

The Beginning of a Long Journey: Archaeology and Cultural Heritage Promotion along the Southeast Coast of Guerrero, Mexico

In this paper, I present the results of the Coasts of Guerrero Archaeological Atlas Project (2009-2011 seasons). I focus on an unexplored region along the Pacific coast of southern Mexico: the southeast coast of Guerrero extending from the Acapulco Bay to the Oaxaca boundary. The main objective of this project is to gain perspective on the archaeological remains in this region. Issues of cultural heritage conservation are essential for the local people as well as for the development of the project. Notwithstanding limited time and resources, I expose a set of problems and solutions concerning the initial systematizing of information from governmental databases, and decision-making in selecting potential sites or areas. Then, we use systematic explorations as an efficient means of site recording at a regional scale to generate repositories of significant information, not only for this research itself, but also for further cultural management work. Systematic explorations encompass a wide range of archaeological evidence from different periods and of different natures (Pre-Columbian sites with monumental architecture and rock art, for example). Work also included recording historical monuments, private collections of artifacts, and old manuscripts from a parish archive.

[8] Chair
Roman-Lacayo, Manuel (UAM-CUSE)  
The pursuit of a better understanding of the development of social complexity, with a focus on the  
Pacific Nicaragua chiefdoms documented in contact-period chronicles leads to less than spectacular  
monumental and ornamental remains. Data from the Masaya region indicates that there are clear  
differences among neighboring communities in terms of regional settlement patterns, development  
trajectories and artifact distributions from early on in the local sequence. It will be argued that chiefdom-  
level societies are possible even in the absence of monumental architecture and abundant fancy  
goods, though further exploration of how such chiefdoms functioned is warranted.

Roman-Ramirez, Edwin (The University of Texas at Austin)  
The majority of researchers who consider the process of abandonment at Maya sites concentrate on  
catastrophic events, such as natural disasters or warfare. However, Maya studies often overlook the slow  
and planned abandonment of ancient cities. This paper explores the Early Classic compound called El  
Diablo, located at the site of El Zotz. After being inhabited for almost two hundred years, El Diablo, the  
seat of the royal lineage, was abandoned and intentionally buried. This paper will propose three ways in  
which slow and planned abandonment is demonstrated through the archaeological record and materials  
recovered. First, El Diablo is surrounded by ravines that make it difficult to extend the boundaries of the  
city. Second, the altitude, 190 m above the Valley of Buena Vista, make it difficult for the inhabitants to  
access water and farm the land. And third, this paper will propose that slow abandonment at El Diablo  
might be related to a period of peace in the Central Peten following the arrival of the foreigner Siyah K’ak,  
which created a perfect atmosphere for the ruler at El Zotz to move the city to the valley of the valley of  
Buena Vista.

Romero, Susagna [22] see Pique, Raquel

Romero, Danielle (University of Nevada, Las Vegas)  
[32] *Corrugated Wares and Their Potential Use as Identity Markers at the Harris Site*.  
The original typological system of corrugated wares that Emil Haury used based on his collection of  
sherd from the Harris site excavations in the 1930s did not incorporate much of the variability seen  
today. Excavation and curation techniques only allowed for a very small percentage of the corrugated  
wares to be collected and analyzed. Present techniques provide a much larger database, which can be  
used to expand current typologies through the variability seen in the corrugated wares recovered at a  
given site. This research focuses on corrugated wares recovered in various contexts from 20 pithouses  
and their associated features at the Harris Site, which have been excavated under the direction of Dr.  
Barbara Roth during the 2008-2013 field seasons. Numerous partially reconstructed corrugated  
vessels and a large corrugated sherd assemblage have been retrieved and are the basis of this study.  
A combination of hands-on and statistical analysis of these wares was used to examine the wide  
variability seen in current typologies and to determine if differences in corrugated wares from this site  
can provide information regarding identity in terms of how households may have varied the wares they  
produced.

Roney, John R. [47] see Hard, Robert

Rooney, Clete (National Park Service)  
[213] *Diaspora, Displacement and Social Reconstruction: Reconceptualizing Diasporic Archaeology*.  
This paper critically examines archaeological approaches to diasporic populations, integrating  
archaeology with contemporary cultural anthropology on social transformation, migration, and  
displacement. Historical diasporic studies follow models of population movements in antiquity “based on  
migration myths and …population flows” (Cohen 1995:1, Reis 2004:45). This classical model conflates
diaspora with migration, a voluntary movement of a community (Guggenheim and Cernea 1993:3). This
model, however, does not adequately address waves of displacement that accompanied European
economic development of the New World. This development entailed one of the largest involuntary
migrations in history. Enslavement and the African Diaspora more closely resemble modern
development induced displacement than the classical diasporas of old. The theoretical orientation to the
study of slavery, however, has often been focused on chronology and events, with an interpretive focus
drawn from history. In this paper I contextualize how slavery in the southern United States was studied
in archaeology and anthropology. I then review concepts of displacement and social reconstruction. I
argue that slavery and its practice can be more clearly articulated as a process, with parallels to
contemporary development, disaster and conflict induced displacement. These parallels provide a
theoretical framework to better understand the social processes that existed in historic displacements.

[213] Chair

Roos, Christopher (Southern Methodist University)

[149] Identifying Human Impacts on Fire-Prone Landscapes
Using traditional paleoecological methods, it has proven surprisingly difficult to identify human impacts
on natural fire regimes. This is particularly true for semi-arid fire-prone environments. Correlations
between changes in paleofire records and archaeological evidence or paleoclimate records can be
ambiguous or misleading because human activities can amplify or suppress climate impacts on fire
regimes. Traditional paleofire research has often focused on sedimentary locations and contexts that are
ideal for preserving long, continuous microbotanical records regardless of the spatial relationship of the
sampling locale to the ancient human landscape. Selecting sampling locales based on the location and
distribution of archaeological evidence for human activities, however, offers scientists an opportunity to
pair spatial comparisons with time-series comparisons of archaeological, paleofire, and paleoclimate
datasets. Such a spatially explicit sampling approach offers distinct benefits for investigating fire-climate-
society dynamics over long time-scales.

Roos, Christopher [242] see Field, Julie

Roosevelt, Anna (Univ. Illinois, Chicago) and Christopher Davis (Univ. Illinois,
Chicago)

[282] Monte Alegre, Brazil: Remote in Time, Space, Scholarly Culture, and Culture History
Contrasting perceptions and experiences of remoteness arise in the minds of both ancient people and
anthropologists. In the case of the Paleindian culture of the Monte Alegre Serras in the mainstream
Brazilian Amazon, people sought out rocky crags, caves, and rockshelters above the main floodplains
and lakes for camping, foraging, stone-tool-shaping, rock-painting, and observations of heavenly
bodies. Though western scholars long considered their tropical forest riverine habitat a wilderness
remote from centers of human development, forest fruits and fish actually attracted migrants very early.
Though physically remote from the probable first entry point of people into the Americas, the locality is
in the center of a wide region where people of similar lithic culture roamed. And though remote from the
best known Paleindian cultures of western North America and South America, the Monte Alegre
people were nearly contemporaneous. But the descendants of these early Amazonians did, in fact,
keep their distance from some of the bio-cultural biological changes people experienced in other
regions, thereby preserving more closeness to their ancestors than those in some other regions
deemed more central, or nuclear, by anthropologists.

Roosmarie, Vlaskamp [153] see Geurds, Alexander

Root-Garey, Emily (The University of Texas at Austin)

[119] The Intersections of Men and Power at the Alta California Missions
Contemporary discourse about men and masculinity in the Spanish colonial world is often connected to
concepts such as machismo and linked to themes of sexual and social domination of European men
over Indigenous Americans. Without denying the presence and effects of colonial Spanish patriarchy, I suggest that to be male in the colonial New World was a category of being shaped not only by one’s anatomy, but also by variety of factors, including known ethnic affiliation, marital status, and age. In mission-period California, the predominant male figure tends to be either the Spanish missionary or the Hispanic vaquero, despite being outnumbered by Indigenous men. My dissertation work at Mission San Antonio de Padua in Monterey County compares household labor practices in domestic quarters occupied, respectively, by single neophyte men, neophyte nuclear families, and mission soldiers and their families. Through the archaeological and documentary records and oral histories, I examine how different ideas about being male were enacted through daily life and illustrate how privilege and oppression could operate simultaneously for male members of mission communities.

Roper, Donna (Kansas State University) and Richard Josephs

[220] Ceramic Production on the Late Prehistoric Central Plains

Analysis of vessel form, descriptive and technological characteristics, and petrographic data for late prehistoric Central Plains pottery is allowing us to address how pottery production was organized and the material manufactured. We argue for local manufacture and household production, probably on an as-needed basis. Pottery clay was procured from alluvial sources near the household location, tempering material from unidentified sources that nevertheless are consistent with local lithologies. Processing of both clay and temper material was minimal and may have consisted of little more than removal of large clasts. Paste recipe and vessel design reflect a reengineering compared to earlier designs and are clearly affected by functional and performance considerations under conditions of increased use of cultigens and preparation of a diverse suite of foodstuffs. Vessel diversity was moderately high, and several of the functional classes were made in multiple sizes, probably for both utilitarian reasons and in consideration of the social contexts of food presentation. A certain uniformity of manufacturing outcome but by no means standardization is evident. This may have begun to change by early protohistoric times as previously-dispersed people were aggregating into true villages.

[220] Chair

Rorabaugh, Adam (Washington State University)

[173] Biederbost (45SN100) Re-examined: A Marpole Aged (2500-1500 B.P.) House Structure in Puget Sound

The development of large plank houses in the Salish Sea during the Marpole period (2500-1500 BP) has been central to theorizing issues of social inequality and resource use among complex foraging societies. In Puget Sound, two structures are known to date to this period of fundamental social transformations, Tualdad Altu and Biederbost. The Biederbost site, excavated by Astrida Blukis-Onat through Seattle Community College and the Washington Archaeological Conservancy in the 1960s and 1970s, has a wet and dry component. The wet site portion of the site has features interpreted as a fish trap while the dry site has post holes and hearth features that suggest a large house structure. However, the single date of 1940±80 B.P. had an unclear association with these two components. As part of a larger dissertation, eight new radiocarbon dates associated with hearths and post-hole features confirm that both components date to Marpole. An exhaustive re-examination of field records also supports interpretations of a large, likely household, structure. Despite recent re-evaluations of the temporal and spatial scope of Marpole in the Fraser Delta and Gulf Islands, it is apparent that large houses and their associated social transformations are also present in Puget Sound during Marpole.

Roscoe, Paul (University of Maine)


Ethnographic reports suggest that status competition is either universal in human society or very nearly so, and social-scientists have devoted a lot of attention to probing its forms (e.g., reputation, dominance, prestige, fame) and understanding why humans pursue them. Currently, though, hardly any empirical or analytical attention has been paid to a further issue. Why is status competition refracted into different forms – headhunting, say, as opposed to pig production, religious purity as opposed to consumerism?
Evidence indicates that, in any one community, humans may accrue status through a range of channels, but a subset of these invariably receives particular cultural emphasis. Material distributions and warriorhood, for instance, seem to be especially prominent modes of status pursuit in small-scale societies, whereas consumerism is the favored channel in Anglo-American nations. Why do different communities emphasize different avenues to status? Within a community, moreover, what determines an individual’s pursuit of one mode rather than another? This paper presents data on status drawn from about 150 New Guinea communities, and suggests several factors to account for the differences.

Rose, Jeffrey and Anthony Marks (Southern Methodist University)

[26] The Origin of the Emiran and Implications for Modern Human Dispersal into the Levant

The origin of the Emiran industry is entangled with the question of modern human emergence. The Out of Africa paradigm predicts a population replacement in the Levant coinciding with the appearance of the Emiran around 50 ka B.P. There is debate, however, whether its root(s) were autochthonous or exogenous. Emiran core technology employs a distinct method of bidirectional Levallois point production that is regionally traceable. While some of these technological features appear in the preceding Levantine Mousterian, they are far more prevalent within the Afro-Arabian Nubian Technocomplex. The Emiran exhibits affinities with the late Nubian (~85 – 70 ka B.P.) and Taramsan (~70 – 50 ka B.P.) of Middle Egypt, as well as the Classic Dhofar Nubian (~100 ka B.P.) and the Mudayyan industries of southern Oman. Elongation is consistent with the Dhofar Nubian and Levantine Mousterian, but not the Nilotic assemblages. Cresting appears in the late Nubian of Egypt and Dhofar, but not within the derived Taramsan or Mudayyan. Thus, the Emiran combines indigenous Levantine Mousterian elements with the Afro-Arabian Nubian Technocomplex. A hybridization model is parsimonious with the archaeogenetic proposition for interbreeding between humans and Neanderthals in the Near East between 100 and 50 ka B.P.

Rosen, Arlene (University of Texas at Austin)

[17] Geoarchaeology at the Edge: Measuring the Pulse of Process and Human Agency at the Interface of Landscape and Site in Neolithic through Iron Age China

In much of his research, Karl Butzer has inspired generations of geoarchaeologists to investigate the human and social aspects of landscapes and societies. This endeavor is often physically manifested at an archaeological site by sediments representing the halo of human activity just beyond the residential area, where the “site proper” meets the edge of a managed landscape. It is here that landscape processes driven by natural hydrological changes in an alluvial system dovetail with socially-motivated processes. The social processes link landscape management or mismanagement to consequent stability or degradation. Human agency is also detectable at these interfaces in the form of agricultural fields, terraces, canals, and other distinct features at the periphery of the residential portion of the site at any given time. Investigations of these “geoarchaeological ecotones” in Henan and Shandong Provinces in China illustrate small-scale agency in the management or ‘taming’ of floodplains during the Neolithic Period by the physical evidence of sediments linking paddy fields and farm houses. ‘Processes’ in the form of cycles of landscape stability and disruption are also evident at these interfaces by periods of soil formation versus episodes of uncontrolled flooding, induced by Han imperial land-use policies.

[17] Chair

Rosen, Steven (Ben-Gurion University)

[17] Basic Instabilities? Climate and Culture in the Negev over the Long Term

Settlement systems in the Negev, Israel’s southern desert, over the past 15,000 years show cycles of demographic rise and decline. Examined at different geographic scales, these demographic cycles should be tied to patterns of geographic expansions and contractions deriving from different culture-geographic sources. Together this variability suggests instabilities in basic social geographic structures, undoubtedly to be tied at some fundamental level to the difficulties of subsistence in the environmentally harsh desert. On the other hand, if the general pattern of cycles or fluctuations should be tied to some essential property of desert adaptation, the specific incidents of expansion and florescence, followed by
contraction and decline, should be tied to historically particularistic episodes of climatic fluctuation, cumulative technological change, internal social and demographic trends, and to input for societies on the desert periphery, ostensibly the sedentary core zones. Finally, if these patterns are examined at larger chronological and geographical scales, clear patterns of long term continuity emerge, belying the idea of essential cultural instability.

Rosen, Arlene [236] see Nicolaides Ramsey, Monica

Rosenberg, Dani [65] see Filin, Sagi

Rosenberg, J. Shoshana (Portland State University) and Virginia L. Butler (Portland State University)

A Study of Social Rank and Resource Control Using Ichthyofaunal Remains from the Cathlapotle Plankhouse Village Site

Social inequality and inherited rank are trademarks of the social organization of Northwest Coast Native Peoples, and faunal remains are one potential path for examining this. My thesis work tests the relationship between prestige differentials and subsistence patterns through the analysis of fish remains from the Cathlapotle plankhouse village site (45CL1) on the Lower Columbia River. Using models from optimal foraging theory to develop a ranking system for fish taxa based primarily on size, I examine the degree to which social rank designations of households and house compartments are reflected in the spatial distribution of ichthyofaunal remains relative to their taxonomic rankings. Analyses based on NISP comparing compartments within a household show a higher proportion of salmon relative to lower-ranked minnows/suckers in the compartment where elite village members likely lived, indicating possible post- harvesting control of preferred resources by the elite. Comparing between households, more of the large chinook salmon species relative to smaller non-chinook salmon are found in the more highly-ranked household, indicating possible household-level ownership of fish harvesting sites or runs. My research informs on the nature of resource control in the region as well as the efficacy of drawing conclusions about social rank through faunal remains.

Rosenswig, Robert (University at Albany)

Tributary Mode of Production and Justifying Ideologies

In his definition of the tributary mode of production, Eric Wolf proposes that those societies that extract economic surplus through political means generate religious models of the cosmos where supernatural beings provide a metaphor of tribute relations in the human world. As Wolf (2001:349) puts it, "...public power is thus transformed into a problem of private morality." This is a classic Marxist assertion that religion creates false consciousness and motivates people to act against their material interests. Rather than simply assuming this proposition is correct, anthropological data can quantitatively evaluate it. Using a broad sample of societies, this paper evaluates whether mode of production determines beliefs about the structure of the cosmos. Do all societies where tribute is extracted by political means have similar justifying ideologies? Conversely, do societies where surplus extraction occurs through kin relations lack such justifying ideologies? My goal is to evaluate Wolf's intuitively logical proposition with anthropological data. The implications of this evaluation are at the heart of a materialist understanding of causation by empirically evaluating whether material conditions generate consistent ideational beliefs.

Chair

Rosenswig, Robert [197] see Vázquez, Ricardo

Rosenthal, Jeff [125] see Ugan, Andrew

Rospiglioni-Campos, Cristina (Southern Illinois University)

Sociopolitical Organization during the Late Intermediate Period in the Peruvian North Coast: Excavations at the site of Luya

This paper presents results from excavations carried out at the Late Intermediate Period site of Luya.
located in the Middle Lambayeque Valley. I will discuss data obtained from excavations and preliminary pottery analysis of Late Sican period monumental architecture, public spaces and metal production areas. Following models based on the ethnohistorical record rather than neo-evolutionary approaches, I examine the regional political organization as revolving around local centers or curacazgos, rather than managed by a macro regional state apparatus. I will address how the Sican people at the site of Luya managed economically and politically this part of the valley through public meeting spaces, metalworking activities, and agricultural production areas. Finally, I will briefly describe the interaction of previous technologies from the Middle Horizon (i.e. arsenical copper production), with ancient political practices such as the consumption of alcohol (chicha) in public meetings.

Rossen, Jack (Ithaca College)
The second field season at the Myers Farm site, east of Cayuga Lake in central New York, was conducted during the summer of 2013. The new excavations add to the previous understanding of the site as a 15th century farmstead where communal feasting occurred. Newly revealed are a cookhouse and elaborate storage pit system. The new excavations also emphasize the presence and material culture of children. In general, this small site encourages new ways of analyzing site structure and artifact assemblages like ceramics and limestone hoe blades.

Rossi, Franco (Boston University)
Footwear is an oft-overlooked detail of Maya dress, though like any bodily adornment, it followed its own particular set of conventions, which in turn governed manufacture, use and decoration. In ancient Maya art, vivid glimpses of elaborate sandals and other footwear can be seen on various stela monuments, ceramic vessels and murals depicting high-ranking lords in costume. Many other artistic works display the simpler side of footwear, showing more basic sandals in a variety of contexts. This paper utilizes these historical representations and artistic depictions as a primary means of exploring ancient Maya footwear—first identifying various “fashionable” trends cross-regionally and through time and then fleshing out the particulars regarding manufacture and use through archaeological examples, ethnography and ethnohistory. As the guardians of individuals' primary means of movement, footwear was as vital piece of adornment in antiquity as it is today, and would have been a key medium for signaling aspects of individual identity and status. By understanding how items of dress like footwear, were created, used, and represented by ancient societies, archaeologists can not only explore technologies of production and consumption, but can also access subtle windows into social hierarchies, gender dynamics and politics of display in ancient societies.

Rostoker, Arthur (Proyecto Ipiamais) [281] Chair

Roth, Barbara (UNLV)
[32] Overview of Current Research at the Harris Site, Mimbres River Valley, New Mexico
This paper summarizes the results of recent research at the Harris Site. The primary goals of this fieldwork have been to examine household organization during the Pithouse period in the Mimbres River Valley and to explore the interplay between sedentism, subsistence practices, and social structure in village organization. Here I highlight some of the findings from pithouse, extramural feature, burial, and kiva excavations that have helped us reconstruct village life at Harris. I discuss the implications that these results have for our understanding of social dynamics during the Pithouse period and their role in the pithouse-to-pueblo transition.

Roth, Barbara [32] see Lauzon, Ashley
Roth, Aaron (New Mexico Highlands University), Warren Lail (New Mexico Highlands University) and Victoria Evans (New Mexico Highlands University)
[79] The Life and Death of Urraca Man

During the summer of 1970, ancient human skeletal remains were discovered in an open-air rock enclosure high on Urraca Mesa, Colfax County, NM. The individual, now known as “Urraca Man,” was found with over 18,000 glass trade beads, metal tools, knives, copper bracelets, and butchered animal bones. The artifacts place the date of death somewhere between about 1860 and 1890. Early researchers speculated that he was a “mountain man” or trapper of European descent. More than a decade later, another anthropologist concluded that the remains were those of a Native American, now making them subject to NAGPRA (25 U.S.C. 3001 et seq. 1990). However, a complete reanalysis of the skeleton using modern methods, including platymeric index and CT cross-sections of the subtrochanteric area of the femur, together with a complete reanalysis of the artifacts and re-excavation of the location of the original find, suggests that he was in fact a trader on the Taos-Rayado Trail, likely of Caucasian descent with some African admixture. Moreover, our analysis details the first assessment of the cause and manner of death. Pending ancient DNA (aDNA) results, provided DNA can be extracted and amplified, will support or refute our ancestral assessment.

Rothaus, Richard [328] see Caraher, William

Rothhammer, Francisco [23] see Capriles, Jose

Rothschild, Nan (Barnard College/Columbia University) and Heather Atherton (Columbia University)
[168] The Women of San Jose de las Huertas, NM

Accounts of colonial interactions in the American southwest privilege the colonized (Native Americans) and the colonizers (Spanish). However, almost immediately after the Entrada a new and highly significant third group was formed. Called variously mestizo(a), hispano(a), or classified in a number of castas, this group has not received the archaeological attention it merits in the region. The roles of women are also particularly neglected in colonial situations. We will specifically consider the women who lived at San Jose de las Huertas from around 1765-1826, and their children who subsequently founded Placitas, NM. Our information comes from excavation, historical research and oral history with some descendants; a rich trove of data comes from the WPA records created in the 1930’s. We will focus on women’s roles, their important activities centering the community and in the net work of kin relations. Although not highly visible through the archaeological research, the oral accounts demonstrate their agency and power.

Rouse, Lynne (Washington University in St. Louis)

The discovery of the Bactria-Margiana Archaeological Complex (BMAC) in modern Turkmenistan and Afghanistan revitalized study of ancient interaction networks in greater Central Asia, placing the BMAC alongside other 3rd millennium ‘core’ areas in Mesopotamia and the Indus Valley, as agrarian urban heartlands whose power was drawn from resources and populations exploited in a ‘peripheral’ hinterland. However, new archaeological research highlights the activities of ‘peripheral’ nomadic populations in their own right, revealing that the interpretation of prehistoric Central Asia as characterized by dependent core- periphery relationships sets up fundamentally flawed notions of power, reflected in the conceptual dichotomy between urban farming communities and mobile pastoralist groups. I review the growing body of archaeological evidence, including my own work in the Murghab delta, that can contribute to a revamped conceptualization of prehistoric relationships in the region. By envisioning a socially-based network of urban/nomadic nodes and flowing connections between them, we neutralize the deterministic view of power as rooted in economic relationships and introduce multiple layers of interaction, thereby doing more justice to the reality of both prehistory and the modern era,
where all types and sizes of communities actively negotiate their social, political, and economic worlds through their engagements with one another.

Roush, Cody C.  [269] see Nold, Kathryn

Rousseau, Vincent (Université Laval), Kenneth Kelly (University of South Carolina) and Kelly Goldberg (University of South Carolina)

[58]  Sanya Paulia’s Rock Shelter: Prehistoric Contexts in coastal Guinea
While investigating around a 19th century slave trading post called Sanya Paulia, on the Rio Pongo, Guinea, local villagers told Kelly about a cave where people could hide if attacked. We didn’t really know what to expect but the cave’s soil deposition looked extensive and some historic ceramic fragments were visible on the surface. Hypothesizing that we might recover a collection of prehistoric ceramics that could be compared to 19th century local ceramics we established a test pit in this cave. This small rock shelter turned out to be much more than just a safe retreat for the villagers. Between the 14th and the 17th of March 2013, Kelly and Rousseau, helped by Guinean students, supervised the excavation of the 1 sq. m. test pit near the main entrance, where available digging space was best and where multiple prehistoric activities usually take place. Each arbitrary 10cm layer was richer than the last and we dug until it was no longer safe, approximately at a 1.8m depth. The results: thousands of lithic flakes and ceramics sherds in an occupation that might span more than 5000 years of history. This paper presents the preliminary results of Sanya Paulia’s rock shelter excavation.

Rowe, Sarah [57] see McAnany, Patricia

Rowe, Marvin (Texas A&M University)

[156]  Discussant

Rowe, Robert

[166]  The Geomorphology of the Four Sites area along the South Platte in Northern Colorado
The excavation and installation of a natural gas liquids pipeline allowed for opportunistic investigations to be conducted along the middle South Platte River near the Cache le Poudre delta to better define the geomorphic contexts of several Paleoindian sites (Frazier, Jurgens, Klein, Powars and further to the west, Dent) within the local area. These Paleoindian sites are located on the Kersey terrace, alluvium of which was deposited during Clovis occupation and stabilized by 10,000 B.P. The alluvium of this area is the results of flooding from both rivers creating a complex soil column. Post-Clovis sites post-date aggradation and steam down-cutting may have started as early as 10,500 B.P. Subsequent floodplain development shaped by both rivers and down-cutting later formed the Kuner terrace (3000 B.P.) and the Hardin terrace (1000 B.P.), both of which limit the locations of the earlier sites. Aeolian sands began accumulating in the region by 10,000 B.P. but most are probably late Holocene deposits and are indicative of a drier post-Pleistocene climate. Understanding of the late-Quaternary geomorphic history of this portion of the South Platte could aid future archaeological research and complement geomorphic research in other reaches of the South Platte.

[166]  Chair

Rowland, Joanne and Judith Bunbury (University of Cambridge)

[17]  Environmental Change in the Western Nile Delta from the Middle Paleolithic into the Neolithic: New Considerations Regarding the Mobile and Settled Communities in the Vicinity of Merimde Beni Salama
By the Neolithic, Merimde Beni Salama became part of the shore of a lake or lagoon. The mud deposits suggest that this was relatively extensive with at least 4 km$^2$ body of water, 4 m deep, that would have been well-suited to species such as the hippopotamus, for which Merimde is well-known. The settlement at the site seems to be located around the fan and flanking terrace sediments from the mouth of the Wadi Gamal. With time, the fresh water would have dried up as the distributary system of the Delta became more strongly channelized and the climate became drier. However, the next main event that we
have evidence for is an influx of sand (that is bleached of its desert pellicle) which may indicate that it was deposited into water. Following this, the action moved away from Merimde as we see now. Earlier Pleistocene finds are probably part of earlier cycles of this type of which there were at least six during the Pleistocene. From a better understanding of environmental change in this area, we can explore further the climate cycles in the region and how this affected the habitation patterns in the Mid to Late Pleistocene.

Roy, Natasha [29] see Woollett, Jim

Royall, Travis [44] see Van Pool, Todd

Royle, Thomas (Simon Fraser University), George P. Nicholas (Simon Fraser University) and Dongya Y. Yang (Simon Fraser University)

Investigating Long-Term Patterns of Fish Use in the Interior Plateau through the Ancient DNA Analysis of Fishbone

EeRb-144 is a large Early to Late Holocene archaeological site located in the Interior Plateau of southcentral British Columbia, Canada. A multi-year excavation of the site conducted as part of the Secwepemc Cultural Education Society-Simon Fraser University Archaeological Field School has produced a large amount of heavily fragmented fishbone. This fragmentation has generally precluded the classification of these remains through traditional zooarchaeological analysis to a taxonomic level lower than class. However, ancient DNA (aDNA) analysis can be used to assign species-level identifications to even extremely fragmented archaeological fishbone. In this study, aDNA analysis was employed to assign species identifications to a sample of Middle and Late Holocene fishbone from EeRb-144. These identifications were used to investigate temporal trends in the taxonomic composition of the site’s fisheries, and the fishing strategies used by its inhabitants. The character of these trends provides insights into long-term patterns of fish use in the Interior Plateau, and the nature of large-scale cultural processes in the region.

Rubenstein, Meghan (University of Texas at Austin)

The Hieroglyphic Platform at Kabah

In front of the western façade of the Codz Pop at Kabah is a low, four-sided platform, once faced with at least two levels of stones carved with hieroglyphs. Today, only about half of the blocks remain on the monument; the rest lie scattered in the rubble. The current placement of the stones on the platform dates to the early 1950s, when Raúl Pavón Abreu reset the loose blocks with the hope that it would preserve them for future scholars. However, due to the condition of the stones, and the disorder of the inscription, decipherment of the hieroglyphic monument has been challenging. Research in 2013 resulted in a complete catalog of the hieroglyphic blocks, enabling a new understanding of these previously enigmatic inscriptions. In this paper, we present our findings, placing the hieroglyphic monument at Kabah within the larger corpus of Terminal Classic inscriptions from the Northern Lowlands and offering a new interpretation and reconstruction of the structure.

Rubertone, Patricia

Archaeologies of Native Production and Marketing in 19th Century New England

Research on Native Americans’ acquisition of European goods has challenged ideas about the naïveté of their consumption choices as well as assertions that they perceived the foreigners’ things as technologically superior and readily substituted them for their own. By drawing attention to Native people’s agency in the selection and redefinition of material goods in diverse Indigenous contexts, these studies have transformed the ways archaeologists think about Indigenous consumption during early colonial encounters and in later colonialism. Consequently, few today would interpret Native families’ increasing reliance on store-bought, manufactured goods in recent centuries merely as evidence of cultural loss and assimilation, or would ignore the interpretive possibilities presented by assemblages of incongruous things to confront stereotypical expectations about Native Americans’ impoverishment, incompetence with modern technology, and gullibility as consumers. However, Native peoples were not
just consumers of “non-Native” goods: they also made things for European-American consumption. This paper explores Native Americans’ production and marketing of baskets and natural medicines in urban New England during the 19th century. Reversing the interpretive angle to Indigenous peoples’ tactics as producers and sellers further contributes to destabilizing pervasive ideologies that situate them mostly at the receiving and often dependency end of consumer culture.

Rubin, Julio [6] see Silva, Rosicler

Rubio Mora, Albert [156] see Ruiz, Juan

Ruby, Allika (Far Western Anthropological Research Group) and Adrian Whitaker (Far Western Anthropological Research Group, Inc.)

[282] Lonesome Landscapes as Post-Contact Refugia
The society-altering effects of Euro-American contact on Native peoples throughout North America are well documented. Native people endured devastating population losses through disease and disruption of their traditional economies. Many Native people were incorporated into new economies and their material culture reflects the incorporation of new tools and foods. There are also some documented instances of resistance and rejection of the imposed new systems in which Native people fled to remote areas. Here we present two southern California examples of likely Native refuge sites in what were then considered remote areas by the incoming Euro-American groups. The sites, located on San Clemente Island, and in the Coso Mountains of the Mojave Desert, were occupied by groups with highly distinct economies and cultures and subjected to different historical stresses by the incoming groups. Common to the two examples, however, were locations that were not desirable to Euro-American settlers until relatively late in time. Using the Ideal Free Distribution as a theoretical framework, this paper argues that the very things that made these locations “Lonesome Landscapes” allowed Native cultures to continue in traditional ways until the 1850s on the Channel Islands and the 1870s in the Coso Mountains.

Rucker, Daniel [18] see Fehrenbach, Shawn

Rucker, Collin

[343] Swamp Tools: Late Paleocene to Early Eocene Tropical Forests and Archaeology
During the Late Paleocene and Early Eocene a tropic/sub-tropis forest in east-central Colorado was enveloped by volcanic eruptions causing the creation of the Paleosol-Dawson Arkose formation. The primary area of this geological formation is located in Elbert County, between Colorado Springs and the small town of Kiowa. Large stands of tropical wood became silicified as a result of the deposition of volcanic ejecta creating distinctly colored petrified wood. Due to erosion and uplifts of the formation, large areas of surface exposed petrified wood became an easily accessible lithic source for native populations to exploit. The distinct color of the petrified wood allows archaeologists to trace tools made with that material to the Paleosol – Dawson Arkose formation. Phase 1 surveys in support of the excavation and installation of a natural gas pipeline across the study area allowed a unique opportunity for archaeologists to map through the deposition of the silicified wood to determine the extent and type of exploitation that was taking place within the native populations.

Ruiz, Juan (Universidad de Castilla La Mancha), Ramon Viñas Vallverdú (Institut de Paleoecología Humana i Evolució Social), Albert Rubio Mora (Universitat de Barcelona) and Antonio Hernanz (Universidad Nacional de Educación a Distancia)

The chronology of the different styles of open-air rock art of Iberian Peninsula has been an open question since the discovery of Levantine art 100 years ago. This naturalistic style is the cornerstone of the complex relations among the rest of styles of the area: Paleolithic, Schematic and Macroschematic. Levantine art has some formal traits of Paleolithic style, and at the same time it has a complex stratigraphic seriation with Macroschematic and Schematic styles, both of them considered of Neolithic age or younger. Our research group began a scientific dating program ten years ago trying to get the
first scientific dates of Levantine art. A multidisciplinary research team has contributed since then with several AMS $^{14}$C datings of oxalate crusts in six shelters from two distinct geographical areas. M.W. Rowe and his collaborators have been in charge of processing these samples by plasma-chemical extraction or acid treatment. The results suggest that at least a part of Levantine art was of pre-Neolithic age. Some of these results suggest that oxalate datings may produce reliable maximum and minimum ages for a group of pictographs under certain conditions. We expect to go further in this research line in the near future.

Runggaldier, Astrid (University of Texas at Austin)

[61] From Village to City: Contributions from San Bartolo’s Architecture, Art, and Writing in Revealing the Development of Preclassic Lowland Maya Culture.
Over the last few decades we have come to understand the Preclassic Maya Lowlands as a complex landscape, replete not only with agricultural villages, but also with towns and cities of different sizes. At the relatively small settlement of San Bartolo in northeastern Guatemala, architecture, art, and writing coexist in cohesive programs of formal design at the scale of individual structures and up to entire groups, demonstrating that specialized architectural configurations have a deep history of development evident in codified arrangements by the start of the Late Preclassic period. E-Groups, ballcourts, triadic arrangements, and palace complexes have established forms and symbolic values, connecting small and large sites in patterns of shared meaning. In this presentation we explore the Maya center of San Bartolo from the perspective of built environments and visual programs of painting and writing that created the appropriate urban space for the early traditions of Maya kingship and statehood.

[31] Chair

Rush, Haley (Cox|McLain Environmental Consulting)

[14] The Rowe Valley Site (41WM437): A Study of Toyah Period Subsistence Strategies in Central Texas
In the latter half of the Late Prehistoric Period in Central Texas, the Toyah period, a drastic cultural change occurred, marked by the appearance of a unique artifact assemblage often recovered in association with bison remains. Bison remains are virtually unknown in the period that precedes the Toyah period. The change in material culture has often been linked to the reappearance of bison and the development of the Toyah people adjusting their economic strategy to one that specialized on hunting bison. Deposits at the Rowe Valley site, a large Toyah campsite, contained extensive faunal remains which included deer, antelope, and bison. The presence of a considerable amount of faunal materials along with the sites’ location in the core of the Toyah area, made Rowe Valley an ideal site for study. Analyses of the archaeological materials combined with experimental studies demonstrated that the economic focus at the Rowe Valley site was not on bison. It is clear that a drastic change in material culture did occur at this time however, this study suggests the economic strategies utilized were still generalized and adapted to unique local environments.

Rushton, Elizabeth [158] see Mock, Cary

Russ, Jon (Rhodes College), Karen Steelman (University of Central Arkansas), Mary Pohl (Florida State University), Chris von Nagy (University of Nevada, Reno) and Heather Hurst (Skidmore College)

[156] Radiocarbon Ages of Oxtotitlan Murals
Rock art murals at Oxtotitlán Cave in southern Mexico contain iconographic elements similar to Olmec monuments on the Gulf Coast. To investigate whether the rock art could be associated with the Olmec, we conducted a study of the pigments with the goal of establishing the age of the artifacts. Paint pigments in the site were first analyzed using a portable X-ray florescence which showed that most of the black pigments did not contain manganese, and thus likely carbon-based. Samples from two murals were collected, one from a large, bi-chrome shield motif and another from the polychromatic C-1 mural that has elements similar to other Olmec artifacts. Adjacent samples were also collected to provide information on the substrate and rock coatings. Chemical studies in the laboratory demonstrated that the
black pigments were made from soot, and that the natural rock coatings are primarily calcium oxalate. We extracted the carbon in the pigment using a low-temperature oxygen plasma, and the resulting CO2 was sent for radiocarbon analysis. The oxalate coatings on the paint and off-paint samples were treated using dilute phosphoric acid to remove carbonates and also sent for C-14 dating.

Russell, Will (Arizona State University)
[43] Diachronic, Nonlocal Influence at the Mimbres Site of Galaz
Archaeological evidence from the Mimbres area has generated inferences of homogeneity in material assemblages and inter-societal interaction. New data and recent research suggest a more diverse social landscape wherein Mimbres households and villages negotiated differential access to nonlocal communities. This analysis employs data from the multi-component Mimbres site of Galaz to examine the ways in which nonlocal interaction impacted Mimbres cultural trajectories at an intra-site scale. Did households have equal access to nonlocal goods? Did the intensity, manner, or constituents of connectivity change over time? To approach these questions, I synthesize evidence of Mimbres interaction with Hohokam and Mesoamerican sources during the Late Pithouse, Classic, and post-Classic occupations at Galaz Ruin. Evidence includes nonlocal artifacts, features, practices, and iconography. Analyses compare the relative frequencies of such indices, over time and at different scales, ultimately presenting new evidence for asymmetrical and persistent access to nonlocal communities.

Russell, Bradley (State University of New York At Albany and College of St. Rose), Carlos Peraza (INAH Centro Yucatan), Enice Uc (INAH Centro Yucatan) and Marilyn Masson (State University of New York At Albany)
[52] Preliminary Underwater Exploration of Cenote Sac Uayum, Mayapán, Mexico
In the summer of 2013, with support from The Waitt Foundation for Exploration and The National Geographic Society, the Mayapán Periphery Project concluded its first season of exploration at Cenote Sac Uayum, a sacred, water-bearing sinkhole located at the Postclassic Maya political capital of Mayapán, Yucatan, Mexico (1100-1450 A.D.). The study yielded significant new insights into the cenote that many modern inhabitants consider “alive” and believe to be guarded by a large serpent that some say has plumage and the head of a horse. The feature has drawn the attention of researchers working at the site since the first archaeological work began based on its conspicuous and apparently intentional exclusion from the city by the large city wall surrounding the bulk of the settlement. The modern belief in a feathered serpent guardian only heightened that interest. Before dive work began, we conducted a Jeets’ Lu’um or “calming of the earth” ceremony which provided new data on modern Maya cave ritual and beliefs. Our team focused on detailed underwater mapping and photography of the cenote and its contents. We recorded 15 human crania, a large number of other bones and ceramics attesting to the use of the site as a burial location.

Russell, Will [66] see Hegmon, Michelle

Rutecki, Dawn (Indiana University Bloomington)
This paper discusses the alterations, innovations, and changing foci of feminist inspired education and scholarship in archaeology. Legacies of previous feminist scholars continue to influence how we incorporate these new directions into our research, but also provide the means to expand how we think and teach archaeology. Diversification of agendas has led to new approaches for integrating feminist thought into the discipline. Community building and engagement, stemming from feminist and post-colonial scholarship, extends not only to the communities with which we work, but the students and colleagues that we encounter on a daily basis. These fluid communities form sites of possibility and transformation concerning what feminist archaeologies means, how they are enacted, and the future effects they can have on the discipline.

[240] Chair
Rutherford, Allen (Tulane University)

[38] Maintaining Community in a Sociopolitical Frontier: Recent Data from Cerro Colorado de Huacho, Huaura Valley, Peru

The Chimu empire began expanding along the north and central coast of Peru during the latter part of the Late Intermediate Period (ca. A.D. 1300-1476). Preexisting social and political boundaries were reinforced and often redrawn after the Chimu successfully conquered regions. The fluctuation of these sociopolitical frontiers profoundly affected the development and maintenance of unconquered regions by creating an unstable social, political, and economic environment. The Huaura Valley, located on the southern edge of the Norte Chico geographical region, represents one example of a sociopolitical frontier in the LIP. This research is designed to address the ways in which an individual community developed and maintained itself within a frontier context at the site of Cerro Colorado de Huacho. The site consists of three large architectural features dating to the LIP and Late Horizon including a fortification, public administrative complex, and Inka tampus. Excavations in 2012 focused on the fortified walls as well as test units in areas identified as domestic zones. Site development, social interaction, and culture contact will be examined in light of new data drawn from recent excavations and artifact analysis of materials from Cerro Colorado de Huacho.

Chair

Ruuska, Alex (Northern Michigan University)


A recent theoretical emphasis on the New Animism raises important issues for the study of pictographs and petroglyphs in the interpretation of the archaeological record. This paper explores how the animistic ontologies of the Numic-speaking communities of the Great Basin and Colorado Plateau are expressed vis-à-vis ritual activities within cultural landscapes that include manifestations of volcanism such as hot springs, craters, and caves. Comparing three archaeological sites including Toquima Cave, Darrough’s Hot Spring, and Tinemaha that are inscribed with rock images and used for Ghost Dancing activities during the late nineteenth century, repeating and unique uses of animated ritual landscapes are investigated.

Ruvalcaba, Jose Luis [253] see Lopez, Xulieta

Ruvalcaba Sil, José Luis [253] see Lowe, Lynneth

Ruzicka, Denise (University of Nevada, Las Vegas)

[32] Architecture, Alignments, and Astronomy at the Harris Site in the Mimbres Valley

Many Pueblo sites in the American Southwest have demonstrated architectural alignments to astronomical phenomena. However, few pithouse sites, in particular in the Mimbres-Mogollon area, have been investigated for similar alignments. This study attempts to change that trend by researching architectural alignments and solar events at the well-known Harris Site in the upper Mimbres Valley. The study found that many entryways were oriented to the sunrise and sunset positions on key astronomical dates (i.e., solstices and equinoxes). There were even important solar alignments between communal structures on site. These results show that the Mimbres-Mogollon were keen observers of solar movements during the Late Pithouse Period and incorporated some of their observations into their architecture.

Ryan, Philippa (The British Museum)

[22] Perspectives on Near Eastern Neolithic Basketry from the Phytolith Traces at Çatalhöyük (Central Anatolia)

Basketry found at Çatalhöyük East (7,400–6,000 cal. B.C.) is mostly preserved as silica-skeleton (phytolith) traces, and more occasionally as impressions in clay or through partial charring. This paper discusses their preservation, appropriate sampling methods and some of the types of plants exploited for basketry. Traces of coiled basketry, matting and cordage are often found in well-defined domestic
and burial contexts. Some of the potential uses of these objects, such as for storage, will also be considered. There is also possible evidence for changes in the use of some categories of basketry over time. The numerous silica skeleton remains at Çatalhöyük highlight the importance of basketry as an artifactual class during the Near Eastern Neolithic.

[39] Discussant

Ryan, Susan (Crow Canyon Archaeological Center)

Kiva Production and Community Integration in the Northern Southwest

This paper analyzes the vernacular architecture of ancestral Pueblo kivas dating from the Pueblo II (A.D. 900-1150) and Pueblo III (A.D. 1150-1300) periods in the northern, middle, and southern San Juan regions in the northern Southwest in order to shed light on communities of practice and their social, temporal, and spatial production practices. This research specifically examines kivas—or round rooms used for public and domestic activities—to address how architecture emphasized the ways in which features were actively mediated by communities of practice and how their semiotic signatures can illuminate how architecture was developed to create and maintain social structure, social identity, and community integration.

[333] Chair

Saage, Ragnar (University of Tartu, Department of Archaeology)

Photogrammetry as a Documentation Tool during fieldwork: Research and Result Presentation Phase

Photogrammetry has been one of the rapidly advancing documentation methods in archaeology. While studies have been made on the topic of the method’s cost efficiency and precision, I believe that there are yet undiscovered (or unpublished) methods for using it in archaeology. With using the possibility of creating orthophotos from a 3D model, we can greatly reduce the distortion from the camera lenses. At the same time we can make photos, that otherwise would require us to be 25 feet above the excavation trench. With using these features photogrammetry becomes a powerful, quick and therefore cost efficient method for capturing the texture and elevation of different surfaces. I would like to share our experience, namely with Agisoft PhotoScan, in the University of Tartu and show how photogrammetry could be used during fieldwork, research and result presentation phases. Fieldwork use would be shown with the example of the Haapsalu gallows hill, research phase with the smithy site of Kaku on the island of Saaremaa and presentation phase with two Egyptian mummies.

Saban, Chantel see Dexter, Jaime

Sabo, George

Design and Style in Sacred Bundle Baskets from the Great Mortuary at Spiro

Important components of the Great Mortuary cosmogram recently identified by James Brown at the late prehistoric Spiro mound site in eastern Oklahoma are sacred bundles composed of double-woven lidded baskets and associated sacra. Here we examine the interplay of basket-weave choices that contributed to the structural integrity of the baskets and “artistic” treatments made at the discretion of the weaver. We also compare basketry motifs and artistic motifs rendered on other media found in the Great Mortuary, including engraved shell and carved stone. These comparisons yield exciting new information on stylistic variation among the “communities of practice” who contributed items for inclusion within the cosmogram.

[30] Discussant

Sabo, George see Hammerstedt, Scott

Sabol, Donald see Buck, Paul
Sacks, Ben [320] see Brown, Sarah

Sadarangani, Freya [322] see Miracle, Rebekah

Sadvari, Joshua [28] see Haddow, Scott

Safi, Kristin (Washington State University) and Andrew Duff

Reconstructing a Great House: A Case Study from West-Central New Mexico

Despite decades of focused research on Chacoan-style great houses, the impetus for their construction and the extent to which their users directly interacted across the Four Corners region remains poorly understood. A key research question is whether these structures represent an articulated system with the center of interaction at Chaco Canyon or whether they represent a regional conceptualization of community-based activities enacted on more localized scales. The range of variability evidenced by Chacoan-style great houses suggests that local social context played an important role in how each community constructed and utilized these structures, and also influenced the degree of interaction between great house communities.

Recent research in the southern Cibola region of west-central New Mexico has been directed at better understanding the role of Chacoan-style great houses within their local and broader social contexts. We present a case study of the Largo Gap great house in which we compare its construction and patterns of use to Pueblo II great houses across the Southwest, examine the nature of its use within the context of its associated support community, and evaluate its patterns of interaction with both local and more distant great houses.

Sagebiel, Kerry and James Aimers (State University of New York, Geneseo)

Betwixt and Between: The Ceramics of Ka'Kabish, Belize

The site of Ka'Kabish is located in an area between the Booth's and La Lucha Escarpments of Northwestern Belize, which defines the Peten ecological boundary, and the coastal environment of Belize. The site was initially occupied in the Middle Formative and had its heyday in the Late Formative and Early Classic periods. Current research suggests that the site center did not have significant occupation after the Early Classic, although the surrounding area was heavily occupied during the Terminal Classic through the Middle Postclassic. Ka'Kabish's ceramic affiliations, particularly in relation to other sites in Northern Belize and the Northeastern Peten, will be a primary focus. Because of the scarcity of later occupation, Ka'Kabish provides an opportunity to delve into some of the ceramic identification issues in the Formative period as well as an exploration of Early Classic ceramics.

Sagebiel, Kerry [302] see Haines, Helen

Sager, Rebecca

Hair Today, Gone Tomorrow: The Degradation and Conservation of Archaeological Hair Fibers

This presentation describes the degradation and conservation of archaeological hair fibers. After researching the structure of hair fibers, and their physical and chemical attributes, research focused the degradation of hair fibers in different environments. Hair fibers were left in underwater, open air, burial, and arid environments. The samples were monitored for degree of degradation and brittleness before and after environmental exposure. The degradation of the fibers in different environmental conditions showed that burial in acidic sandy clay is the most detrimental to hair fibers, while hair fibers from arid, dry environments are brittle, but well preserved aesthetically. The hair fiber types used are four commonly found in archaeological context: coarse wool, fine wool, mohair, and human hair. After weathering, conservation using polymer passivation was tested on the degraded hair fibers. When the treatment proved to be a viable conservation method, the technique was then be applied to two artifacts.
The two artifacts used were a Victorian era watch fob made from human hair and hair fibers mixed with tar from the excavation of Kittern in Bulgaria. The polymer passivation treatments were shown to be viable treatment methods with positive results for all of the fibers tested, including the two artifacts.

Sagstetter, Kelcy [335] see Simon, Katie

Sahle, Yonatan (Human Evolution Research Center, University of California, Berkeley), David Braun (George Washington University, Center for the Advan), Katja Douze (Evolutionary Studies Institute, University of the Witwatersrand) and Judith Sealy (Department of Archaeology, University of Cape Town)

[26] Technological Behavior in the Middle Stone Age of the Gademotta Fm., Ethiopia: Insights from the Levallois Method

The Middle Stone Age (MSA) has attracted extensive research attention over the past few decades because of its association with complex behaviors. Notwithstanding, the debate on the timing and pace of behavioral changes, a common generalization is that MSA technologies become more sophisticated through time. Previous models have emphasized the stepwise increase in specific technologies. In the present study, we use MSA sites from multiple securely-dated contexts in the Gademotta Formation of the Main Ethiopian Rift to show that trajectories of technological evolution are complex. Specifically, we examine Levallois reduction method in six MSA sites representing three different periods: >279 ka, 260-185 ka, and ~105 ka. By holding contextual factors (such as access to and quality of raw materials) constant, we examine diachronic variability within the MSA. Results indicate that diagnostic characteristics of the Levallois method are shared across these sites spanning much of the MSA. However, certain temporal trends that pertain to the major focus of the Levallois method and its end products are also observed. The almost ubiquitous nature of the Levallois method in the MSA is used here as a convenient attribute in the investigation of hominin behavior.

Sahle, Yonatan [109] see Kay, Marvin

Sailors, Damion

[271] He Koko Pu’upu’u? (A Chiefly Gourd Net?) An Analysis of Recovered Fiber Arts from Makauwahi Cave, Kaua’i

In the summer of 2011, several well preserved pieces of a rare Hawaiian carrying net were recovered from Makauwahi cave during an archaeological field school hosted by the University of Hawai’i and the National Tropical Botanical Gardens on the south end of Kaua’i. The complexity and decorative aspects of the type of knot used for this net’s construction suggest that this item may be a k6k6 pu’upu’u, or chiefly gourd net. Because of the perishable nature of common components used in customary cordage manufacture, Pacific Island rope work generally has poor representation in the archaeological record making this uncommon find appealing for detailed investigation. This paper addresses what can be learned from examining and comparing the physical characteristics of this rare example of Polynesian netting and proposes further research that may show promise regarding Pacific Island fiber arts. A focus on the stylistic analyses of rope construction and knot work as it is demonstrated between and within Pacific Island communities is emphasized in this study.

Saint Charles, Juan Carlos [336] see Fenoglio, Fiorella

Saintenoy, Thibault (CIHDE (CONICYT, Chile), UMR8096 ARCHAM (CNRS, France)) and Romuald House (Université Paris 1 Panthéon Sorbonne, UMR8096)

[60] Hilltop Settlement in the Late Prehispanic Andes: A Global Review of the Pukara Phenomenon through Ethnohistory and Geomatics

It is well known and widely documented through the Andes that settlement patterns shifted to higher altitudes during the last centuries preceding the Spanish conquest. While various reasons (climate change, territorial balkanization and sociopolitical conflict, etc.) have been proposed to explain this apparently global phenomenon in the Andes, a systematic cross-regional study on the topic does not exist so far. The Andean concept of “pukara”—generically a hilltop fortified settlement—was first
documented in ethnohistorical sources and described and explained through European eyes. Thus, a critical review of ethnohistorical literature is necessary to counteract potential medieval misconceptions about the way of living uphill in the Andes. Second, hilltop settlements are very numerous in the late prehispanic Andes, and in fact a great deal of diversity exists in the architectural and locational patterns of settlements called "pukara" in the archaeological literature. For this reason we present here a comparative study of late prehispanic settlement patterns related to the pukara phenomenon across various study zones in the central Andes. Comparative analysis based on satellite imagery and 3D terrain modelling of architectural and locational characteristics offer new insights to apprehend the pukara phenomenon at an Andean scale.

Sakai, Sachiko (UC Santa Barbara)

Luminescence Dating and Chronological Reconstructions in the Arizona Strip and Adjacent Areas in the American Southwest

The Arizona Strip and adjacent areas have been the focus of archaeological studies to understand the prehistoric trading pattern due to their widely distributed olivine-tempered ceramics. To understand the changes in the production and distribution patterns of olivine-tempered ceramics, accurate reconstructions of ceramic and site chronologies are necessary in addition to the source study. For this purpose, optically stimulated luminescence (OSL) dating was conducted on 109 sherds from Mt. Trumbull, which is the source of the olivine and the lowland Virgin area, which is one of the distant areas where the olivine-tempered pots were found. This paper addresses three basic questions: (1) how these OSL dates correspond to the 14C dates available in the study area, (2) how the distributions of these OSL dates establish the site chronology in the Mt. Trumbull and lowland Virgin areas, and (3) how these OSL dates develop a ceramic chronology in these areas. This paper also examines how the trading patterns between Mt. Trumbull and the lowland Virgin area has changed over time by combining the LA- ICP-MS chemical compositional data of 1,069 sherds with these OSL dates.

Salazar, Diego see Maldonado, Blanca

Saldana, Melanie (California State University Los Angeles)

Mesoamerican Cave Archaeology at Cal State L.A.: A History

In 1999 Dr. James Brady came to California State University, Los Angeles as the first Mesoamerican archaeologist in the university's more than fifty year history. With no infrastructure for teaching Mesoamerican archaeology, Jim created foundational courses, established a dedicated laboratory, and expanded artifact and library collections making Mesoamerican Studies a vibrant focus in the Anthropology Department. Beginning in 2001, he took students from this predominately minority campus into the field with full financial support. Under Jim’s mentorship, these students have parlayed their research experiences into an impressive list of awards and honors that made Anthropology one of the elite departments on campus. With few exceptions students participating in Jim’s field projects have presented the results of their research in the annual SAA cave sessions becoming a vital part of our field’s participation in this conference. Moreover, his students have found success beyond the Cal State system by going on to Ph.D. programs, so that the Cal State L. A. program has become an important source of new cave archaeologists. This paper takes a historic look at Jim’s contributions to Mesoamerican cave archaeology through his tenure at Cal State L.A.

Saldaña, Melanie [70] see Solano, Adam

Saldaña, Julio (Pontificia Universidad Catolica del Peru), Luis Jaime Castillo (Pontificia Universidad Catolica del Peru), Fernando Zvietcovich (Pontificia Universidad Catolica del Peru) and Benjamin Castañeda (Pontificia Universidad Catolica del Peru)

New Approaches in the Recording, Analysis and Interpretation of Large Ceramic Moche
Vessels: 3D Techniques Applied in the Study of Ritual Practices on Peruvian North Coast

Several tools and equipments have been available for years in order to acquire three-dimensional models from archaeological artifacts and sites. Previous to this study, we have worked on a 3D method for the acquisition and processing that improves the accuracy and precision of the recording procedure of ceramic fragments when compared with the traditional one of drawing. Also, we have proposed a 3D reconstruction technique of complete vessels based on the mentioned fragments which has been applied to a database of profile contours taken from 3D models of paicas, large ceramic containers for liquids from the Moche of the North Coast of Peru. Preliminary results provide good and accurate estimations. Now we plan on evaluating the advantages of the application of this method in terms of how it improves the archaeological record, essential for interpretation and conservation as well as how we can now calculate the volume of vessels in order to determine the scale of ritual practices that involve the consumption of ritual drinking at the site of San Jose de More, an elite and ceremonial site in Jequetepeque Valley, Peru.

Salgado, Silvia (Universidad de Costa Rica)

Interaction between the Atlantic Highlands and Lowlands in the Case of Two Chiefly Villages

Since the 1970s, there has been a constant interest in the study of complex societies in Costa Rican archaeology, which are commonly typified as chiefdoms. This interest is not only theoretical but mainly historical due to the fact that ethnohistorical studies indicate that this type of sociopolitical organization was present across the Atlantic and other regions of Costa Rica. Archaeologists, therefore, see an opportunity to explore not only prehispanic sociopolitical processes but their continuity in the Colonial and even Republican periods, as shown also by ethnographic studies of indigenous populations in the 20th century. Herein we compare and discuss the developments of two chiefly villages, the Alto del Cardal situated at a 2600 masl on the slopes of the Irazú volcano, and the Nuevo Corinto settlement situated at a 230 masl. Both villages were connected by a pathway through which people, ideas and goods interacted. We discuss aspects of chronology, territoriality and the dynamics of interaction, to contrast the archaeological interpretation from those provided by ethnohistorians on the characteristics of the chiefdoms of the area.

Salisbury, Roderick [222] see Duffy, Paul

Sall, Candace (University of Missouri) and Christine VanPool (University of Missouri)

Many Shades of Clay: Casas Grandes and Salado Polychrome Pottery at 76 Draw Site, New Mexico

The 76 Draw site is at a crossroads of the Casas Grandes, Salado, Black Mountain, and Jornada Mogollon cultures. The level of interaction and integration between the various groups is of interest. We measured the chemical composition of the Casas Grandes and Salado Polychrome sherds from 76 Draw using NAA to examine interaction and integration among the cultures. Our sample of 100 sherds found distinct chemical groups of Ramos and Gila Polychromes, and interaction between the cultures is suggested based on the lack of compositional overlap between the polychromes.

Sallum, Marianne [76] see Cali, Plácido

Sallum, Marianne (SALLUM, M.) and Plácido Cali (CALI, P.)

Tupi Pre-Colonial and Colonial Pottery: Changes and Continuity (Southern Coast of Sao Paulo State/Brazil)

The current work presents a study of the pottery technology related to the indigenous Tupi people that lived in Peruíbe – at the southern coast of São Paulo State - Brazil, during two historical occupation periods: before and concurrent with a Franciscan hamlet in the 18th century. The archaeological site occupies about four hectares and it is situated between the sea and the Abarebê ruins – an archaeological site where the São João Batista hamlet’s old church is found. This work is focused on the Tupi’s occupation path in this region, based on the premise that there is an historic continuity between
the pre-colonial Tupi peoples and those mentioned in the historic documentation. Three campfires and around 4,000 pottery fragments were dug, including many mountable pieces of pot. The ornaments include engobe painted decorations as well as ungulate, corrugated and incised decorations, associated with remnants of vegetal macro-remains, bones, animal skulls and coal. In other areas, shell concentrations were found, associated to stoneware, porcelain, glass, pipes and indigenous pottery with colonial features. Thus, there are evidences in the material culture that certify a long term history and a confluence between Tupi people and the Europeans that arrived there.

Salomon Salazar, Maria Teresa

[60] Entre los cerros del Epiclásico: el valle de Puebla-Tlaxcala

En la literatura mesoamericana se habla frecuentemente que muchos de los sitios Epiclásico (600-900 d.C.) se pueden considerar defensivos debido a una tendencia a ubicarse en elevaciones naturales que estratégicamente los convierten en fortalezas. La definición de sitios del Epiclásico en el valle de Puebla-Tlaxcala ha seguido estos modelos de interpretación, asumiendo que para este periodo el descontrol económico que causa la caída de Teotihuacán provoca el surgimiento de asentamientos defensivos. En esta ponencia pretendo evaluar la evidencia que hay al respecto, y se señalan las fortalezas y/o debilidades del argumento. En esta ocasión se compararán la ubicación y las características consideradas defensivas de sitios como Cacaxtla, Cerro Zapotecas, Manzanilla, entre otros, con el fin de entender mucho mejor el muy polémico periodo Epiclásico en esta región.

[112] Chair

Salomón Salazar, Ma. Teresa [112] see Lopez Corral, Aurelio

Samei, Siavash [236] see Munro, Natalie

Samei, Siavash, Natalie Munro (University of Connecticut, Dep't. of Anthropology), Michael Kennerty (Independent Scholar), Maysoon al-Nahar (University of Jordan, Department of Archaeology) and Deborah Olszewski (University of Pennsylvania, Department of Anthropology)

[236] Taphonomic and Zooarchaeological Analysis of the Early Epipaleolithic Site of Tor at-Tareeq (WHS-1065), Jordan

We present the results of faunal and taphonomic analyses from the 2012 field season at the Early Epipaleolithic site of WHS 1065 (Tor at-Tareeq) in west-central Jordan. By combining the fauna with data from earlier field seasons, we are able to provide a more comprehensive view of human adaptations during the Last Glacial Maximum (25,000-18,000 cal. B.P.) at this site. We examine the subsistence adaptations of the site’s occupants using the prey choice model, and prey mortality and carcass exploitation measures. The study reveals a low intensity subsistence strategy based primarily on hunting high-ranked game like gazelle and wild ass. Several taphonomic indices reveal significantly better preservation conditions in the deeper sediments. A layer of impermeable breccia that caps the deeper sediments, protected the ecofacts from exposure to climatic and seasonal elements that damaged the bones closer to the ground surface.

Sammeth, David [13] see Lail, Warren

Sampeck, Kathryn (Illinois State University)

[72] An Archaeology of Indigo: Modernity and the Landscape of Obrajes in the Izalcos Region of Western El Salvador

Mesoamericans used the Central American dye plant xiquilite (indigo) during the Late Postclassic period to dye cloth, and Spaniards were enamored of its relatively permanent, vibrant blue color. Colonial production of indigo is first documented in the sixteenth century in the Izalcos region of today’s western El Salvador. Trade of indigo blossomed in the seventeenth century, with indigo cakes being used as a form of payment. Indigo was a part of the colonial economy well into the nineteenth century. The process of making indigo into dye profoundly changed from its pre-Columbian roots to the colonial period, ushering in many of the processes and social relations of modernity. Each step of indigo
processing involved new technologies, including water wheels, canal and drainage systems, and large vats. This mechanized process depended on laborers, often slaves, working in a factory setting. Archaeological examples of the built environment of indigo obrajes illustrate the conditions of labor during the genesis of modernity.

Sampeck, Kathryn [128] see Earnest, Howard

Samuel, Haskell [265] see Burtt, Amanda

Sanchez, Carmen [11] see Martinez, Valentina

Sánchez, Carlos [147] see Pugh, Timothy

Sánchez, Maureen (Universidad de Costa Rica) [197] Spatial and Hierarchical Relations among Political Centers in the Intermediate Lands of South Pacific Costa Rica

The intermediate lands in the South Pacific of Costa Rica have been the subject of several archaeological projects by the University of Costa Rica. Nucleated villages have been documented to have had different levels of complexity in architectural design and cultural elements that characterize them. A multiscalar approach has been used in order to understand and interpret the internal relationships of some of these villages, as well as to explore local and regional linkages that might have existed, particularly during the period ranging from A.D. 800 to 1500. Theoretical and methodological limitations that could have affected the results are mentioned and discussed, as well as multiple research questions that can be explored in the future to gain access to other levels of explanation about hierarchical relationships between the main villages in the South Pacific.

Sanchez Miranda, Guadalupe (Instituto de Geologia-UnaM) and Vance Holliday (University of Arizona) [24] Late Pleistocene Landscapes and the Clovis Occupation of Sonora, Mexico after Ten Years of Systematic Investigations

In the last 10 years our knowledge of the Late Pleistocene occupation of Sonora, Mexico has increased exponentially, mostly due to systematic investigations carried out in the region with support of the Argonaut Archaeological Research Found (AARF). A total of 114 Clovis points have been recorded in Sonora and twelve sites have been registered in the Plains of Sonora Landscape physiographic province; geoarcheological investigations have been carried out in five of these sites. Encampments kill sites, hunting localities, and lithic quarry sites represent the Sonoran Clovis record. Probably the most important site that we have found is the El Fin del Mundo site that has been under study for the last six years. The site consists of at least 25 localities including; a buried stratified feature where Clovis peoples hunted Pleistocene elephants (gomphotheres), several camp areas, and two lithic quarries. Four Clovis points were found in situ at the gomphothere feature; in 2012 charcoal fragments were found associated to one flake and bone fragments at the western end of the gomphothere feature. A radiocarbon date was obtained from one of the charcoal fragments with a 14C-age B.P.: 11560 ± 140 (cal B.P.: 13454 ± 170).

Sanchez Santiago, Gonzalo [293] see Higelin, Ricardo

Sand, Christophe [242] see Lilley, Ian

Sanders, Donald (Institute for the Visualization of History, Inc.) [107] Beyond Pretty Pictures: The Benefits of Virtual Heritage

Archaeology is tedious. The discipline demands exactitude, copious documentation, rigorous analyses,
and prompt dissemination to peers. That rarely happens. Archaeology is also about understanding past cultures, and since the past happened in 3D, in color, and as a continuous set of actions, it would seem to make sense to study the remains of the past with similar parameters, rather than as the disconnected, 2D, black and white images that are still too common in the discipline's final excavation reports, teaching materials, and Websites. Plans, sections, and elevation drawings (the fundamental "sacred triad" of architectural documentation for millennia) have been central to archaeological visualization since the inception of the profession well over 200 years ago, and they persist despite the availability of more appropriate and more accurate alternative image types. After nearly two decades, the interactive computer models of virtual heritage practitioners are now being used more widely than ever for hypothesis testing, fieldwork documentation, classroom exercises, museum displays, and augmented-reality-based tourism. This paper explores the benefits of virtual heritage for archaeologists and provides a glimpse into the future of archaeological visualizations.

Sandor, Jonathan [60] see Strawhacker, Colleen

Sandoval Mora, Cindy Cristina (Cindy Cristina Sandoval Mora), Cinthya Vidal Aldana (INAH-Sinaloa), José Luis Punzo Díaz (INAH-Michoacán) and Héctor Víctor Cabadas Báez (UAEM) [140] Back to Basics... Where Was the Pottery Made? A Petrographic Analysis of Chalchihuites and Aztatlán Pottery from Durango and Sinaloa, Mexico
Decorated pottery has been the key in all archaeological investigations in the state of Durango. By categorizing it, several hypotheses have been made. To begin it has been said that Chalchihuites evidence is result of diffusion and interaction with Alta Vista inhabitants, but it has also been said that Aztatlan materials in Durango are consequence of the trade routes across the Sierra. Leaving behind those interpretations, by reassessing the archaeological data from an interdisciplinary point of view, we go back to basics and start with questions such as: Where was the pottery made? What are the social implications of their provenance? In this poster we present the methodology and results of applying a petrographic method to Chalchihuites and Aztatlán vessels, starting with a microscopic view, and going to its implications related to interaction of human agents.

Sandrock, David (Texas Tech University) and Brett A. Houk (Texas Tech University) [302] Preliminary Results of the Gallon Jug-Laguna Seca Survey and Reconnaissance in Northwestern Belize
This presentation discusses the findings of the Belize Estates Archaeological Survey Team (BEAST), an operation of the Chan Chich Archaeological Project, during the summer 2013 field season. Survey took place on cut seismic survey lines crossing the Gallon Jug and Laguna Seca property in northwestern Belize. During the 2013 season, BEAST investigated over 48 kilometers of linear survey, and conducted targeted opportunistic survey and reconnaissance, including revisits of previously recorded sites. Although the lines available for survey had been established for seismic studies, without prior consideration to archaeological potential, specific lines were chosen due to their coverage of areas spanning several different vegetation types and topographic settings. Four new named sites were recorded along with over 140 individual structures, containing several areas of dense settlement with as-of-yet unidentified site core associations.

Sandrowicz, Daniel [230] see Cole, Michelle

Sandweiss, Daniel [69] see Rademaker, Kurt

Sandweiss, Daniel (University of Maine) [85] Negotiated Subjugation: The Incorporation of Chincha into the Inca Empire
Maritime adaptations are as old as the human presence on the Peruvian coast—at least 13,000 years. Complexity began to emerge in this region before 4000 BP in a context in which marine resources played an important, if debated, role. The influence of coastal opportunities in hierarchical social organization did not end with the first complex societies, however, but continued through the entire
prehistoric period up to and including the conquest of the coast by the Inca in the late fifteenth and early sixteenth centuries A.D. This paper discusses the archaeological and ethnohistoric data on the Inca incorporation of the south coast kingdom of Chincha. The Chincha apparently used their expertise in seafaring to negotiate a privileged role in the Empire, providing access to the sacred Spondylus shell and perhaps other high-status goods from as-yet unconquered coastal Ecuador by acting as raft-borne merchant/agents for the highland Inca landlubbers.

Sanger, Matthew C. [10] see Valentinsson, Signe

**Sanger, Matthew (American Museum of Natural History)**

**New Perspectives on Human-Landscape Relations in Non-Agrarian Communities**

A growing body of evidence from around the world shows that hunter-gatherer communities often invest far more energy into transforming their surroundings than traditionally thought. A particularly intriguing aspect of research is the investigation into “monumentalized” landscapes produced by non-agrarian peoples and how these findings challenge orthodox understandings of monuments as being intrinsically related to ownership and inequality. Drawing from published accounts, as well as recent fieldwork conducted on two large-scale sites in coastal Georgia, this paper suggests a return to the original meaning of monument as related to memory and history rather than power and grandeur. This interpretive shift suggests that monument creation is a particular method of inscribing events, both experienced and imagined, into the landscape and as such creates historically-charged places marked as separate and different than their surroundings. The social impact of creating and engaging with such monuments on hunter-gatherer communities is an important archaeological question that this paper will begin to address. Additionally, the traditional methodological focus on labor-hours and energy-expenditure associated with monument creation loses its applicability when monuments are interpreted as history inscription rather than materialized power. As such, new methods are required; a topic broached, although not concluded, within this paper.

**Santarelli, Brunella (Arizona State Museum, University of Arizona), Sheila Goff (History Colorado) and David Killick (University of Arizona, School of Anthropology)**

**New Technological Studies of Pueblo I Glaze Paint**

Although widely employed in prehistoric Eurasia, lead glazes were produced in only two small regions of the Americas prior to European contact, both in the Southwest. The first independent invention of glaze paints was in the Upper San Juan River drainage of southwestern Colorado during the early Pueblo I period (ca. 700-850 C.E.). Despite extensive research on the later Pueblo IV glaze paints of New Mexico (ca. 1275-1600/1700 C.E.), there have been no technological analyses of the Pueblo I glaze paints. This research project presents the first analysis and technological reconstruction of the Pueblo I glaze paints using x-ray fluorescence (XRF) spectroscopy, backscattered electron (BSE) imaging and wavelength dispersive spectroscopy (WDS). Our sample was selected from sherds with good provenience and chronological data excavated during the Animas-La Plata (ALP) Project. Previous research from the ALP Project suggests that during the Pueblo I period, people with different cultural histories came together in the first attempts at village formation in the Upper San Juan. Our technological reconstruction has the potential to provide important information regarding relationships and interactions of potters and their role in negotiating differences among the various groups who were living in the Upper San Juan at that time.

**Santiago, Emilio, Matthew Sanger (Columbia University, American Museum of Natural Hi) and Emma Gilheany (Columbia University)**

**Scaffolds and Links, or How to Trace Staged-Learning through a Productive Chain**

While learning has recently become a prominent area of research within archaeology, tracing its history and character through objects has proven difficult. This is particularly true when learning is considered a
staged event in which novice engagement with objects is intermittent rather than sustained. Learning to make pottery is often staged in that novices assist in particular aspects of the productive chain while more experienced individuals perform other tasks. As such, individual vessels often go through multiple hands, making assignment as “novice-wares” problematic. This paper offers a way forward through the application of a constellation of techniques; each of which provides information on a discrete link in the production sequence and assess the level of skill reflected in particular attributes. By applying these methods to two pottery assemblages from neighboring contemporaneous sites, the shortcomings and potential feasibility of these techniques are highlighted and new research directions are offered.

Santini, Lauren [295] see Kara, Alex

Santini, Lauren (Harvard University) [295] Chair

Santoro, Calogero [23] see Capriles, Jose

Santos Ramirez, Marco Antonio [200] see Turkon, Paula

Sappington, Robert Lee [343] see Longstaff, Laura

Sapula, Anitra [148] see Rhode, David

Sara Repetto, Cesar [19] see Marsh, Laura

Sarris, Apostolos [222] see Duffy, Paul

Sartori, Michael [337] see Fernandez Diaz, Juan

Sasaki, Ken-ichi (Meiji University) [226] State Formation in Eastern Peripheral Region of Japan

In the process of state formation in Japan, highly-characteristic keyhole-shaped tumuli or burial mounds were distributed all over Japan. Many of them shared the “standard of mound construction,” and the same construction plan was adopted to keyhole-shaped tumuli in different regions away from one another. It seems that the highest-ranking chief in the central polity distributed the construction plan to local elites. Looking into detail, however, some local polities acted independently from the central polity. This was particularly the case in eastern peripheral regions of Japan. For example, the construction of keyhole-shaped tumuli reached its peak in the sixth century in eastern Japan when the construction of keyhole-shaped tumuli declined in the central polity. In northeastern Japan a part of a keyhole-shaped tumulus was destroyed in the construction process of a circular tumulus in the sixth century, although a keyhole-shaped tumulus is considered as the symbol of the highest social status in the central polity, much higher than those buried in circular tumuli. These lines of evidence indicate that, while local elites also built keyhole-shaped tumuli, there was some room for the local elites to act independently from the central polity. Japan was not fully unified in the sixth century.

Sassaman, Kenneth (University of Florida - Anthropology) [243] Landscape Learning in Cosmic Proportions

About 3,500 years ago across the lower Southeast U.S., a community of practice coalesced around the shared experience of sea-level rise. Their forebears, over scores of generations, experienced transgressive seas that flooded ancestral homeland and pushed communities landward repeatedly. With
its low gradient and sandy composition, the Gulf coastal setting of this shared history was especially vulnerable to shoreline erosion and inundation. Did living through centuries of constant change in such an environment make communities of practice capable of projecting futures far beyond the next generation? If so, the spatial, as well as temporal, scale of learning was virtually cosmic, transcendent of individual or small-scale community experience to encompass a multigenerational, translocal learning process. A variety of archaeological evidence from sites across the Gulf coast of the Southeast is marshaled to argue that futures planning was embedded in the material arrangement of both built and “natural” places, all with reference to celestial events, notably the solstices. With settlements, cemeteries, monuments, and caches positioned with reference to the movement of the sun, time was mapped onto space to anticipate, and thus cope with change—a lesson modern people might ponder in their own challenges with climate change.

Discussant

Satterlee, Ashton (University of Idaho) and Andrew Duff (Washington State University)

Vessel Size and Feasting in three Chacoan Great House Communities

Measuring rim sherds and identifying the size of vessels is one method used to identify feasting. Larger than normal vessels may indicate larger scale food preparation for larger groups of people than the normal household. Chacoan Great Houses are thought to be used as gathering places for local communities, and to be the locus of ritual and feasting activities. If true, Great House ceramic assemblages should differ from those of smaller household residences, especially in terms of size. Here, we report vessel size data from the smaller residences and Great Houses in the southern Cibolan communities of Cox Ranch Pueblo, Cerro Pomo and Largo Gap to assess ceramic evidence for feasting.

Saturno, William [61] see Runggaldier, Astrid

Saturno, William and Benjamin Vining (Wellesley College, Department of Anthropology)

More Than Meets the Eye: Examining the Spectral Response of Sugar Cane to Subsurface Features

While the application of remotely-sensed imaging to archaeology has grown dramatically in recent years, much of this work continues to rely on the qualitative identification of archaeological features as geometric anomalies in vegetated or arid regions. There are fewer analyses of the spectral responses of archaeological features, although recent studies in Near Eastern, Mediterranean, and Mesoamerican regions are important contributions. Here we describe spectral behavior of densely vegetated sugarcane fields in response to anthrosols and archaeological features in the Chicama Valley, Peru, from the Moche-Chimu periods (ca. AD 300–1400). The extensive sugarcane cultivation in Chicama affords the opportunity to analyze the expression of water- and salinity stress in relatively homogenous vegetation landcover, and at various life stages from emergence to senescence. Using extant archaeological survey data, we relate this to anthropogenic features, including soil alterations from prehispanic agricultural and settlement systems. Previously undocumented sites are also recorded. In addition to the obvious implications for archaeological analysis, these results help interpret the legacy-effects of prehispanic land use on modern agricultural potential, and can be used to plan mitigation efforts.

Saul, Frank and Julie Saul (Lucas County Coroner's Office)

Cuello’s Preclassic Burials: A Unique Life History of a People as Written in Their Bones

When we joined Norman Hammond’s Cuello project in Belize in 1976, we had no inkling that we were about to encounter a veritable treasure trove of Preclassic skeletal remains. Poor skeletal preservation in the tropics may encourage an archaeologist to ignore skeletal remains or dispose of them hastily with only a cursory look. In the case of Cuello, the sample is unusually complete and well documented because Norman chose to extract every bit of information from every source (including skeletons) in
every portion of the site, and he carefully excavated to bedrock. Although often eroded and fragmentary, careful excavation, reconstruction, and osteobiographic analysis of this unusually large and well documented collection of Preclassic skeletal remains yielded surprisingly good information about the people of Cuello. Population composition, disease, trauma, nutritional indicators, cranial shaping, dental decoration, activity markers, cultural behaviors - pictures gradually emerged of individuals, and later of the population as a whole.

Saul, Julie [31] see Saul, Frank

Saunaluoma, Sanna [75] see Isendahl, Christian

Saunders, Michael (Tulane University)


After completing research mapping of present-day Maya sacred site layout and documenting correlations to ideas of sacred geography known for ancient Maya, my work has concentrated on the (often crucial) ecological associations of modern sacred geography. This research uncovered not only important links to ecologically sensitive or critical areas (especially those related to water issues), but to archaeological locations as well (themselves often situated in key environmental settings). Although present sacred locations are not necessarily – and indeed are often not – archaeological sites, evidence gathered on the northern rim of Lake Atitlán, Guatemala, increasingly points to a relationship between contemporary sacred sites and archaeological remains. Such links offer insight for both archaeologists studying pre-Hispanic Maya as well as anthropologists examining modern Maya populations. Importantly, as well, recognition of the relationship between archaeological remains, local ecology, and current sacred site layout and utilization provides evidence of long-term environmental management. Demonstrating such lasting management through combining archaeological and ethnographic data can have important implications for current environmental issues. Moreover, such links indicate the novel possibility of locating archaeological remains through investigations of contemporary sacred geography.

Sauza, Maximiliano, Lourdes Budar (Universidad Veracruzana) and Sara Ladrón de Guevara (Universidad Veracruzana)


El glifo conocido como "Ojo de Reptil" es un elemento iconográfico mayormente utilizado en la plástica mesoamericana durante el periodo Clásico. El Ojo de Reptil es reconocido por muchos investigadores como de gran trascendencia debido a su asociación con Teotihuacan y ha sido interpretado la mayoría de las veces como un glifo de carácter calendárico. Sin embargo, pese a su importancia, no ha sido investigado de forma profunda. El nivel de abstracción que presenta su diseño, así como la variedad de estilos y contextos en los que fue representado, denotan que su importancia no sólo radica en la asociación al centro rector del altiplano, sino a su contenido y carga simbólica en su representación misma. En este trabajo se expondrán algunos elementos que sugieren que el Ojo de Reptil más que un glifo calendárico, es un símbolo multivalente mesoamericano.

Savory, Samantha

[172]  Brook Farm: A Ceramic Analysis of a Short Lived Utopia

This research focuses on the ceramics that were used by the members of the Brook Farm site. Brook Farm was a community in Massachusetts established in 1841 and ending in 1847. Brook Farm was an experiment in social reconstruction started by reuniting man and nature in a communal and agricultural community inspired by Transcendentalism. In 1844 Brook Farm officially adopted a new social reform theory, Fourierism, which incorporated the industrialization occurring in the New England at the time. The beliefs of the Brook Farm members and their communal living situation would have required a certain ceramic assemblage in order to accommodate the volume of people living in the community. Studying the ceramics from Brook Farm will determine if the members chose certain ceramics based on
their needs and beliefs while living in the community. A comparison of the Brook Farm assemblage and other New England site assemblages will determine if the Brook Farm assemblage is unique. The comparison of Brook Farm with assemblages from sites in New England will also determine if the members were bringing their own ceramics or if Brook Farm was supplying the ceramics.

Sawchuk, Elizabeth [186] see Pfeiffer, Susan

Sawyer, Johann (University of South Carolina)
[251] Centered Pipes and Swirling Pots: The Cult of First Man and Ritual Iconography in the Mississippian Southeast
A series of pipes known as Bowl-Giver pipes exhibit a male figure looking up while holding a clay pot with strap or loop handles. This ceramic pot also functions as the bowl of the pipe. These pipes represent a commonly understood visualization of the culture-hero known as First Man. Bowl-Giver pipes appear to be affiliated with very specific ritual practices and cult manifestations associated with First Man, the use of tobacco, and ceramic pots. Although stylistically dynamic, these pipes suggest they were linked to widespread and commonly understood rituals and an ideology concerned with centering.

Sayers, Daniel
[118] Modes of Production and the Resuscitation of Historical Praxis
Praxis has (re)emerged as a powerful concept through which we can explore past human action without necessarily engaging the very ambiguous, and tired, notions of agency and identity. Political-economic conceptualizations of praxis compel foci on thoughtful and critical individual and group actions of the past, while also being highly congruent with Mode of Production frameworks. Such frameworks, long relegated to passé status it would seem, press historical researchers to think dialectically, while also inspiring attention to political-economic conditions at multiple scales. In this paper, I discuss how my Modes of Production-focused research in the Great Dismal Swamp of Virginia and North Carolina has sought to recover evidence of the historical social praxis of swamp-dwelling people, such as African American Maroons, between ca. 1600 and 1860. Additionally, I discuss how the contemporary resuscitation of past systems of praxis can impact our future.

Sayle, Kerry [89] see Hamilton, W.

 Scarborough, Vernon (University of Cincinnati), Joel Gunn (University of North Carolina Greensboro), Lisa Lucero (University of Illinois Urbana Champaign), Arlen Chase (University of Central Florida) and Diane Chase (University of Central Florida)
[75] A Complex World at another Scale: Maya Heterarchy and Social Change
To understand the impact of self-induced climate change on present-day society, there must be interpretive distance between what is climatically produced on a landscape or biosphere as opposed to what is a consequence of human modifications to that landscape. The ancient Maya constitute one of the best-studied, deep-time bellwethers for tropical society. Maya societies existed without our technological emphasis, but were institutionally and structurally organized as nested hierarchical states in parallel to modern world culture. Approaching human-nature couplings that existed between the Maya and their environment permits a transparent assessment of significant aspects of our current convoluted and nonlinear complexity, but reduced to a scale manageable for holistic assessment of long-term environmental and social change. The charge of IHOPE-Maya is to: (i) examine regional climatic influence on the environment independently of human action or reaction; (ii) draw upon our work in identifying the controlled temporal development of the engineered landscape; and, (iii) assess the actual impact of climate on social change. Through this exercise, it is possible to identify past processes that have meaning for modern societies as we face geometrically increasing rates of environmental change.

Scarborough, Vernon [158] see Tankersley, Kenneth

Scarborough, Todd [42] see Patterson, Winona
Scarre, Chris  
[122] **Cave Art Acoustics: The Role of Sound in the Painted Caves of Northern Spain**  
The Upper Paleolithic painted caves of southwest France and northern Spain provide some of the earliest evidence for human symbolic behaviors, but the potential role of sound in the activities that were undertaken in these enclosed spaces has not hitherto been adequately explored. Some 25 years ago it was suggested that the placement of the images was related to the particular resonance acoustic of those locations. That relationship has been explored by our recent acoustical study of five painted caves in Asturias and Cantabria. The results of this new work are compared with the earlier claims, and set against the background of anthropological evidence for the importance of sound in the ritual practices and belief systems of traditional societies. It is concluded that while at a general level sound probably played a part in the activities associated with the images in Upper Paleolithic painted caves, a direct connection between acoustics and images remains difficult to establish. The special acoustics of the caves are nonetheless one of the most striking features of these underground systems and the sensory experience that they provide.

Schaafsma, Polly (Research Associate, MIAC\LOA)  
[334] **Discussant**

Schaan, Denise  
[331] **Local Knowledge, Local Voices: Many Ways for Decolonizing Archaeological Practice in Amazonia**  
Amazonian peoples have long experience with colonization, both during the colonial period, in which most of the region was under the Portuguese rule, and in the last century, when the region has suffered the imposition of large infrastructural projects that are executed without taking into account local histories and rights. The state policy for the archaeological heritage protection implies the imposition of authoritarian laws without regard for local sociocultural diversity and autonomy. Very often, unfortunately, the western science practiced by archaeologists in the field does not acknowledge cultural diversity and the rights of culturally diverse people. Drawing from field experience, this paper proposes that archaeological research in Amazonia demands both an anthropological perspective, and field projects opened to different voices and knowledge. It is also discussed ways to establish less asymmetrical relations with local people, recognizing their right to sociocultural diversity, while producing an archaeological knowledge more committed to local realities.

Schachner, Gregson [202] see Peeples, Matt

Schaepe, David (Sto:lo Nation)  
[290] **Crossing the Theoretical Contact Barrier in S’olh Temexw**  
The period of contact between natives and newcomers establishes a barrier for the wholesale application of ethnographic models to archaeological practice within the Northwest Coast. Precontact patterns of continuity and change among houses and settlements in S’6lh Temexw (the Lower Fraser River Watershed of southwestern B.C.) contrast with ‘classic’ ethnographic models of Coast Salish social organization developed by ethnographers including Suttles and Duff. Crossing the contact barrier, then, requires an examination of the theoretical frameworks and assumptions supporting commonly accepted ethnographic models and their deficiencies in accounting for archaeological findings on the ‘other’ side of the contact barrier. Alternative models – focusing on concepts of community - are explored in addressing archaeological findings representing nearly 3,000 years of St6:l6-Coast Salish settlement patterning and community organization. This discussion aims to advance developing interpretive frameworks and theory effectively crossing the contact barrier in this part of the Pacific Northwest, with repercussions elsewhere.  
[134] **Discussant**
Schaepe, David [173] see Shankel, Sarah

Schaich, Martin
[154] Combined Airborne and Terrestrial 3D Scanning and Photogrammetry Surveys with 3D Database Support for Archaeology and Cultural Heritage

The German surveying company ArcTron 3D specializes in the digital documentation of archaeological objects and historical monuments. Over the past few years, some large-scale 3D documentations with combined scanning technologies have been realized on archaeological sites in South America (Bolivia, Peru). This talk will present a technical evaluation of these projects and their advance for archaeological research. One of the core processing tools is ArcTron's own 3D information system aSPECT3D. It can combine data from various sources (total stations, GPS, 3D scanners and photogrammetry) and is especially suited for use in cultural heritage. The intuitive user interface makes it easy to handle for everyone, who wants to work with 3D data. A whole new 3D photogrammetry application (ImageScan Module) presents a low-cost alternative for creating 3D models and is very suited for archaeological objects. The presented projects used a combination of airborne photogrammetry and terrestrial laser scanning. aSPECT 3D produces photorealistic 3D models ready for scientific analysis. The main tool for this is the integrated PostgreSQL database, which systematically helps to manage 3D geometry data. 3D models can be segmented, structured and annotated—e.g., in form of damage mapping. aSPECT 3D takes archaeological data analysis into the third dimension.

Schaich, Martin [154] see Fux, Peter

Schambach, Frank [30] see Jeane, David

Scharf, Elizabeth (University of North Dakota) and David Rhode (Desert Research Institute)
[23] Packing for the Trip: Plant Remains from High Elevation Sites in the Great Basin

High-altitude (> 3000 m) environments in the Great Basin were used almost exclusively during the late Holocene. Early use of alpine areas is primarily associated with hunting camps and hunting-related facilities, such as drive lines and hunting blinds. More recent use involved the construction of multiple residential dwellings ('villages') at particular locales, implying much greater investment and duration in occupation. This paper presents information on botanical remains from Midway (in the White Mountains of California) and Alta Toquima (in the Toquima Range of Nevada), both sites containing multiple occupation components in the late Holocene spanning the period of increased residential occupation. Differences in plant use between early and late occupations of these sites reveal how these late Holocene occupations were utilized and subsidized, in part, by subsistence resources from lower elevations. We use these data as a basis to consider more broadly the role of plant foods in the subsistence economies of high elevation occupation of high elevation areas within and outside the Great Basin.

Scharlotta, Ian
[163] When a “Midden” is not a midden: The “Encinitas Midden,” San Diego County, California

CA-SDI-17402, located on Moonlight Beach in Encinitas, California, was originally recorded as a meter-thick midden, consisting of dark soils with sparse artifacts, dubbed the “Encinitas Midden.” Recent development uncovered a series of ten thermal features dating to the Archaic period, further supporting the cultural origin of the deposit. Regional analysis of contemporary sites indicates that Moonlight Beach was likely a stopover point for travelers along the San Diego coast. During excavation, charcoal appeared lacking, leading to a detailed analysis of the soils. A combination of Loss-on-ignition, FTIR, pXRF, GC-MS and microscopic analysis of charcoal remains from soils taken inside and outside of features, as well as from sterile strata produced ambiguous results. No evidence could be found to support a cultural anthrosol, black mat or similar organic formation, or contamination from petroleum derivatives. Evidence for movement of the outflowing creek explains impacts to specific features, but provides no insight into the deposit at large. Surrounding bluffs do not present a logical source for dark
sediments, yet a sizeable stratum of dark soil is present, in association with hearth features, that is clearly not a midden.

Scheffers, Anja [249] see Orange, Marie

Scheffler, Timothy (Dept. of Anthropology, UH Hilo and GCI, Inc.)

[161] Non-Center Domestication in Southeast Mesoamerica

The El Gigante rock shelter holds some of the oldest stratified archaeological deposits described for Southeast Mesoamerica. The cultural adaptations of early Archaic people represented at the site highlight the diversity and dynamism of later indigenous groups such as the Lenca. This paper describes changes in the avocado (Persea americana) remains found at the site. The macrobotanical preservation of pits and rinds was excellent throughout occupational horizons. The identified specimens span the very early Archaic through the Formative periods. Metrics (length, diameter/radius) and statistics (size indices, coefficient of variation, ANOVA analysis) are presented from which the directed selection for larger fruit is inferred. The interpretations highlight connections that form and operate within an unfolding process of agricultural intensification and landscape transformation. These changes are met in part through the adoption and manipulation of both annual and perennial species. The rate and direction of selection evident in the avocado assemblage is compared with the highland Mexican collection from Tehuacan.

Scheiber, Laura (Indiana University)

[159] Archaeology as Mediator of Place, Heritage, and Tourism in the American West

The image of the contemporary American West incorporates numerous pervasive myths related to the near and distant past. The dominant narrative recalls the American Frontier, Indian Wars, Wild West shows, and a cast of colorful characters. Meanwhile past Native presence, as well as its impact on the surrounding landscape, is often disregarded in part based on successful wilderness policies in national parks and forests, which claim pristine environments untouched by humans. The tourism industry capitalizes on a history of the West that remains thus manipulated and constructed. In this paper, I discuss the way that the archaeology of modest campsites and hunting features can help bridge gaps in Western heritage that exist in part because of the Yellowstone tourist industry. According to the Crow (indigenous residents), time is not as relevant as place in history, and historical events are tied to place much more than they are to time. Archaeological data can be incorporated with oral histories about nearby prominent natural features to reveal a more in-depth engagement with the process of place-making in the past and present. Likewise, archaeology can also engage with the history of the recent past by emphasizing linkages between places and people in historically-manipulated contexts.

[314] Discussant

Scheiber, Laura [265] see Burtt, Amanda

Scheinsohn, Vivian (INAPL-CONICET/ University of Buenos Aires) and Florencia Rizzo (INAPL/CONICET)

[90] Rock Art as a Mortuary Practice in North Patagonia

In Patagonia, some archaeological publications noted certain recurrence between the presence of human burials and rock art in Patagonia. Rizzo (2012) demonstrated that this association was not statistically significant. However, in those sites where there was rock art and human burials, the hypothesis that certain rock art, or at least certain motifs, could be associated with the presence of burials, remains untested. Here, we propose a method to test this hypothesis. For this work we will focus on a specific area of Northern Patagonia (Argentina) and a specific rock art style (known as Fret Style, Menghin 1957) which was dated from 700 AP onwards. Departing from archaeological literature and sites studied from first hand, we will build a database that records all sites where there is an association between of rock art and burials and all motifs (pictographs, as this is the predominant rock expression) present in each site. The hypothesis rejection will allow considering that rock art was performed independently of the burials. But if it is corroborated certain rock art motifs could be
indicating the presence of burials, and then those motifs could be considered as a mortuary practice, accompanying the burial.

**Schele, Elaine (Austin Community College)**

[319] *A Tale of Two Dates: A New Look at the Controversy over the Age of the Bones of K'inich Janab' Pakal I*

In 1952, when Alberto Ruz discovered the magnificent tomb of K'inich Janaab' Pakal I, the most important Classic Maya king of Palenque, Mexico, he also discovered Calendar Round (CR) dates on the edge of the tomb’s sarcophagus lid. No Long Count dates were present to anchor them in history. According to Ruz's physical anthropologists, the king’s remains within the tomb were those of a 40 to 50 year old. In every subsequent report Ruz wrote where he referred to the dates on the lid, Ruz anchored the first inscribed date which was 8 Ahau 13 Pop at AD 603. That date was the presumed birthday of the occupant of the tomb. However, 16 years later in a 1973 publication, Ruz re-anchored this CR date to A.D. 665. 1973 was also the year that Linda Schele and Peter Mathews presented a information on the kings of Palenque using newly deciphered hieroglyphic readings at the First Palenque Roundtable where they contended that the age of Pakal was 80. Others joined in the debate and thus began a scholarly argument that lasted for several decades. This paper is a new look at the events and the personalities associated with this controversy.

**Schepartz, Lynne**

[303] *Feasting Men, Suffering Women: Social Roles, Diet and Health at Mycenaean Pylos*

The sociopolitical structure of Late Bronze Age (ca. 1675-1050 B.C.) Mycenaeans is generally understood from their written records (primarily accounts of economic transactions and preparations for feasts and rituals), monumental art, and mortuary practices. In this study, bioarchaeological data from high status tholos tombs and chamber tombs at Pylos were used in conjunction with stable isotope analysis to investigate observed differences in dental health. Frequencies of caries and antemortem tooth loss (AMTL) differ significantly by sex and social stratum. Individuals from tholos tombs have significantly fewer caries and AMTL, and women have more dental pathology than men of the same rank. Greater access to animal protein from feasting activities, predicted for the highest status individuals, is hypothesized to be the reason for these differences. This was verified by carbon and nitrogen isotope studies, where individuals from the tholos tombs are clearly associated with greater access to protein and the males from those contexts have the most elevated protein values. Social rank and gender, not access to wealth, seem to have been the key factors underlying patterns of dental health among the Mycenaeans.

**Scher, Sarrah (Upper Iowa University)**

[192] *The Boat Woman’s Dress: Net Imagery and Meaning in Moche Iconography*

Fishing imagery, like all imagery of the Moche of north coastal Peru (0-800 C.E.), is laden with associated meanings that evoke the relationship between the world of humans and the supernatural world. The Boat Woman, also called the Moon Goddess, is a figure that originates in the Southern Moche but moves to prominence in the female-centered iconography of San José de Moro in the North. She wears a dress that mimics the design of nets used in Moche depictions of fishing and deer hunting. This paper explores the visual relationships among the netted dress, fishing nets, and deer nets, and postulates what these relationships might mean in the expression of gender roles, site identity, and the political relationship between Northern and Southern Moche.

**Scherer, Andrew (Brown University) and Charles Golden (Brandeis University)**

[128] *Border-Building and Territory-Taking in the Usumacinta River Basin*

Over a decade of research on issues of borders, boundaries, and frontiers in the Middle Usumacinta River region of Chiapas, Mexico and Petén, Guatemala has shown that neighboring Classic period Maya dynasties developed distinct strategies for occupying frontiers, establishing borders and expanding the limits of royal authority. These differences reflect the particularities of history, geography,
and political strategy among each kingdom. Contemporary lords had very different relationships with the territories they sought to control, the people they claimed to govern, and the networks of production and exchange that flowed in the shadow of their courts.

Schieber de Lavarreda, Christa (Ministerio de Cultura y Deportes Guatemala) and Miguel Orrego Corzo (Ministerio de Cultura y Deportes Guatemala)

[253] The Passion for Mosaics in Lapidary Art at Tak'alik Ab'aj, 2000 Years Ago and Today: The Mosaic Project at Tak'alik Ab'aj

Excavations at Tak'alik Ab'aj have revealed a considerable collection of Preclassic and Early Classic lapidary art based on the technique of mosaic assemblages. Among which the most notorious are five iron pyrite mosaic reflectors and seven jadeite mosaic ceremonial miniature heads. Four reflectors and one miniature head was found in situ, as part of the royal funerary apparel of Late Preclassic Burial No. 1 located in the depth of ceremonial platform Structure 7. Hundreds of jadeite mosaics of six disassembled miniature ceremonial heads and one iron pyrite mosaic reflector, as part of Early Classic massive offerings deposited in front a staircase of Structure 86 in the West Group of Tak'alik Ab'aj and at the central sacred vertical axis at Structure 6, provide valuable primary and secondary contextual and chronological data. This, carefully documented, represent the platform for the current Mosaic Project at Tak'alik Ab'aj, which study, re-assemble and conservation, offers information and insights about ancient design concepts, production and assemblage techniques, and signal regional Mesoamerican lapidary traditions through time.

Schiffer, Michael (School of Anthropology, University of Arizona) [328] The Archaeology of Science

In their reconstruction of technologies, archaeologists have been studying the scientific knowledge produced by prehistoric peoples. This paper argues that archaeologists may also study the science of early modern and modern societies, seeking to formulate generalizations. This can be achieved by a focus on the people-artifact interactions occurring during activities that lead, for example, to discovery claims. Examples of such generalizations are provided that shed light on discovery processes.

Schilling, Timothy [266] see Monaghan, George

Schilling, Timothy (Midwest Archeological Center), Anne Vawser (NPS - Midwest Archeological Center) and Albert LeBeau (NPS - Effigy Mounds National Monument)

[343] Buffalo Jumping in the Black Hills

Native Americans from the Northern Great Plains have a long history of using communal, mass kill techniques to obtain occasional surpluses. Techniques such as jumping or trapping animals in pounds were especially effective at yielding tremendous quantities of food and other products from animals, like the Plains Buffalo (Bison bison), that were otherwise difficult to kill using more individualistic hunting strategies. Buffalo jumping, where prehistoric hunters stampeded herds of buffalo over a cliff edge is typically depicted as an indiscriminant, non-selective hunting technique. A recent archaeological project at the Sanson Site in Wind Cave National Park investigated the remains of a late prehistoric multi-component site that includes a buffalo jump feature. Multiple lines of evidence indicate many different kinds of activity took place at the site over a very long time. In particular, large-scale constructed landscape features show that early hunters were highly knowledgeable about buffalo behavior and were able to guide animals to the jump. This knowledge and use of the landscape may have allowed the selection and targeting of specific subsets of the local bison population.

[343] Chair

Schillinger, Kerstin (University of Kent), Alex Mesoudi (Durham University) and Stephen J. Lycett (University of Kent)


Cultural evolutionary approaches stress that only few social learning processes have the capacity for high-fidelity copying that reduces variation generated by unintentional copying errors. However, the
question of whether contrasting social learning mechanisms generate distinct patterns of variation in the archaeological record is largely unexplored. Here, we designed an experiment using 60 participants who aimed to copy the shape of 3D “target handaxe form” from a standardized foam block. In an ‘imitation condition’, 30 participants were shown manufacturing techniques employed in the production of the target form and the target itself. Conversely, in an “emulation condition,” 30 participants were shown only the end-state (target) form. Copying error rate in the “imitation” condition was significantly reduced compared to the “emulation” condition. Moreover, the imitation condition matched the demonstrated behaviors with significantly higher copying fidelity than the alternative condition. Our results illustrate that imitation may be imperative for the long-term perpetuation of visibly distinct archaeological traditions. We propose that the bias to faithfully copy goal-directed manufacturing techniques meets the capacity to reduce the potential for cultural mutation in reductive manufacturing traditions. Our findings provide evidence that imitation may be required to explain the prolonged continuity of shape standardization in the Acheulean.

Schipani, Alexandra (Eastern New Mexico University)

[13] The Use of the Scapula to Determine Biological Sex
The scapula contains sexually dimorphic aspects and should thus be useful for creating a technique for determining biological sex. Forensic anthropology is a relatively new field of study with numerous under-tested methods including techniques for determining biological sex. In forensic anthropology, the pelvis and the skull are considered the most reliable areas of the human body to determine sex, however; these areas are often damaged in the archaeological record. Another method suggested by researchers, such as using the scapula, may aid in identifying the biological sex if it is further studied and documented. Researchers have proposed using the scapula to determine the sex of an individual; however, a concrete method has yet to be established and tested. This study will serve to develop concrete evidence that the scapula can be an adequate method for determining biological sex. Through the development of a guide that contains specific instructions for using the scapula to determine sex, it is hoped that the scapula will be deemed an adequate bone in the human body when compared against collections of human remains with known biological sex.

Schlanger, Sarah (Bureau of Land Management) and Signa Laralde (Bureau of Land Management)

[151] All the Gold on the Map: Public Land, Public Good, Public Trust
The Bureau of Land Management likes to describe the public lands as “all the gold on the map.” Here we use examples from personal and professional history to describe the arc of cultural resource management as it has played out in the Bureau of Land Management and on the public lands over the past four decades. Our review includes “FLPMA babies” (the cultural resource specialists hired by the Bureau to meet its obligation to comply with NHPA, ARPA, and the Federal Land Policy and Management Act of 1976, FLPMA) and their impact; the invention of Class I, II, and III inventories; and the rise and fall and re-introduction of modeling approaches to cultural resource identification. We ground our review in the present with a look at the emergence of “landscape-scale” development proposals and we conclude with some thoughts on the Bureau’s, and our, response to this challenge.

Schleher, Kari (Crow Canyon Archaeological Center), Jamie Merewether (Crow Canyon Archaeological Center), Cherise Bunn (Crow Canyon Archaeological Center) and Megan Smith (Crow Canyon Archaeological Center)

[333] Material Culture of Public and Private Spaces in the Mesa Verde Region
Material culture can inform on social integration and disintegration of communities. By comparing material culture from public and private spaces, we can better understand social relationships, including community integration and changes in integration through time. In this paper, we explore differences and similarities in material culture associated with public and private architecture in the Goodman Point Community in the Central Mesa Verde region of southwestern Colorado to better understand the integrative functions of public architecture. By exploring the distribution of various types of artifacts across the Goodman Point Community, we evaluate the connections between material culture and
architecture. Are particular pottery designs, pottery vessel forms, or stone tools associated with public spaces more than private spaces? Do these patterns reflect the integrative functions of public spaces? Do patterns change with disintegration of the community, just prior to regional depopulation? In this paper, we present data on various types of artifacts, including pottery, stone tools, and ornaments, to evaluate both contemporaneous and diachronic use of public and private space within the Goodman Point Community.

Schlichtherle, Helmut (Landesamt für Denkmalpflege Baden-Wuerttemberg)

[246] Neolithic Settlement Patterns in the Federsee Region, Upper Swabia (Germany)
During the Early Neolithic (following 5500 B.C.), the most intensive settlement of southwestern Germany occurred in areas of loess soils along the Danube, Neckar and Rhine river systems. The Federsee area in the alpine foreland remained relatively unsettled. End Mesolithic hunter-gatherers persisted here, whereas Early to Middle Neolithic archaeological material (5300-4500 B.C.) is very scarce. But from 4200 B.C. onwards, the Federsee offers an important window into Late Neolithic settlement, as sites from this period are well preserved in the wetlands here. Whereas early investigations concentrated on the reconstruction of houses and settlement plans, research from 1980 onwards, combined with dendrochronology and bioarchaeological data, have provided deeper insights into settlement structures, settlement dynamics and landscape changes. Now, repeated occupation of the Federsee basin during various phases of the Late Neolithic (4200; 4000-3850; 3745-3650; 3340-2900; 2900-2800 B.C.) can be demonstrated and new settlement system models discussed.

Schloen, David (University of Chicago)

[65] The Data Lifecycle at Zincirli (Iron Age Sam'al) in Turkey
Since 2006, a University of Chicago team has been conducting excavations and geophysical surveys at the 40-hectare site of Zincirli (the walled capital of ancient Sam'al) in southeastern Turkey. Data from the excavations and surveys, including all photographic and spatial data, is recorded and integrated via an online database system called OCHRE (Online Cultural and Historical Research Environment). This system, which is currently being used by several different archaeological projects based at different universities, is hosted and professionally managed on a database server at the University of Chicago Library. This paper will illustrate the use of the OCHRE system for field archaeology by presenting the complete data lifecycle at Zincirli, starting with initial data recording at the site via offline tablet computers and aerial photogrammetry, followed by automatic uploading of data to the Chicago database server on a daily basis, after which the data is immediately available in the dig house for online use and analysis by the field team, who can then correct and augment it as needed.

Schmader, Matthew (City of Albuquerque)

[323] Slingstones and Arrows of Contact and Conflict: Coronado in the Rio Grande Valley, 1540-1542
Instances of first contact by outsiders on indigenous peoples are uncommon historically and rare archaeologically. The Contact period in the American southwest lasted from the mid-1530s to the early 1590s. The most important expedition of the southwestern Contact period was led by Francisco Vázquez de Coronado from 1540-1542. His force of 375 Europeans and 1,300 Mexican soldiers arrived in the Rio Grande valley with disastrous consequences for the pueblo people. Investigation at one pueblo village near Albuquerque NM has identified a battle site with European weaponry and artifacts related to fighting between indigenous forces on both sides. European artifact types include lead musket balls and crossbow arrow points, which are found in context with indigenous weaponry such as projectile points and slingstones. These artifacts are found in patterns relative to site architecture, which suggests the structure of conflict-related tactics. Examination of expeditionary documents provides insight about some of these artifact distributions.

Schmaus, Tekla (Indiana University)

Was prehistoric Semirech'ye a shatter zone? Or was it a hub of power in the pastoralist world? Or another sort of place we haven’t even imagined? How would we tell, and how much information would we need to feel confident in our answers to these questions? We have access to a broader range of data than our predecessors did, but we still have less material available to us than do our colleagues working in other places. How much can we say about past lifeways when our datasets are limited in scope? This paper approaches these questions using results from a study of dental annuli in domestic sheep as a starting point. The annuli data are indicators of people’s seasonal occupation at three settlements in Semirech'ye during the Bronze and Iron Ages. The nature of the datasets limits what it is possible to say about people's lives beyond basic settlement patterns. However, that does not mean it is impossible to apply the information to questions of broader interest. Doing so with a clear understanding of the potential and the limits of the data may even lead to interesting new interpretations of past people's social and political entanglements.

Schmid, Magdalena (University of Iceland)

[29] The Impact of Volcanic Events on the Landnám: Did Eldgjá 938±4 A.D. Stop the Colonization of Iceland?

Traditionally, the Scandinavian migration and settlement of Iceland in the Viking Age is dated according to Íslendingabók between 870 and 930 AD. Some settlements are sandwiched between the so called landnam tephra layer - now dated 871±2 AD by correlation to the Greenlandic Ice Sheet - and several tenth century tephra layers: K-920, E-938±4 and V-940 AD; these tephra layers at least partly confirm the historical dating. The explosive 934 AD Eldgja basaltic flood lava eruption was the largest on Earth in the last millennium. The Eldgja fissures produced 19.6 km3 of basalt in a prolonged eruption that featured several distinct episodes and may have lasted for 3-8 years, releasing a huge amount of sulfur into the atmosphere. This paper primarily discusses the intensity of climatic effects from the Eldgja event and their impact on settlement and colonization. Further, human environmental impacts and economic crisis will also be discussed in the context of the eruption, through the study of soil sediments and archaeological evidence. Conclusions will be made regarding how these factors may have led to individual settlement abandonment or even to the end of widespread colonization in Iceland.

Schmidt, Armin [157] see Parkyn, Andrew

Schmidt, Erin (New Mexico State University)

[188] An Examination of Hacienda Architecture in Yucatán, Mexico

This paper presents archaeological and historical evidence of the changing roles of haciendas in the Mexican economy during the nineteenth century in Yucatán. Specifically, this paper looks at how haciendas changed before and just after the Caste War of Yucatán. Haciendas are agricultural estates that are maintained by a wealthy land-owner and a lower-class labor force to supply small-scale markets with goods and enhance the prestige and status of the owner. The spread of haciendas across Yucatán was a process related to changes brought on by shifts in capitalist relations among owners and workers that occurred during the Industrial Revolution. I compare the variation in the architecture of the haciendas before and after the Caste War (1847), in the areas around Yaxcabá and Valladolid. Architectural variation reveals new details about labor organization and production during the volatile nineteenth century. As knowledge regarding haciendas increases, new questions arise about their structure and functions across time and space.

Schmidt, Peter (University of Florida) and Benjamin Shegesha (Katuruka Preservation and Conservation Association)

[331] Mutuality, Reciprocity, and Local Needs: Missing Spokes in the Collaborative Wheel?

The rhetoric of collaboration in anthropology and archaeology often masks practices that do not fall within the realm of mutuality and reciprocity. Archaeologists using this trope often employ it to reference research conditions where they take the initiative and local "participants" follow along. Mutuality is rarely integrated into collaborative programs, as research agendas continue to be Western-driven and
dominated in decision-making. Such empty posturing threatens the integrity of mutual needs and reciprocity and makes diaphanous the absence of benefits accruing to local communities. I examine how such rhetorical traps may be avoided through collaborative research that meets community initiatives, desires, and articulated needs. Examples from western Tanzania show that collaboration in heritage studies and archaeological research satisfy deeply felt needs in communities searching to reconnect to their quickly atrophying heritage and seeking ways to reclaim, through local management of heritage sites, a modicum of economic stability that once marked the region as one of the most prosperous in East Africa.

[331] Discussant

Schmitt, Dave [40] see Kiahtipes, Christopher

Schmittner, Robert [33] see Rissolo, Dominique

Schneider, Tsim (University of California, Santa Barbara) and Lee Panich (Santa Clara University) [119] Spanish Missions within California’s Indigenous Landscapes
Continuing research on the archaeology of colonialism is rethinking the ways indigenous communities in North America creatively engaged colonial programs. Examining Spanish missions in particular, archaeologists are investigating themes of social persistence and power relationships and also re-evaluating the broader geographic relationships between mission communities and the numerous outlying native spaces. Examining Spanish missions within indigenous landscapes, this paper addresses the broader footprint of missionization in California through a critical look at the exchange and circulation of marine shell and glass beads taking place between hinterland native villages and colonial sites. In rethinking and re-exploring the sites and artifacts of mission-era indigenous places, we can more fully understand-and establish more relevant archaeological projects addressing-the practices, experiences, continuities, and adjustments of post-mission California Indian communities.

Schneider, Kent [157] see Garrison, Ervan

Schneider, Joan, Tserendagva Yadmaa (Institute of Archaeology, Mongolian Academy of Science) and Patrick Hadel (Earthwatch Institute, Archaeology of the Mongolian Steppe) [211] A Mongolian Quarry Landscape in the Northern Gobi.
Inventory within Ikh Nart Nature Reserve, a federally protected area in Mongolia, has led to an understanding of the sources of stone used for flaked and ground stone tools. Within the diverse landscapes of the Reserve are geological exposures that provide a variety of materials, but in turn, sometimes limit the sizes of the tools made from the materials, especially leading to the sophisticated microblade-core technology of the Neolithic period.

[313] Discussant

Schoenbrun, David (Northwestern University) [243] Reading an Ancient Face: Networks of Knowledge, Public Healing, and Conceptual Metaphor
The study of metaphor adds depth to social histories of power and scale and to intellectual histories of knowledge and its transmissions by focusing attention on conceptualization. With conceptual metaphor, the iterations that people made from one part of the common phenomenological ground on which they lived life to another, made history, language, things and society along the way. This paper develops a methodology for the historical study of conceptual metaphor in Africa’s early history. The specific case at hand—”reading” a group of terracotta figures (including a human head) and decorated pots—draws on deep, regional histories and on far-flung networks with multiple roots. The paper’s central historical conclusion finds that the practice of representing territorial spirit mediums as clay figures provided a valuable durability to communities living in the increasingly mobile worlds of 10th to the 12th century in the Lake Victoria region. But it grew risky to communities seeking to expand the scales of political
economy using collective violence, in the 13th and 14th centuries when relatively richer water budgets returned to the region. So, they abandoned the practice. "They" were communities of public healers built around practices of social criticism whose improvisations transformed the scale of political affiliation.

Schoeninger, Margaret [63] see Somerville, Andrew

Schoeninger, Margaret (UC-San Diego), Kristen Hallin (Columbia University) and Henry Schwarcz (McMaster University)

Paleoclimate during Neandertal and Anatomically Modern Human Occupations in Israel: The Stable Isotope Data

The $\delta^{13}C$(en) and $\delta^{18}O$(en) values of goat enamel carbonate indicate that Neandertals from sites in Israel (Amud and Tabun Level B) and anatomically modern humans at Qafzeh lived under different ecological conditions. Neandertals lived under wetter conditions than those in the region today. Anatomically modern humans encountered a region that was more open and arid than occurred during the Glacial Period, and more open than today's Upper Galilee region. Climate differences affecting the distribution of plants and animals appear to be the significant factor contributing to behaviora differences previously documented between Neandertals and anatomically modern humans in the region.

Schollmeyer, Karen (Arizona State University), Michael Diehl (Desert Archaeology, Inc.) and Jonathan Sandor

Variability in Mimbres Food and Food Procurement

Archaeologists working in the Mimbres region have made important contributions to the study of prehistoric subsistence and social organization. Mimbres Foundation researchers were among the first to recognize temporal changes in Mimbres subsistence and link them to climate, environmental, and social change. Prehistoric changes in the Mimbres Valley included increased weedy plant ubiquity and proportions of small mammals from the Pithouse to Classic periods, and the occurrence of lasting anthropogenic soil change. They also found spatial patterns in resource availability and use, such as in soil use by farmers and spatial differences in wild plant and animal resources. Subsequent research has explored similar themes in a broader spatial and temporal context. Temporal changes in wild plants and animals from around the Mimbres region are generally consistent with patterns observed in the Mimbres Valley, but are less pronounced in outlying areas. Farming practices also differed between eastern and western Mimbres. Post-Classic shifts in subsistence and food procurement are another topic of recent research outside the valley. Major questions about Mimbres subsistence, from both wild resources and agriculture, remain.

Scholnick, Jonathan (Simon Fraser University) and Mark Collard (Simon Fraser University)

Investigating Cultural Transmission among historic New England Gravestone Carvers with Social Network Analysis

One challenge for applying evolutionary models to culture is connecting individual learning processes with population-level cultural patterns. However, we have few examples of material culture traditions that can be tied to individual artifact producers. With this in mind, we used gravestone decoration and social network analysis techniques to model social learning pathways among gravestone carvers working in the Boston area during the seventeenth and eighteenth centuries. Surprisingly, the analysis reveals that processes of social learning differed at macro (motif) and micro (decorative element) levels of stylistic variation. Gravestones securely attributed to carvers exhibited very little decorative variation in motifs, which suggests widespread transmission among workshops. In contrast, individual stylistic elements are shared by carvers in the same workshop—a pattern that is consistent with the transmission of such traits within workshops. These results suggest that further applications of cultural transmission theory in archaeology must recognize that artifact design can result from multiple individual learning processes at work simultaneously.

Scholnick, Jonathan [193] see Collard, Mark

Schon, Robert (University of Arizona)
ABSTRACTS OF THE SAA 79TH ANNUAL MEETING

[89] The Role of the State in Reducing Transaction Costs: A Case Study from the Bronze Age
In response to the dominant view held by archaeologists that defines the state in coercive terms, a growing body of research has emerged emphasizing collective action and cooperation as driving the state enterprise. From this perspective, one role of the state is to provide and maintain public goods. Among these, the maintenance of roads and the establishment of standardized measures serve to reduce transaction costs, i.e. the costs of engaging in economic exchange. Since these public goods were not excludable, they offered equal benefits to state elites as well as those outside the governmental apparatus. Using the nascent states of Mycenaean Greece as a case study, this paper examines the effect of reduced transaction costs on economic growth— one possible indicator of a successful state. I argue that instances of such “win-win” scenarios provide an under-researched complement to the “zero-sum” approaches of traditional theories of the state. Moreover, the archaeology of the Bronze Age, the period when the first states appeared, offers special insights into the emergent properties of large-scale cooperative institutions.

Schortman, Edward [128] see Urban, Patricia

Schortman, Edward (Kenyon College)
[161] Research on the Copper Producing Area at El Coyote, Sta Barbara, Honduras
In 2002, evidence of copper production, in the form of slag, was found on the surface of the southeastern portion of the site of El Coyote in NW Honduras. Test excavations that year revealed more slag and a piece of purified copper; soil tests also outlined the general extent of production. In the subsequent 2004 season, slag, ore, and processing facilities were located, as was evidence in other parts of the site indicating that the copper production was precolumbian. In 2013, further excavation uncovered more workshop areas, and XRF examination of ores, smelting ovens, and soils further clarified the technical details of manufacture as well as defining the zone of concentrated production. Also, investigations to the north and west of the production area amplified the context for copper working here. This paper reviews the evidence for copper production at El Coyote, and places the work in both physical and temporal contexts.

[128] Discussant

Schott, Amy (University of Arizona)
[264] Geomorphic Change and the Regional Environmental Context at La Playa, Sonora, Mexico
Geoarchaeological work at the site of La Playa in Sonora, Mexico has resulted in an understanding of the formation processes and depositional environment of the site. The principal occupation of the site was during the Early Agricultural period (3650-1800 cal BP), and an extensive canal system dates to this time. The floodplain on which the site is located was formed by deposition of low-energy overbank deposits between 4000 to 1600 cal BP. The slow and steady deposition of fine-grained sediments likely contributed to the stability of the floodplain, making this an attractive location for canal agriculture. This period was followed by higher energy deposition and extensive cut and fill erosion. In the Southwest, periods of aggradation and erosion in alluvial deposits are often correlated with regional climatic changes. This paper examines the regional environmental context of change in deposition at La Playa. The alternating episodes of higher and lower energy deposition do not correspond well to cycles of alluvial cutting and filling in the greater Southwest, but the fine-grained deposits at La Playa do correlate with low magnitude flooding in the Southwest. The fine-grained deposition may have been further controlled by the extensive canal network.

Schoville, Benjamin J. [209] see Wilkins, Jayne

Schreg, Rainer [246] see Fisher, Lynn

Schreiber, Katharina (University of California - Santa Barbara)
[27] Public Spaces in the Wari Empire
When the Wari Empire expanded across the Central Andes in the Middle Horizon (AD 700–1000) it built administrative facilities ranging from small structures to town–sized centers. Spaces within these facilities were given over to state functions, including elite housing, food production, storage, etc. and certain areas appear to have been devoted to more public activities including feasting and ceremonial rites. This paper explores the architectural distinctions of such spaces, their layout and spatial syntax, and the social order implied. While Wari did not have plazas in the usual sense, they did employ certain spaces to enable particular forms of ritual communication and interaction among groups of people. These spaces created and reinforced the new political and cosmological order imposed by the Wari regime.

Schroder, Whittaker (University of Pennsylvania)

[311] Stone Spheres and Sacred Landscapes in Southwestern Costa Rica
People typically view monuments as large, static objects, designed to commemorate the activities of a person or an event. However, monuments rarely act alone, and their existence as highlighting an already meaningful place reveals the inherent bonds that form between monuments and their associated landscapes. Much of the object’s biography was created in the actions that occurred before it was placed in its “final” site, after which meanings and uses could shift repeatedly throughout its afterlife. Thus, the key to understanding monuments is through a multi-scalar landscape approach, which focuses on the transformation of space into humanized place, a process in which individuals ascribe meaning and power to the environment through its modification. In the Diquís Delta of southwestern Costa Rica, landscape archaeology can be combined with contemporary indigenous views of sacred places to reflect on the study of the stone spheres found throughout the region, adding to their site context in an attempt to reconstruct the values and meanings behind these enigmatic objects. The present study applies GIS and remote sensing techniques to the stone spheres originally documented by Doris Stone and Samuel Lothrop and examines Boruca and Bribri concepts of space to test various interpretations regarding these monuments.

Schroeder, Jessy (Eastern New Mexico University)

Museums have long been institutions that display and educate the public on artifacts, objects, flora, fauna, and technology. Archaeological museums are one of the few reliable resources that the public has access to in order to learn about and better understand past and present human cultures. As important archaeological and educational destinations, every archaeological exhibit should be analyzed for how well they present their information. Therefore, this research will aide in answering the broader question of what and how audiences learn information put forth in archaeological museums. The intent of this study is to answer whether or not specific museums within the Llano Estacado region of the United States are effectively achieving their educational goals. Specifically: are the visitors learning what the museum curators want them to learn? And what visual aspects of explanatory labels help or hinder visitor learning? This study involves interviews with the curators, surveys completed with visitors, and visual analyses of explanatory labels in each museum. The data will be compared in order to determine whether or not each museum is effectively communicating its information, thus effectively educating the public.

Schroeder, Sissel [260] see Munoz, Samuel

Schroedl, Gerald F. [196] see Yerka, Stephen

Schuermann, Ryan [200] see Trombold, Charles

Schuermann, Ryan (Texas State University) and Charles D. Trombold (Washington University in St. Louis)
Establishing 3D Unit Space from Low-Tech Field Data Acquisition Methods Using Post-Processing in GIS: A Case Study of Site MV-206 (La Quemada, Zacatecas, Mexico)

Spatial analysis of intrasite artifact distribution is essential to the discovery of activity areas. Difficulty in establishing confidence in potential activity areas increases as artifact spatial resolution decreases. In the archaeological record and at ongoing/future excavations, artifact provenience at a three-dimensional point resolution may not be possible, resulting in the excavation unit as the highest level of artifact spatial resolution. In this paper, we present methods for automating the creation of 3D unit space through post-processing. We present a methodology that utilizes Geographic Information Science (GISc), through an overall implementation of the Knowledge Discovery in Databases (KDD) process. As a case study, we use the archaeological record from MV-206, a large village outlier of La Quemada in Zacatecas, Mexico. Here, unit space was explicitly defined by a methodology that included a strict grid/artifact provenience and planar base definition. Additionally, the site’s relatively short [major] occupation manifested in shallow deposition, combined with the site’s substantial range and density of artifact types, allows for statistically significant spatial analyses at the excavation unit level. Identification of meaningful spatial patterns within low-resolution data sets presents new possibilities for intrasite analyses, and helps shape future site data acquisition methods.

Schuldenrein, Joseph (Geoarcheology Research Assoc)

Geoarchaeology, Forensics, and the Prosecution of Saddam Hussein: A Case Study from the Iraq War, 2005-2008

During the Iraq war, the U.S. government dispatched teams of forensic archaeologists and anthropologists to examine a series of mass graves, ostensibly representing the victims of genocide perpetrated by the Saddam Hussein in the latter 20th century. Prima facie evidence in support of mass graves was as compelling as it was fragmentary. The mobilization of teams in a war zone required that the strategy for making a legal case involved merging the most efficient technologies in use by archaeologists and forensic scientists. A central hypothesis in the Research Design was a landscape-based approach positing that selection of a mass burial site was well thought out. The site’s landscape elements were key to understanding planning strategies and efficient disposal of large numbers of bodies. Further, an examination of the burial fill sequence, the content of disaggregated residues, and the matrix of the overburden contained evidence bearing on grave preparation, sequential body disposals, and post-interment re-landscaping to camouflage the scene of the crime. Taken together, these data provided an evidentiary baseline for the ultimate conviction of Saddam Hussein and his henchmen. The lessons learned over the course of this study provide a blueprint for practical, critical applications of geoarchaeology going forward.

Schuldenrein, Joseph [17] see Hulse, Eva

Schultz, John [102] see Whitmore, Katie

Schultze, Carol [194] see Klarich, Elizabeth

Schulze, Luke (Binghamton University - SUNY) and Ruth M. Van Dyke (Binghamton University - SUNY)

Castro Colonies Living History Center, the Jacob Biry House, Castroville, Texas: A Preliminary Investigation

Under a commission from the Republic of Texas, Castroville was founded by empresario Henri Castro in 1844. The community was settled by primarily immigrant Catholic Alsatian farmers and the connection to their Alsatian heritage remains strong to this day. The Jacob Biry property is located in the town on a 1/3 acre plot. It consists of two standing structures: a stone house and a dogtrot log cabin both reputedly dating from the 1840s and associated with the initial settlement of the town. A stone smokehouse foundation is visible in the backyard, and local informants have described the historic presence of privies, wells, cisterns, and a garden. Preliminary archaeological and dendrochronological fieldwork was
conducted in January 2013. An electromagnetic resistivity survey and systematic auger testing were utilized to determine soil horizons, and identify locations and extents of buried subsurface features. As a result, 8 subsurface features were located. A detailed architectural recording of the dogtrot cabin was performed and 46 tree-ring samples were taken to help determine the age of the structure. These initial investigations provide the groundwork for a more in-depth archaeological project at the property designed to include and engage the local community in their history and heritage.

Schumacher, Jennifer (McMaster University)  
[261] Same Puzzle Pieces Different Puzzle: Extant Collections  
The future of archaeology lies not only in further excavation but also in revisiting past research and excavations using innovative methodological techniques and theory. With increasing funding restraints, the re-evaluation of extant collections has become practical and therefore more attractive. Using the approaches of technological style and consumption I demonstrate how utilizing extant collections can shed new light on academic debates and the pragmatic issues concerning their use. I demonstrate this with a case study of an Ontario Early Late Woodland site, Van Besien. Since potting is a social event involving transmission of knowledge, production exists within social constraints specific to each potter and influences the technological choices he/she makes. Such technological choices cumulate in what is regarded as technological style, created by the repetition of activities or choices that create discernible patterns. These patterns allow for identification of styles that demarcate social boundaries. Due to these new approaches, levels of homogeneity unprecedented in Ontario during the Ontario Early Late Woodland were discovered as well as unexpected social divisions within a village. This study represents a successful re-evaluation of an extant collection and how with new approaches new interpretations can be discerned.

Schurr, Theodore (University of Pennsylvania)  
[69] New Genetic Perspectives on the Colonization of the Americas  
The key issues for understanding the prehistory of the Americas are the number of migrations that contributed to the diversity of Native American populations and the time at which the ancestral population(s) initially entered the New World. Recent analyses of mtDNA variation generally support the Beringian Incubation Model, in which the ancestral population entered the Americas some 20,000-15,000 YBP after having genetically diverged from sister populations in Asia. By contrast, recent osteology and nuclear genetic studies suggest that two or more population expansions gave rise to the biological diversity in the Americas. We re-examined these issues through high-resolution analysis of mtDNAs and Y-chromosomes from populations inhabiting the Arctic, North America and Mesoamerica. This analysis revealed distinct sets of maternal and paternal lineages in these regional populations, with new branches of Y-chromosome haplogroups Q-L54 and Q-M3 being identified in them. Those lineages observed in the circumarctic region reflected population expansions occurring over the past 5,000-10,000 years, and possibly recurrent gene flow from Beringian or Northeast Asia. These data have important implications for the timing and process of the colonization of the Americas, and, in particular, the type and number of founding genetic lineages which first reached this region.

Schurr, Mark (University of Notre Dame)  
[303] The Juxtaposition of Stable Isotope and Mortuary Analyses: Illuminating Social Transformations in the Late Prehistoric Southeast  
The end of the prehistoric period in the Southeastern United States was a time of regional social transformation. Throughout the region, hierarchically organized Middle Mississippian chiefdoms with ascribed ranks maintained large sites and aggregated regional populations that were replaced by less hierarchical groups with more dispersed settlements. The changes in social organization and landscape use are generally understood, but the processes that produced and accompanied these transformations remain unclear. In southwestern Indiana, on the northern border of the Southeast, the Angel chiefdom was replaced by Caborn-Welborn phase peoples across part of the Angel chiefdom’s range. Both groups (Angel and Caborn-Welborn) recruited or attracted people from other areas. Thus, regional patterns of population movement played an important role in the development of one Middle
Mississippian society and its successors. Mortuary contexts and patterns of variation in human diet (as reflected in stable carbon- and nitrogen-isotopes from 282 individuals) are juxtaposed to illuminate how this type of social change occurred. The demographics of recruitment are reflected in mortuary patterns and human diet in ways that appear contradictory to what might be expected from each phase’s need for more members. [157] Chair

Schwake, Sonja (Franklin and Marshall College), Andrew Snetsinger (Trent University) and Gyles Iannone (Trent University)

[335] A Regional Analysis of Ancient Maya Mortuary Practices from the North Vaca Plateau, West-central Belize

Excavations by the Social Archaeology Research Program in the North Vaca Plateau of Belize over the past 15 years have revealed a rich mortuary record for the people that lived at the sites of Minanha, Ixchel, Martinez, and Waybil. Human remains have been discovered in a variety of contexts, spanning the Preclassic to Postclassic Periods. In this paper, we argue that the most meaningful scale of analysis of these remains is the regional scale, incorporating data from multiple sites in the region, including both large settlements (Minanha, Ixchel) and small (Martinez, Waybil). In addition to the spatial distribution of remains, careful consideration of the associated material culture and the basic mortuary patterns of grave orientation, location, and complexity of construction have given us the ability to characterize this region’s mortuary practices as distinct in some ways from other areas of the Maya world. At the same time, some overlap in these regional mortuary practices ties the Maya of the North Vaca Plateau into larger spheres of interaction with some of the big players within the Maya socio-political landscape.

Schwalenberg, Megan (University of Wisconsin - La Crosse)

[12] A Comparative Analysis of the Dental Health of Two Middle Woodland Burial Populations in the Lower Illinois Valley

The Gibson and Ray sites are burial sites located in the lower Illinois Valley and dated to the Middle Woodland period, ca. 50 B.C.–A.D. 400. Through the examination of 48 skeletons, this study compares the dental health between the two sites in terms of dental pathologies and their potential correlation to either site, sex, age-at-death, or all of these. Information on dental attrition, caries, abscesses, and other dental pathologies was collected from a pre-selected sample of 24 adults from each site, and estimation of sex and age-at-death were established with two age groups: young adults (20-35) and middle-to-old adults (35-50+). These results suggest there was little to no dietary difference between the sites and that poor dental health was prevalent among middle-to-old adults. Higher attrition rates found at the Ray site can potentially be explained by a different food processing technique or a slightly different diet. This information provides insight into the dental health of the Middle Woodland people during the transition from hunting-and-gathering to horticulture in the lower Illinois Valley and a baseline that can be utilized by other researchers for comparison to later maize agriculturalists in the region.

Schwarcz, Henry [127] see Schoeninger, Margaret

Schwartz, Adam [16] see Churchill, Steven

Schwartz, Lauren E. (UC, Riverside)

[110] Vernacular Architecture of Southeast Mesoamerica: An Evaluation of Design Variations and Identity Expression from the Late and Terminal Classic Naco Valley, Honduras

Architectural designs and site-planning principles have been well studied in Mesoamerica, however, our knowledge is based predominantly on the archaeology of large urban polities, monumental styles, and elite-associated contexts. A standardization of the architectural canons of domestic, rural, and/or household milieus remain underexplored, especially within southeastern Mesoamerica. The approach of evaluating vernacular architectural traits from this particular region of the Pre-Columbian Americas promises to initiate the decipherment and systematization of construction similarities and variations from “everyday” settings. Therefore, this paper will present an analysis of the vernacular architecture from the Late and Terminal Classic site of PVN647, located within the eastern region of the Naco Valley in
northwest Honduras. Of particular focus will be the assessment of architectural feature design, location, construction quality, temporal order, and function. These aspects will be examined both within and between patio and plaza arrangements within the site. Additionally, intra- and inter-valley comparisons will be explored to reveal the extent of regional architectural design correlations. This discussion advances our understanding of the elasticity of shared identity expression to meet local ideals, as interpreted from the ancient material record, as well as the cultural and ethnic diversity from this region of southeastern Mesoamerica.

Schwartz, Mark (Grand Valley State Univer) and David Hollander (University of South Florida)

[329] Unpacking Uruk Exchange Networks: The Use of Functional, Spatial, and Bulk Stable Isotope Analyses of Bitumen Artifacts from Hacinebi Tepe, Turkey in Reconstructing Broad Economic Patterns of the Uruk Expansion

This research addresses the economic expansion of state societies from southern Mesopotamia into southwest Iran and southeast Anatolia, through the use of stable carbon and deuterium isotope analyses of bitumen artifacts. The key goal of the project was to get beyond simply the identification of trade and examine broad regional patterns in the exchange system. To this end, the methodological approach of this research was focused on the reconstruction of general exchange patterns using a large sample set. The results of these analyses suggest the utility of bulk isotopic analyses in the identification of broad regional patterns, serving as a complement to detailed isotopic and molecular work on asphaltene extractions of bitumen. The source identifications presented in the paper were further supported by gas chromatography-mass spectrometry as well as compound specific isotope analyses. Furthermore, because bitumen was employed in a variety of ways in the ancient Near East, including as a packaging material for other trade goods, a spatial/functional analysis of bitumen artifacts, combined with geochemical data allows for a range of questions to be addressed. The results of this research indicate changes in the organization of trade at the site of Hacinebi associated with the Uruk expansion.

Schwindt, Dylan (Crow Canyon Archaeological Center), Scott Ortman (University of Colorado) and Donna Glowacki (University of Notre Dame)

[289] Comparing Demography and Population History between the Northern San Juan and Northern Rio Grande

Using Bayesian statistical methods, we reconstruct the population history in the two Village Ecodynamics Project study areas: a 4,569-km² area in the northern San Juan and a 6,955-km² area in the northern Rio Grande. In the north we apportion population from nearly 8,000 sites across 14 time periods between C.E. 600–1280 and examine demographic trends across 6 subregions: (1) McElmo, (2) Mesa Verde National Park, (3) Dolores, (4) Hovenweep, (5) Mancos and (6) the Ute Mountain Piedmont. In the south we apportion population from approximately 2,000 sites between 17 different time periods between C.E. 900–1760 and examine demographic trends across 5 subregions: (1) Chama, (2) Pajarito, (3) Santa Fe, (4) Cochiti, and (5) Velarde. In the north we see episodes of population growth and decline, with a smaller peak in the late 800s and a larger peak in the mid-1200s. In the south, we document population growth that coincides with the depopulation of the northern area and population decline that begins before Spanish arrival. We interpret the timing and similar magnitude of peak population between regions as evidence of migration from the northern San Juan to northern Rio Grande.

Scott, Mary Katherine (University of Wyoming)

[330] The Tourist Commodity: The Value of Handicrafts in Yucatán’s Puuc Region

The steady rise in tourism in Yucatán beginning in the 1960s has made producing and selling handicrafts a profitable industry and an appealing alternative to other lines of work available. Naturally, the marketing of Maya history, the people and their traditions within the tourism industry has influenced the kinds of artistic objects that are produced and sold within Yucatán. As such, value systems are based on what tourists perceive to be ‘authentic’ remnants of Maya culture, so contemporary artisans
create replicas and other pieces with stylized Maya imagery - in stone, wood, ceramic, plaster, gourd, and others - that will appeal to this notion. By focusing on the handicrafts produced in Yucatán’s Puuc region, this paper will examine them within larger fields of cultural production and will show how the agency of artisans - their strategic marketing techniques and forms of presentation and display - likewise influence and shape the way tourist outsiders view and understand contemporary Maya people and their culture. In this context, the complex network of cross-cultural encounter, social relationships, economic transactions, and the local and institutional discourses that create and assign value to handicrafts in the Puuc region will be considered.

Scott, Ann (University of Texas at Austin/aci consulting)

[A] Historical Retrospective of Mesoamerican Cave Archeology: Celebrating James Brady's Contributions to the Field

The history of cave investigations in Mesoamerica, especially in the Maya area, cannot be written without acknowledging the corpus of work penned by James E. Brady. The more than 125 publications, spanning thirty plus years, have transformed speleoscholarship with new and unconventional ideas about the ritual use of caves by the ancient Maya. Significant growth within the field has been influenced by Brady's own academic interests including the study of cave pilgrimage, man-made caves, the ethnography of cave rituals, iconography and epigraphy, and the relationships between surface architecture and caves in the sacred landscape. His influence has touched numerous scholars leading to several co-authored publications and has inspired many students to pursue a path into the darkness. This presentation sets the stage for the papers that follow by providing a brief history of cave studies along with a short literature review of Brady's bibliographic portfolio. A celebration of Jim Brady's 30 years of achievements, contributions, and scholarship would not be complete without testimonials from colleagues, friends, and students whose destinies have also included dark passageways.

Scott, Douglas (University of Nebraska-Lincoln), Peter Bleed (University of Nebraska-Lincoln) and Amanda Davey (Midwest Archeological Center, National Park Service)

[A] A Battlespace Model of the 1865 North Platte Campaign

Conflict is an important human behavior that leaves clear, interesting, and concrete material traces. Archaeologists have developed means of exposing and interpreting the record of past combat. This study presents archaeological data from battles that took place in February 1865 in the North Platte Valley of Nebraska between Union cavalry and Cheyenne forces reeling from the Sand Creek tragedy. Archaeological data, presented in landscape terms, arrayed with modern graphic techniques, and interpreted with conceptual tools that address military issues, offer specific insights in to the thinking of the people who fought these battles.

Scott, Jannie

Freedom's Institutions: The Archaeology of Antioch Colony's First School and Church

Since the late 1960s historical archaeologists have made great strides in bringing light to the lives and conditions of Africans and their descendants in the “New World.” In archaeological texts, however, focus on Black institutions created by and for African Americans are largely absent in discussions of the history of Black Americans in the United States. This paper focuses on the archaeology of a historic school and church located in Antioch Colony. Antioch Colony was a vibrant rural freedmen's community located in Central Texas formally established in 1870. How can archaeology be used to understand the importance of education and religion within an African American community during the early post-emancipation time period?

Scott, Rachel (DePaul University) and Alexander Bauer (Queens College)
Archaeology Should Be Anthropology: The Benefits of Four-Field Training

The field of anthropology has become increasingly fragmented in recent years, challenging the coherence of the four-field approach and archaeology's place within it. In opposition to this deconstruction, we argue that four-field training provides key benefits for education, employability, and research. To illustrate these points, we draw on our own experiences as students, researchers, and advisors. When taken as part of a larger anthropology curriculum, archaeology courses help students to see the connections between the past and present, encouraging their development as world citizens and preventing archaeology from becoming an esoteric discipline. Moreover, a basic understanding of all of anthropology can improve a graduate's chances of attaining a tenure-track position, particularly in smaller departments where a broadly-trained applicant may be expected to teach a variety of introductory courses and communicate with colleagues in other sub-fields. Finally, engagement with multiple aspects of anthropology enables scholars to push the boundaries of archaeological research by asking new questions and incorporating external methods and theories. Because of these benefits, we contend that archaeology should seek to strengthen its bonds with the other sub-fields of anthropology rather than allowing them to disintegrate through increasing specialization.

Scott Cummings, Linda (PaleoResearch Institute, Inc.)

Ancient Blackwater Draw Sediments Reveal their Age and Clues to Paleoenvironment

Stored in a plaster jacket applied in the field, sediments removed from Blackwater Draw recently revealed the first Clovis age radiocarbon date from this site (11095 ± 35 RCYBP). In general, pollen and phytolith records combine to indicate paleoenvironmental conditions for the Clovis period in the Blackwater Draw Locality and Frost Arroyo that are unlike those of today. Open or ponded water, vegetation communities reflecting marshy areas along the margins of the water, and evidence for drier habitats outside the wetlands all were noted in this study. Phytolith analysis for the Folsom Block yielded evidence of an open lake or pond teeming with algae and aquatic plants. Sedges dominated the lake margin during the earliest period of time, followed by a thriving community of common reed (Phragmites australis). The interpretation of open water is echoed in the pollen record by extreme dominance by Pinus pollen, representing wind transport of this pollen and accumulation on the water surface and by recovery of pollen from wetland plants such as cattails, sedges, common reed, and knotweed (Persicaria). Drier sagebrush vegetation communities grew adjacent to the wetlands. This description sets the stage for the Clovis occupation of Blackwater Draw.

Discussant

Scott Cummings, Linda [207] see Ladwig, Jammi

Scullin, Dianne (Columbia University)

Moche Use of Multi-Media at Huaca de la Luna

Marshal McLuhan's often-quoted "the media is the message," insists that instead of producing new content, any new type of media creates new parameters within which human beings interact. Since human beings experience the world with all of our senses simultaneously, different types of media shape and orient the senses in particular ways and achieve particular effects via these configurations. Moche musical instruments greatly increase the range over which sound can travel, increasing the size of potential audiences and the impact of human sound. Moche architecture, such as the plazas and pyramids of Huaca de la Luna, directly control the scale of space within which people interact. Large wall murals allow groups of people to simultaneously view the same image. Smaller, portable objects, such as decorated ceramic vessels and musical instruments, allow an image to travel long distances. The semi-permanence of images and architecture extend their communicative efficacy over time, while the ephemeral nature of sound connects an experience to a present action. Through the analysis of the acoustic properties of architectural space, music iconography and sound-producing objects, this paper addresses the question of what do the media of architecture, art, and sound communicate in a Moche context?

Chair
Seager-Boss, Fran [173] see Krasinski, Kathryn

Seah, Ian [244] see Zeanah, David

Sealy, Judith [26] see Sahle, Yonatan

Searcy, Michael (Brigham Young University) and Todd Pitezel (Arizona State Museum, University of Arizona) [47]
Using Ethnoarchaeology to Interpret the First Ground Stone Quarry Discovered in the Casas Grandes Region
Several researchers have noted and studied the exquisitely formed manos and metates of the Casas Grandes region of northern Mexico. During a survey project in 2013, we located the first quarry ever discovered where these tools were manufactured of vesicular basalt using a suite of stone tools. This paper explores the morphology of the site, the toolkit of the metateros (metate makers), and ethnoarchaeological implications resulting from the study of modern metateros.

[47] Chair

Sears, Erin [128] see Jimenez, Socorro

Sebastian, Lynne (SRI Foundation) [304]
Can You Get a JOB Doing That? The SRIF/UMD Summer Institute in Cultural Resource Management
Many upper-division undergraduates and beginning graduate students in Anthropology have no clear idea about career paths other than the standard “academic teaching position” that will be available to them when they graduate. In many academic programs, faculty members do not have the experience of or knowledge about other career paths to enable them to guide the students in determining what future path would suit them best. Indeed, some faculty members actively discourage students from pursuing non-academic career paths. At the same time, private and public sector employers complain that they cannot find new hires with even the most rudimentary knowledge about or experience in cultural resource management. The SRI Foundation and the University of Maryland have teamed up in an academic/private sector partnership to provide students with basic knowledge and skills, practical experience, and the beginning of a professional network, as well as information enabling them to evaluate a wide variety of career paths in CRM. The SRIF/UMD Summer Institute in Cultural Resource Management, now in its fourth year, combines intensive classroom instruction and highly structured internships, and is open to students from any college or university.

[151] Discussant

Sedar, Dena [334]
Seeing Red: An Analysis of Ocher Treated Incised Stones Found within the Great Basin
Incised stones have been found at sites throughout the Great Basin dating from the Archaic period to the Historic period. The purpose of these incised stones is unknown, although the deposition of the artifacts does not suggest that they were used for rituals or were in any way sacred. Within the incised stone artifact category there is a subcategory of the stones, those that have been treated with ocher. An analysis of these rare ocher-treated incised stones, and the sites in which they were found, will try to determine if the addition of ocher to the stones changed the meaning of the stone, or if the addition of ocher was an artistic enhancement to the stone on par with painted stones that are found in the Great Basin and the Southwest.

Sedig, Jakob (University of Colorado), Stephen Lekson (University of Colorado, Boulder) and Barbara Roth (University of Nevada, Las Vegas) [66]
Making the Transition: A Reassessment of Mimbres Pithouse-to-Pueblo Period
The Transitional (Mangas) phase, approximately A.D. 900-1000, has been a topic of some contention. Originally, the Transitional phase, between pithouses and cobbled masonry roomblocks, was defined as small, surface cobbled-adobe roomblocks associated with Mimbres Boldface (Style I-II) ceramics. Evident in the Gila River valley, little evidence for a transitional phase was observed in the Mimbres River valley, and the Mimbres Foundation, in its seminal chronology, omitted the phase, postulating a very rapid shift from pithouse to pueblo style sites. Later work in the Mimbres Valley revealed that Transitional period was more diverse and widespread than originally thought. Work at NAN Ranch and the Harris site has found evidence for the Transitional phase in the Mimbres River valley. But more substantial evidence can be found in the upper Gila. Surface roomblocks with Boldface ceramics were found at the Saige-McFarland site, and recent research at Woodrow Ruin is providing new insights on the Transitional phase. Woodrow was continuously occupied from AD 550-1130, and excavation there has demonstrated that Transitional architecture is more variable than previously expected. This paper discusses the history of research on the Transitional phase, and examines how archaeological understanding of it has changed in light of recent findings.

Seidel, Andrew (Arizona State University) and Kristin Nado (Arizona State University)

[291] Changing Conceptualizations of Kinship among Post-Meroitic and Christian Period Nubians from the 4th Cataract Region, Sudan

Kinship systems are inextricably bound to cultural conceptions of age and sex. While recent research has begun to emphasize the interconnections between multiple aspects of social identity, kinship has only infrequently been used within archaeology as a lens through which to investigate changing age and gender ideologies. This project combines data from cranial non-metric and odontometric traits with the age and sex characteristics of individuals interred at the Ginefab School Site to investigate changes in the specific biological relationships used to signal kin groups in the mortuary record from the Post-Meroitic period (ca. A.D. 350-550) to the Christian (c. A.D. 550-1500) period in the Fourth Cataract Region of Upper Nubia. Results demonstrate that genealogical relationships were emphasized in different ways in the mortuary record of the Ginefab School Site through time, with a shift evident that temporally coincides with the introduction of Christianity to the region. We discuss how the gender and age aspects of local kinship systems responded to socio-political, religious, and economic transitions occurring during the Post-Meroitic and Christian periods of ancient Nubia, as well as how these changes reflect the status of kinship as a social identity incorporating multiple socially mediated interpretations of biological characteristics.

Seidemann, Ryan (Louisiana Department of Justice) and Kenneth Kleinpeter (Historic Highland Cemetery, Inc.)

[270] Restorative Excavations and Ground Truthing Remote Sensing on the Cheap in Historic Highland Cemetery (16EBR190)

Historic Highland Cemetery in College Town, Baton Rouge (est. ca. A.D. 1817), is one of the City’s oldest cemeteries. Well-meaning, but ill-planned “preservation” efforts in the 1930s and 1970s have done more harm than good to this historic treasure. Since the early 2000s, the present Historic Highland Cemetery trustees have undertaken a comprehensive effort to scientifically and accurately document and restore Historic Highland Cemetery, including extensive documentary research and archaeological reconnaissance. This presentation reviews the cemetery’s history and importance and the results of excavations aimed at ground truthing the results of both low- and high-tech remote sensing in the cemetery.

Seidemann, Ryan [283] see Hawkins, William

Seifried, Rebecca (University of Illinois at Chicago) [36] Chair

Seinfeld, Daniel (Florida Bureau of Archaeological Research), Munir Humayun (Florida State University) and Jennifer Humayun

[276] Chemical Analysis of Chevron Beads from Early Sixteenth-Century Spanish Entradas into
the Southeastern United States
Glass beads are one of the primary diagnostic material remains from the early European incursions into the New World. LA-ICP-MS (laser ablation inductively coupled plasma mass spectrometry) analysis of chevron beads provides insight into the movement of the Pánfilo de Narváez and Hernando de Soto entradas. Beads from sites associated with the Soto expedition have a relatively consistent chemical composition, which suggests a common source. Beads from the Wakulla Cemetery site (8WA15), a site suspected to be associated with the Narváez entrada, are chemically distinct from the de Soto beads. The variability in the chemical compositions of bead from the de Soto and Narváez expeditions are related to subtle differences in manufacturing techniques by individual producers. Analytical results will help trace the routes of early explorers in the Americas as well as indigenous trade routes. They also inform our understanding of 16th century bead manufacturing techniques. Our findings will shed light on nature of exchange between Europeans and indigenous groups in this early period of cultural contact.

Sejas Portillo, Alejandra (University of Pittsburgh)
[231] Changes in the Interactions Networks during the Late Period at the Southern Shore of the Poopo Lake, Bolivia
From early times Andean people have been moving between different ecological floors in order to obtain products that would complement their diet and also exotic goods for social differentiation. In this context, vessels of particular styles were circulating among different interacting communities located sometimes at considerable distances. The aim of this investigation was to study the effects of the Inka influence in the interaction network of the local population at the site of Tambo Viejo de Sevaruyo, the principal administrative site in the Southern Poopo Region, Bolivia. This poster presents the results of the technological and decorative analysis of ceramic material systematically collected at this site from the pre-Inka and Inka period; which made possible the identification of the provenance of this material with in these interacting areas.

Selden, Jr., Robert Z. [30] see Trubitt, Mary Beth

Seligson, Kenneth
[195] In Search of Kilns: The Forms and Functions of Annular Structures in the Bolonchen District
Over the last few decades, archaeologists have identified hundreds of annular structures throughout the Bolonchen District of the Puuc Region in the northern Yucatan Peninsula. Despite the ubiquity of these distinctive structures, which generally appear in the archaeological record as mounded rings surrounding a central pit, questions remain as to their full range of forms and the variety of functions that they might have served. Preliminary studies suggest that they were involved in the cooking process, but whether they were used in the processing of food, ceramics, quicklime, or a combination of these is yet to be determined. Spatial analyses of the annular structures from the sites of Kiuic and Sayil indicate that at least some of the annular structures at these sites were most likely used as kilns for the processing of limestone into powdered lime. Previous studies of traditional methods for lime plaster production have demonstrated how the ancient Maya may have used open air pyres to produce powdered lime, but the identification of permanent ancient kiln structures remains unclear. If it does indeed turn out that these annular structures represent ancient kilns, they will be some of the first structures positively identified as such in Mesoamerica.

Sellet, Frédéric [206] see Reynolds, Cerisa

Semon, Anna M. [10] see Valentinsson, Signe

Senn, Matthew (The Ohio State University)
[301] Spatial Analysis of Monument Sites on the Dhufar Plateau: An Archaeological Application of Space Syntax Analysis
The early-middle Holocene of southern Arabia is difficult to discuss due to an incomplete and fragmentary record. It is known that the region was important on the larger scale because of its abundance of valuable frankincense, but without more information about the local mode of production, and their incumbent relations, we can only speculate on the role that indigenous societies played. The most prominent archaeological remains are megalithic monuments, representing social and ideological engagement with the landscape between the late fourth millennium and the late 1st centuries B.C. Investigations of neighboring regions have resulted in an intriguing scenario wherein mobile southern Arabian societies marked social transformation upon the physical landscape. This research models ancient mobility based on economic factors of production and the social configuration of space via the spatial organization of megaliths. Space-syntax analysis characterizes spatial systems on the ways in which spaces interact, which simplifies the arrangement of structures into nodes and linkages, thus describing relations of space using graph theory. Regional scale spatial analysis, surface monuments, and natural features all contribute to a mobility model. Change over time in mobility informs us as to the social context of first millennium relations of production between Arabian incense traders.

Seowtewa, Octavius [159] see Dongoske, Kurt

Seppä, Heikki [201] see Tallavaara, Miikka

Sereno-Uribe, Juan
[140] Settlement Sequence at Gualupita Morelos
This poster will present the historical sequence of the Gualupita neighborhood in the city of Cuernavaca Mexico, form the Preclassic period until the establishment of the mega store COSTCO DE MEXICO SA de CV in to the region, showing the settlement sequences and the transformations that have come to pass in this area. The oldest archaeological information that we have from Gualupita neighborhood goes back to the Preclassic period (900 BC). During the archaeological excavations we were able to uncover the remains of a small Preclassic house; on the clay floor there was a large deposit of ash, indicating where the kitchen was located. Among other things we also recovered a series of Preclassic figurines, similar to those described by Suzannah B. Vaillant and George C. Vailliant during their excavations in 1934. After the Preclassic settlement, the Gualupita neighborhood was abandoned for many years, until the beginning of the construction in 1930 of the Casino de la Selva Building. This was going to be the first Casino in Mexico, but with the proclamation of the Federal law in 1947 that forbid gambling, the Casino had to close its doors
[8] Discussant

Sereuya, Dalantai [92] see Hadel, Patrick

Serra Puche, Mari Carmen (IIA-UNAM)
[112] Interacción entre Xochitecatl-Cacaxtla y el Valle de Puebla-Tlaxcala durante el periodo Formativo
A través de las evidencias arqueológicas de la cultura material del centro regional de Xochitecatl durante el periodo Formativo, intentamos explicar las dinámicas de interacción con los sitios contemporáneos del Valle de Puebla-Tlaxcala. Se trata de evidenciar las interacciones socio políticas de este centro, que tanto por su localización, su arquitectura, la presencia de edificios ceremoniales, la variedad y cantidad de tipos cerámicos locales y foráneos refleja una jerarquía sobre el resto de los asentamientos del valle. Este centro regional que controla seguramente rutas de intercambio y abasto, se convierte en punto de referencia y poder de la región durante el Formativo Tardío, hasta su desaparición por la erupción del Popocatepetl alrededor de 200 años después de cristo.
[112] Chair

Seufer, Katherine [200] see Turkon, Paula
Sever, Thomas (U. of Alabama, Huntsville)


Archaeology was one of the first disciplines to use aerial photography in its investigations at the turn of the twentieth century. The low resolution of digital satellite technology that became available in the 1970s limited its application to regional studies; however, that situation has changed. The arrival of high resolution, multispectral capabilities of IKONOS, QuickBird, and other commercial satellites at the turn of this century and the scheduled launch of new satellites in the next few years provides an unlimited horizon for future archaeological research. The almost untapped potential that remote sensing, coupled with Geographic Information System (GIS) technology and computer-aided analysis for the study of human cultures seems beyond measure. Although many archaeologists are not comfortable with remote sensing and GIS technology, a new generation is embracing it and archaeological projects of broader scope than ever before envisioned are now possible as demonstrated in this session.

Sever, Thomas [295] see Griffin, Robert

Severs, Matthew [341] see Mueller, Raymond

Seymour, Deni

[198]  Remote and Rugged: Historic Apache Landscape Strategies

Images of the Chiricahua Apache conjure the consummate opponent to the state, the iconic Geronimo resisting to the end, maintaining autonomy long after others had surrendered. Their mobile lifeway shielded them from domination. The rugged and protective mountain landscape they used allowed the Apache to avoid subjugation longer than any indigenous group in North America. Use of the international border also benefited them, pitting two states against one another until cooperation between the US and Mexico brought an end to that strategy. Apaches used elevation and remoteness to their advantage. Changes in portion of landscape used and in fire-making behavior occurred as a result of changes in pursuit strategies and commitment by opposing militaries (Spanish, Mexican, American states). The way they distributed their housing across the landscape is directly related to expectations regarding enemy incursions. The historic Apache are an outcome of their peripheral position relative to these states.

Seymour, Elizabeth (Utah State University)

[262]  Variability in Pithouse Floor Area and Implications for Social Organization amongst the Fremont

Archaeologists use domestic architecture to enhance the study of social organization in ancient cultures. Such investigations indicate that house floor area is one measure that proves useful in examinations of social organization. This research compiles elements of Fremont domestic architecture routinely recorded in archaeology and applies methods previously used in the American Southwest to examine social organization in the Fremont culture. In particular, the variability in house floor area at Fremont residential sites is used as a proxy for the level of participation in a corporate or network strategy. Data were compiled by culling measurements of house floor area from cultural resource management reports and forms at the Utah Division of State History and from published journals and theses.

Sgarlata, Cosimo (Western Connecticut State University)

[218]  Evidence of Primary Forest Efficiency in Southern New England’s Late Archaic Period

In 2012 several Western Connecticut State University students participated in excavation at the Warner site, a Late Archaic campsite in Woodbridge, Connecticut, securely dated between cal 4530 to 4420 B.P. Analysis of stone cores, lithic debitage and tools indicated that lithic raw material was stockpiled; and even high quality lithics were utilized almost exclusively for the production of simple, expedient flake tools. In Southern New England, and many other parts of the Northeastern United States, the Late Archaic (6,000 to 3,700 B.P.) “fluorescence” has raised numerous questions due to the sudden and dramatic increase in documented cultural features, recovered diagnostic artifacts and reported
radiocarbon dates. Analysis of lithic artifacts from the Warner site indicates that Late Archaic inhabitants practiced regularly scheduled seasonal moves, and centrally positioned camps adjacent to locations where a number of seasonally reliable resources were close at hand. However, although populations moved to new locations from season to season, evidence from the Warner site indicates that residential stability during particular seasons may have been an effective strategy allowing stockpiling of lithics. This, in turn, reduced time and labor expended searching for raw material and manufacturing formal tools, while maximizing efficiency procuring and processing foods.

Shafer, Harry (Texas A&M University Professor Emeritus) and Thomas Hester [31]  
Colha in Retrospective: Maya Lithic Craft Specialization
Colha is an ancient Maya town located in northern Belize. The economic importance of Colha is due to its setting. High-quality chert needed for axes, adzes, knives and spears, was abundant in large cobble and boulder-size masses and was easily obtained in a geographically restricted area within a very broad zone of settlements and polities. The technological tradition established at Colha may have seen its ultimate origin in the Preclassic period at the site, and expansion during the Middle and Late Preclassic led to the production of millions of stone tools that were dispersed to consumers throughout the region. Workshop production responded to supporting the needs of Terminal Classic warfare. This unique tradition became extinct with the destruction of Colha in the Terminal Classic. A new settlement was established in the Early Postclassic with an entirely different lithic tradition with origins in the Yucatan.

[66]  
Discussant

Shafer, Harry  [292] see Hester, Thomas

Shaffer Foster, Jennifer (University at Buffalo)  
[94]  Unexpected Objects: Stone Tools in an Age of Gold
During the Irish Early Medieval period (ca. A.D. 400-1200), metallurgy flourished and artisans created exceptional products in silver, gold, and bronze. Trade from abroad also brought sophisticated ceramic wares from the continent and England. These spectacular items have been found during the course of excavation and have resulted in much research, while less attention has traditionally been paid to everyday, expected domestic finds such as locally made pottery and woodworking. Recent work collecting and synthesizing reports and grey literature by the Early Medieval Archaeology Project (EMAP) has made it possible to track the results of excavations dating to this time period and examine all objects, not just spectacular examples, in detail. Drawing on work by EMAP as well as the author’s own work in County Armagh, Northern Ireland, this paper examines an unexpected corpus of artifacts—lithics—utilized during this time period. Archaeologists have long assumed that lithic manufacture and use ceased during prehistory and yet increasing evidence suggests that stone tools were used well into the Medieval period, while metal tools were widespread. The use of lithics during this time is enigmatic, but may have been linked to socioeconomic status while also having ritual connotations.

Shakour, Katherine (University of Virginia)  
[259]  Materialized Grieving: An Ethnoarchaeological Perspective on Village Residency, Westquarter, Inishbofin
The Irish Famine did not result in an immediate and total abandonment of rural coastal villages, rather it created the context for a complex interweaving of demographical, residential and immigration patterns that continue to unfold. Focusing on the small village of Westquarter, Inishbofin, County Galway, Ireland, this paper explores the social and residential history from around 1800 through the present day. Centered on the dynamic intergenerational shifts within and between families in the village, we track concurrent patterns of residential continuity among select family members, the relocation of other family members to other areas of Inishbofin, and the off-island migration of still other members to America, mainland Ireland, and England. Collectively the use of oral history, archaeological field research, historical maps, and local interviews provides new insights into how and why residential patterns change within a village, and the extent to which this can be linked to archaeological data sets. With these datasets we trace village history through ethnoarchaeological historical and documentary sources to
understand the resulting social and political policies which created considerable, lasting social and economic changes.

Chair

Shakour, Katie [259] see Kuijt, Ian

Shankel, Sarah (Connecticut College), Tianna DiMare (Connecticut College), Anthony Graesch (Connecticut College) and David Schaepe (Stó:lo Research and Resource Management Centre)

Methods for Detecting Living Surfaces in Residential Architecture: Penetrometer Readings and other Archaeological Indicators of House Floors at Welqámex (DiRi-15)

The broader goals of household archaeology are predicated on the assumption that archaeologists can (1) discern among the material records of spatially discrete residential groups and (2) analytically isolate the constituents of living surfaces, refuse, and other behaviorally significant strata. This poster highlights research addressing the utility of soil penetrometers for recording and measuring variation in the compaction of living surfaces attributed to regular foot traffic in architectural features. Our data are drawn from subsurface investigations at Welqámex (DiRi-15), a large residential settlement spanning the Late and Contact/Colonial periods in southwestern British Columbia and featuring as many as five unique architectural styles. Variability in several hundred systematically sampled penetrometer readings is evaluated against other stratigraphic indicators of living surfaces, including non-cultural floor constituents (e.g., waterworn pebbles) and size-density profiles of frequently encountered residential trash (e.g., thermally modified rock and charcoal). We argue that penetrometers (1) provide supporting data for in-the-moment interpretations of strata revealed during plan-view excavation, and (2) show considerable promise for the analytic isolation of walkways and spatially discrete family areas in multi-family residential architecture.

Sharapov, Denis (University of Pittsburgh)

Evaluating Social Developments of the Middle and Late Bronze Age periods (2100 B.C.-800 B.C.) in the Southern Urals, Russia, using Regional Settlement Pattern Evidence

This study utilizes Geographic Information Systems (GIS) techniques to analyze a regional (~4,400 km²) dataset derived from the systematic stereoscopic readings of Soviet-era aerial photographic images taken over the Kizil district of Russia (Zdanovich et al. 2003). In particular, the Kernel density function is used to evaluate the regional spatial distribution of hundreds of housing depressions, attributed to either the Middle Bronze Age (MBA) (2100BC-1800 B.C.) or the Late Bronze Age (LBA) (1800 B.C.-800 B.C.) periods, characterized by divergent patterns of social, political, and economic complexity. Comparing the settlement patterns in each period to the distribution of locally available subsistence and economic resources, utilized by the Bronze Age populations, allows to: 1) establish a link between resource-driven nucleation of the MBA populations and the resulting scalar effects associated with social complexity; 2) propose a hypothesis of gradual population disaggregation during the LBA, driven by a long-term trajectory toward extensive pastoralism.

Sharma Ogle, Mini (SWCA Environmental), Zach Windler (SWCA Environmental Consultants) and Celia Moret-Ferguson (SWCA Environmental Consultants)

Where, Oh Where Did You Go? The Mystery of the Missing Methodist Meeting House

SWCA Environmental Consultants didn’t find the archaeological remains of the historic Methodist Meeting House, but it wasn’t for a lack of trying. The City of Hillsboro, Oregon, a suburb of Portland, hopes to construct a major road that would bring a rural area into industrial development. This project had it all: a project very high on Governor Kitzhaber’s’ economic development plan, a small unmarked pioneer cemetery that was thought to have Native American burials affiliated with the Nez Perce Tribe of eastern Oregon/western Idaho, and extensive negotiations surrounding how to discover or rediscover the anticipated archaeological remains, and a number of local residents concerned about the loss of historic resources. Media attention captured the high expectations of important discovery as remote sensing technologies were employed to identify hots spots where the missing meeting house
Foundations and associated burials might be located. The SHPO, Tribes, locals, historians all believed that there was something to be found out there. The City and State had to ‘do something’ to protect the resources expected out there. Permitting, meetings, stakeholder coordination and working in a media fish-bowl is a narrative of its own. The mystery remains but many lessons were learned along the way.

Sharon, Gonen (Prehistory Laboratory, Tel Hai College)

[26] Levallois in Acheulian Giant Cores?
The large flake Acheulian is a substantial stage within the Acheulian Techno-complex in which bifacial tools were shaped on large flake blanks detached from giant cores. While the end products of this industry, primarily handaxes and cleavers, are astonishingly similar in shape and size world-wide, the core technology applied in their production is highly diverse. Recent research demonstrates that some of the Acheulian giant cores from very remote regions such as South Africa and India follow, at least in part, the definitions of the Levallois core method. The questions to be asked of these findings are: is the method really Levallois? Can this term apply to such large tool production or is the definition limited to small core sequences? What is the meaning of the similarity in tool shape and size versus the diversity in core technology? Most interestingly, are these highly inventive core technologies an example of convergent social evolution or is it simply a modification of a known technology for use in different conditions and with the rock types and shapes of varying regions?

Sharp, Kayeleigh (Southern Illinois University Carbondale) and Melissa Litschi (Southern Illinois University Carbondale)

[104] E-data and the Gallinazo: Exploring the Past in the Technological Present
Archaeologists working in international research settings face challenges of data accessibility, limited time frames, and optimizing data collection. The methods devised for our recent two-week field season were guided by two critical concerns: (1) given the ever-increasing difficulties of sample exportation from Peru, it was necessary to devise a rapid method of data collection that would preserve as much information as possible in the time allotted, and (2) determining future excavation locations required a custom method for data collection that would facilitate preliminary diagnostic analysis of artifacts without the physical sample. During the 2013 season, we successfully implemented and tested an innovative approach combining a digital image catalog, tablet PCs, and GIS for electronic data collection and e-transport of the sample. This approach proved highly successful in terms of data accuracy and portability. It was also useful for establishing criteria to be used in the discovery of differences between coexisting Gallinazo and Mochica technological identities as a part of our long-term research agenda. Preliminary results show that the tablets were useful for maintaining data integrity and provenience, and that the information contained in the electronic environment was easily transferred into the geodatabase structure for preliminary and future spatial analysis.

Sharp, Emily (Arizona State University) and Rebecca Bria (Vanderbilt University)

[105] Cycles of Violence and Cultures of War: An Analysis of Cranial Trauma in Recuay and Wari-Era Tombs at Hualcayán
Bioarchaeological investigations provide a deep time perspective on the causes and consequences of violent activities, and more specifically, they attest to the physical impact of violence on the body. This study investigates the association between cultural emphases on warfare and violence and the influence these developments have on cranial trauma rates. In the north-central Andes, the Recuay culture (A.D. 1-700) flourished during the Early Intermediate Period (EIP). While warfare is considered common for the Recuay era, this is one of the first in-depth studies of Recuay interpersonal conflict in the Ancash highlands. Excavations at the site of Hualcayán have uncovered human remains that date to the EIP and the subsequent time period—the Middle Horizon or Wari era. Approximately 80 crania from eight burial contexts, including above-ground and subterranean tombs, were analyzed to assess the frequency and patterning of antemortem and perimortem trauma. Results indicate significant differences in trauma type specifically adult males, interred in Recuay tombs exhibit high rates of healed trauma. Other contexts show trauma on juvenile and adult female crania. Results indicate significant differences in trauma type
and frequency across sex, age-at-death, time period, and burial location.

**Sharp, Robert (The Art Institute of Chicago)**

[251] Sacred Narratives of Cosmic Significance: The Place of the Keesee Figurine in the Mississippian Mythos

The recovery of flint-clay effigy pipes and sculptures of male figures from late prehistoric sites in the southeastern United States suggests that their distribution may represent the deliberate dissemination of important elements of sacred narratives, cultural practices, and religious rituals. Building on the scholarly efforts of James A. Brown, Thomas E. Emerson, and F. Kent Reilly, this presentation considers the contribution that the newly discovered Keesee Figurine from Phillips County, Arkansas, can make to our understanding of one or more of the sacred mythic narratives of the Mississippian world. This sculpture offers an important link between prehistoric images of supernatural figures and social, communal, and religious practices of the historic period.

**Sharpe, Sarah [68] see Ducady, Geralyn**

**Sharpe, Ashley (University of Florida)**

[113] Evidence of Preclassic Long-distance Trade at the Maya site of Ceibal, Guatemala

Excavations over the past decade at the Maya site of Ceibal, Guatemala, have revealed new evidence of complex inter-regional interactions between the Gulf-region Olmec and southern Maya lowland civilizations, calling into question earlier arguments that the Olmec had been the "Mother Culture" or original source of cultural innovation in ancient Mesoamerica. In addition to architectural, artistic, and ritual similarities between the Preclassic (1000 B.C.-A.D. 100) Olmec and Ceibal Maya, there may also exist evidence of long-distance trade between the two regions in the form of marine resources, particularly shells. Here we present the preliminary results of the zooarchaeological material at Ceibal, assessing the type, source, context, and potential use of marine species at the site. We compare this information between Ceibal and contemporaneous Olmec sites, and discuss the potential for the long-distance trade of animal resources as a linking factor between these two regions.

**Sharratt, Nicola [19] see Piscitelli, Matthew**

**Sharratt, Nicola (American Museum of Natural History/Bard Graduate Center)**

[203] Personhood in Death, Personhood in Life?: Tiwanaku Infant Burials in the Moquegua Valley, Peru

Large-scale excavation and analysis of Tiwanaku burials at Moquegua Valley sites including Chen Chen, Omo M10, Rio Muerto and Tumilaca la Chimba have been instrumental in illuminating provincial Tiwanaku burial practices through time. Allowing for subtle and limited variations, a standard set of funerary treatments that spans differences in cemetery, intra-community group, sex and age, is recognizable in Moquegua. Notably, cultural norms about how to treat the dead extended to the very youngest members of Tiwanaku towns in the valley. In Moquegua, Tiwanaku infants, neonates and miscarried fetuses were buried in community cemeteries and afforded the same mortuary treatments as their elders. This apparent inclusivity contrasts starkly with numerous cross-cultural archaeological, ethnographic and historical contexts, in which the relative absence of neonates and infants from cemeteries and their non-normative disposal is seen as evidence that the categories of person and human are often distinct, with personhood ascribed not at birth but during later rites of passage. Focusing on the funerary rites surrounding fetuses and babies in Moquegua and comparing them with other regions during the Middle Horizon, I consider the implications for our understandings of personhood in and beyond this Tiwanaku enclave.

[203] Chair

**Shea, John (Stony Brook University)**

[26] Discussant
Shear, Isaac (University of Florida) and Mark Hauser (Northwestern University)

[124] Discerning Changes in Dominican Land Use through GIS
In this paper we examine the ways in which environment informs land use through different periods of occupation in Dominica, an island with nine active volcanoes and less than 8% flat land. The earliest papers on the archaeology of Dominica characterized the island as being unfavorable for intensive habitation and the terrain impenetrable for archaeological prospection. This paper reports on two long term projects undertaken in Dominica that contradict this view, one focused on the colonial period and one on the pre-Columbian period. Both projects utilize a variety of methods including remote sensing, GIS mapping, and extensive pedestrian surveys. A comparison of settlement patterns associated with industrial and subsistence agriculture show constructed patterns of land use are a critical factor in people’s daily lives and in broader patterns of community organization and interaction.

Sheets, Payson (University of Colorado)

[194] The Ceren Village as a Compressed Rural Landscape
Maya settlements ranged from isolated farming households through small and large villages to the large urban site of San Andres during the middle of the Classic Period in El Salvador’s Zapotitan valley. Before it was buried by volcanic ash about A.D. 630, the Ceren village was much like dozens of other small villages in the valley. Here the focus is comparing the isolated farming household to the advantages of a score of households coalescing into a settlement. Each Ceren household overproduced something for exchange with other households, thus avoiding the need to be largely self-sufficient economically. Each household focused on producing an artifact or special plant material in amounts well beyond what they would consume internally. Households were within a 5-minute walk of each other. Non-royal governance was effective in organizing political, economic, social, and religious activities and the structures in which they took place. Local individuals were responsible for construction and maintenance of the sacbe, and they had considerable discretion in how they achieved their goals, within the parameters of cultural acceptability. Compressing rural households into a village had disadvantages, including some loss of privacy and increased concern with theft.

Shegesha, Benjamin [331] see Schmidt, Peter

Sheff, Craig and Ned Jenkins (Alabama Historical Commission)

[276] The Hernando de Soto and Tristán de Luna Entradas and the Provinces of Talisi and Tascaluca in Central Alabama.
Assemblages of 16th century Spanish artifacts in collections from four aboriginal sites in central Alabama are traced to the expeditions of Hernando DeSoto and Tristan DeLuna. Most of the artifacts are mortuary associations suggesting that they came from direct Indian-Spanish contact. Analysis indicates potential useful distinctions between some of the artifacts of the DeSoto and DeLuna expeditions. Two of the sites are identified as Talisi and Atahachi, principal towns visited by DeSoto in 1540. Another site is probably the Atache described by DeLuna in 1559/1540. Each of the provinces had distinctive geographic ceramic phases and components, which greatly assists in our interpretation of chiefdom organization in the region and of changes in pre and post DeSoto and DeLuna settlement patterns, mound construction, display items and other aspects of culture.

Shelley, Steven [45] see Kremkau, Scott

Shelton, Rebecca [70] see Burbank, Joshua

Shelton, Jo-Ann (University of California, Santa Barbara)
Hunts in the Ancient Roman Colosseum
The aim is to investigate spectacles in the Colosseum at which animals were killed by professionals called "hunters." These spectacles demonstrated human triumph over the natural world, but also the supremacy of the Roman state over distant lands. They had roots in rural events which confirmed the ability of humans to create a secure environment for themselves. First, at annual festivals farmers celebrated the community's success in producing food by killing animals that preyed on livestock or consumed food plants. Second, wealthy statesmen promoted notions that aristocratic hunts on their private estates made a man better fit for public service and helped the community by eradicating dangerous and devouring animals. Politicians vying for urban votes brought the hunting experience to town in the form of staged hunts. These permitted town-dwellers to take part, at least as spectators, in an activity otherwise beyond their means. As the Romans expanded their territory, they imported species from the most remote areas of their empire: lions from Asia Minor, elephants from Africa. Their destruction in front of the Roman people provided concrete proof that Rome was able to subdue any force that resisted it.

Shennan, Stephen [187] see Edinborough, Kevan

Demography and the Cultural Evolution of Neolithic Europe
This introductory paper will provide the background to the session. It proposes that the key basic dimension of cultural systems is population, so the reconstruction of demographic patterns is fundamental. Changes in population size and density are linked to economic patterns so it is necessary to analyse the factors that affect them. In turn population patterns impact cultural patterns and processes. A novel treatment of summed calibrated radiocarbon dates shows that the introduction of farming to Europe was followed by a boom-and-bust pattern in the density of regional populations, not the steady population growth to a ceiling usually assumed. Demographic patterns for 24 different regions of Central and Northwest Europe 8,000-4,000 cal. BP will be presented and it will be shown that the patterns do not appear to be related to climatic factors. Possible alternatives will be discussed.

Chair

Approaching Sustainable Public Archaeology on Rapa Nui (Easter Island, Chile):
Education, Conservation, Research, and Tourism
Rapa Nui, like many other locations rich with archaeological heritage, poses extreme risks and potential when attempting to combine cultural conservation with tourism. After ten years of work on Easter Island, Terevaka.net Archaeological Outreach (TAO) has developed a program to provide tourists, hotels, archaeologists, and conservationists with a vested interested in the education of high school students local to the island. Our 2013 project sheds light on both a recipe for success in sustainable archaeology on the island and our shortcomings in reaching the goals of all participating organizations.

Powhatan Sovereignty and Consumer Politics in the Algonquian Chesapeake
Powhatan sovereignty was structured around the acquisition and socialization of "foreign" materials. In the centuries preceding the arrival of Europeans, shell beads and copper-dangerous and unpredictable objects-were introduced into the Virginia Algonquian world from sources beyond the Chesapeake by priests and chiefs. Typically stored away from settled areas, these objects were intermittently brought into circulation during feasting and commemorative events that mediated relations of authorization and subjection. As outsiders, Europeans and the objects that they possessed represented a danger that also needed to be socialized. In the well-known divination of John Smith, for example, priests performed a ceremony aimed at indigenizing Smith and his compatriots, making them no longer tassantasses (strangers) but Powhatans and subjects of the paramount chief. In this paper we explore the historical
processes that structured sovereign relations in the indigenous Chesapeake and the changing materiality and consumption of objects that occurred as a result. The seizure of Virginia Algonquian lands during the colonial era influenced new forms of sovereignty. The desire for objects that mitigated the destructive power of other-worldly beings continued in the Powhatan world, though guns and swords became the primary means for chiefly authorities to maintain land and to protect populations.

Sheppard, Peter [67] see Bunting, Augusta

Sheptak, Rus (University of California - Berkeley) [190] "After the Conquest": The Archaeology of Colonial Honduras

Archaeological research in Honduras is predominantly concerned with the period before European colonization. This has contributed to an impression of discontinuity between the late prehispanic period peoples of Honduras and the histories that came after colonization. In this presentation, I reconsider what has been accomplished through excavation and research on archival documents. I point to a number of challenges for creating archaeological understanding of colonial Honduras. There is a major disconnect between the way archaeologists working even on the late prehispanic period conceptualize the units of analysis (usually, as linguistic/ethnic units with a wide geographic distribution) and how the same people were described in the first generations of colonization. It has been challenging to assign dates to colonial sites and assemblages because the default assumption has been that colonial period sites will yield European tradition materials, whereas these are rarely found in Honduran sites. There are contradictions between descriptions in documents, which describe a rich material world, and those few colonial sites that have been explored, in part due to retention of objects as property transmitted to successors. I end by demonstrating that these problems can be avoided and rich archaeological understandings of the colonial period can be generated.

Sherwood, Sarah C, [207] see Carmody, Stephen

Sherwood, Sarah (Sewanee: The University of the South) and Ksenija Borojevic (University of Massachusetts, Boston) [299] Examining Late Neolithic Structures on the Danube: A Microstratigraphic Approach

This poster uses micro and macrostratigraphic studies to examine two comprehensively excavated and analyzed buildings, Structures 01/06 and 03/03, at the tell site of Vinca-Belo Brdo. The large nucleated settlement located on the Danube River in the central Balkans (Serbia) is the type-site for the Vinca culture (5,300-4000 B.C.), known for the development of Neolithic communities in Europe. Recent excavations emphasized the built environment focusing on wattle and daub constructions. The micromorphological investigations, integrating plant identification in thin section, enhance the interpretation of construction materials and techniques, plant use, and the sequence of buildings during the late Vinca period.

Shibata, Koichiro [27] see Chicoine, David

Shiguekawa, Andrés [336] see Peters, Ann

Shimada, Izumi [103] see Bader, Alyssa

Shimek, Rachael (University of Wyoming) [132] What Does a Dog Cost? Factors Related to Domestic Dog Husbandry and a Cost-Benefit Analysis of Dogs as Hunting Aides

Domestic dogs are frequently associated with human populations throughout the world beginning in the Upper Paleolithic, but their physical remains are few and far between in the archaeological record. Therefore, archaeologists pursuing the subject of human-dog interactions in prehistory must utilize other
sources of information to help generate an understanding of dog husbandry. This paper uses historic and contemporary ethnographic data regarding dog use among hunter-gatherer groups to examine some of the anthropological and ecological factors associated with dog husbandry. Anthropological factors such as average annual mobility and ecological factors such as environmental productivity are expected to condition and constrain how domestic dogs are utilized by humans. A more detailed examination of the use of dogs as hunting aides is explored from a behavioral ecology perspective. A theoretical optimality model of the costs and benefits of using dogs to hunt helps generate expectations for dog use both in the present and in the past. Such alternative paths to the anthropological study of human-dog interactions are complimentary to traditional archaeological methods reliant on the recovery and analysis of canid skeletal material.

Shiratori, Yuko (The Graduate Center, CUNY), Carolyn Freiwald (The University of Mississippi) and Timothy Pugh (Queens College, CUNY)
[147]  Postclassic and Contact Era Animal Use in Itza Maya Households at Tayasal
The Petén Lakes region in Guatemala was occupied by distinct Maya ethnic groups during the Postclassic period (A.D. 1200-1500), and use of animal resources varied in each community. We present basic patterns of faunal use in subsistence and ritual contexts in Itza households at Tayasal, and compare them to similar contexts in households at the Kowoj capital of Zacpeten. Use of animals from different catchments - local vs. non-local, lacustrine vs. terrestrial - and distinct domestic and wild species may reflect one way of expressing group identity, or even social distinctiveness. More broadly, ethnographic analogy, ethnohistoric sources, and the frequency and distribution of different taxa provide insight into the social and economic organization of the Itza Maya from the Postclassic through the Contact periods at Tayasal.

Shoberg, Marilyn (GSAR)
[318]  Microwear Analysis of Stone Tools from Clovis and Older-than-Clovis Cultural Occupations at the Gault Site
Microwear analysis of stone tools from Clovis and Older-Than-Clovis occupation levels at the Gault Site provides evidence of a broad spectrum of cultural activities during both of these early occupations. Tools were used for hunting and butchering animals, and for gathering and processing plant materials. Other artifacts were manufactured from animal skins, wood, reed, and bone. Utilized tool forms include projectile points, large bifaces, prismatic blades, gravers, scrapers and modified flakes.

Shock, Myrtle
[246]  Resource Management in the Amazon: A View from Macrobotanical Remains
A survey of macrobotanical remains in Amazonian occupations is ongoing to investigate Pre-Columbian resource management strategies. Locations across the Brazilian Amazon with active archaeological research projects have been investigated to distinguish contexts with preservation of charred remains. Sites date to the last two millennium and are notable for Terra Preta, a fertile anthropic soil generally associated with sedentary occupations and concentrations of ceramics. Analysis of plant remains seeks to understand foraging and farming practices in a region where agroforestry is a viable subsistence alternative. A notable, recurrent species in archaeological remains is the Brasil nut (Bertholletia excelsa) for which the modern tree distribution in groves may be the result of ancient management practices.

Sholts, Sabrina [143] see Meza-Peñaloza, Abigail

Short, Laura (Texas A&M)
[43]  Raman Spectroscopy of Earth Ovens in South Central North America
Heated stones have been used worldwide to cook food, but unless carbonized remains are preserved in the archaeological record, it is difficult to identify what was cooked using this fire cracked rock. By analyzing the residue in the crevices of the stones, vibrational spectroscopy offers an additional
technique to discern what they were used to heat. This study is a continuation of previous work on earth ovens in south central North America. Given earlier difficulties with obtaining informative results, this research is focused on improving methodology and addressing issues such as contamination and taphonomy.

Shott, Michael (University of Akron) [255] Discussant

Showalter, Stephanie (Indiana University of Pennsylvania), Ashley Taylor (Indiana University of Pennsylvania), Katie Turner (Indiana University of Pennsylvania), Matt Howryla (Indiana University of Pennsylvania) and Mark Durante (Indiana University of Pennsylvania) [172] Geophysical Investigations Meters Deep: Examination of the Johnston Site (36IN002), Indiana County, Pennsylvania

The Johnston site (36IN002), located near the Conemaugh River in Indiana County, Pennsylvania, is a Monongahela village dating to the Johnston Phase (1450-1590) that is buried beneath a meter of alluvium soil. Excavations at Johnston began during the 1950s and resumed in the early 2000s by Indiana University of Pennsylvania (IUP). Much of the research done by IUP has focused on the location of stockades at the site. While three stockades have been discovered at the Johnston site, no research has attempted to locate features inside the stockade. Geophysical investigation using ground penetrating radar (GPR) and electrical resistivity at the Johnston site was undertaken in the fall of 2013 to examine the possibility of anomalies within the stockade. This poster summarizes the results of these investigations.

Shrestha, Ramesh (University of Houston/NCALM) and William Carter (University of Houston/NCALM) [337] Airborne LiDAR: Optimizing the Technique for Archaeological Research in Mesoamerica

Geodetic images (e.g., shaded relief, 3-D perspective, and color coded relief images) produced from airborne laser scanning (ALS), a.k.a. airborne light detection and ranging (LiDAR) observations are often stunning to the eyes of laypersons and scientists alike, especially when they reveal the surface features normally hidden by dense vegetation. Such images enable researchers to view landscapes at scales and resolutions never before possible, revealing natural features such as fault lines and surface erosion in intricate detail, along with such anthropogenic features as roadways, agricultural terraces, irrigation networks, and buildings, or their ruins. The information and insights derived from ALS observations have proven transformative to research in geomorphology and geophysics during the past decade, and because archaeologists share the need for similar information about landscapes, ALS may well have similar impacts on archaeological research, particularly in rainforest covered areas of Mesoamerica. ALS observations have already been used to find hundreds of additional features at known sites, and to find previously unknown sites, in Belize, Honduras, and Mexico, and the results of these early projects are being studied to find ways to improve the techniques that will be used in future archaeological projects.

Shrestha, Ramesh [337] see Fernandez Diaz, Juan

Shurack, Nikki [18] see Fehrenbach, Shawn

Sibley, Krisstin (ASM Affiliates, Inc) [316] Prehistoric Obsidian Use in the Truckee Meadows and its Implications for Settlement Patterns along the Sierran Front

Relationships between mobility and technological organization have been important topics in archaeology, especially in the Great Basin. The Great Basin is dominated by open air lithic scatters lacking in subsistence residues, features, and architectural remains making mobility and settlement
pattern reconstruction more difficult. Using data from previous collections, reports, and my own testing, I explored obsidian patterns within the Truckee Meadows region. My research focused on two major issues: (1) testing the implications of Delacorte's (1997) model, which implies that the Truckee Meadows was part of a more extended settlement system earlier in time and a localized system later in time; (2) the ability to generate radiocarbon-hydration pairs for Sutro Springs obsidian to further our understanding of the first research question. Although my results failed to provide insight on absolute dating from radiocarbon-hydration pairs, a new obsidian pattern was identified during the Late Archaic Component for the Truckee Meadows area.

Siegel, Peter

Island Historical Ecology: Socionatural Landscapes across the Caribbean Sea
Humans leave traces of their actions on landscapes in subtle and dramatic ways. First-colonizers to new places are often difficult to identify archaeologically because of the light imprint of their activities and issues of preservational bias. Understanding colonization history and subsequent developments in the Caribbean has been confounded by these problems. We address Caribbean colonization history through an aggressive data-intense project in historical ecology. Wetlands on selected islands between Venezuela and Puerto Rico were cored to obtain microfossil and pedological data to investigate Caribbean island ecologies from the perspective of social and cultural interventions over the full range of human occupations. Through the analysis of multiple proxies, we demonstrated that the Lesser Antilles were colonized and landscapes modified during the Archaic age, considerably earlier than what many archaeologists heretofore believed. Over the ensuing millennia, subsequent people continued to manage increasingly modified landscapes. On some islands, we obtained data dramatically illustrating the effects of early European colonial occupations, especially in the context of sugarcane plantation agriculture. This chronologically and geographically extensive dataset provides us with an unique empirically based perspective on the Caribbean islands as socionatural landscapes.

Chair

Sierra-Sosa, Thelma [192] see Jiménez-Cano, Nayeli

Sievert, April K. [74] see Munson, Cheryl Ann

Silliman, Stephen (University of Massachussets Boston)

When the Foreign Becomes the Familiar: Consumption Practices on Native American Reservations in New England
A significant element in studies of Native American responses to colonialism is the notion of “adoption.” Although this concept works in terms of the first introductions of the foreign into the familiar, particularly with respect to material culture, it cannot be sustained as an interpretation and frequently cannot even work in the first instance if the archaeological sites being studied do not represent actual adoption. More frequently, Native American archaeological sites during colonial eras manifest acts of ongoing consumption, and these require different analytical perspectives to account for the process of familiarizing the foreign, the actual definition of “the foreign” itself in archaeology and lived experience, and the position of such objects in individual experiences and collective memories. These processes have been studied for ten years now on the Eastern Pequot reservation (established 1683) in southeastern Connecticut as part of a long-term collaborative field school, and this paper uses that research context to examine the nature of consumption and colonialism on reservation households in Native New England and considers the implications for broader North American colonial contexts.

Sills, E Cory [138] see Vines, Patrick

Sills, E. Cory (University of Texas at Tyler) and Heather McKillop (Louisiana State University)
Salt: Mover and Shaker in Ancient Maya Society
As a basic biological resource in short supply at inland urban cities where the Classic Maya civilization developed, the coastal production and transportation of salt accorded the maritime Maya a degree of political and economic autonomy. The methods of salt production reflect the maritime landscape: the arid northern Maya lowlands were suitable for solar evaporation of salt along the Yucatan coast. Heating brine in pots over fires was more effective in the wetter climate farther south, especially along the coast of Belize. The production of salt in wooden buildings at the Paynes Creek salt works, underwater sites submerged by sea-level rise that provided stunning preservation of wooden architecture, offers a model for salt production elsewhere along the coasts of Belize and Guatemala. Changes in salt production and trade from the Preclassic through the Classic and Postclassic periods are evaluated, along with examples of production at inland salt springs.

Silva, Rosicler (Pontifica Universidade Católica de Goiás) and Julio Rubin (Pontificia Universidade Catolica de Goiás)

Archaeological Sites, Natural Processes, Anthropic Activity and Conservation of the Central Plateau of Brazil
This work determines the correlation between certain events noted in the archaeological area of Serranópolis, namely natural processes, anthropization and conservationist initiatives. The correlation suggests growing impact in this archaeological area, both in the already registered sites and the potential identification of new sites occasioning a hiatus in the archaeological context. This correlation also indicates that conservationist initiatives, when bounded without technical criteria, in areas where archaeological sites have been detected, may retard or accelerate the natural and anthropic impact on the cultural heritage.

Silva, Jorge [281] see Burger, Richard

Silva Collins, Gabriel (Hunter College HS)

Spatial Functionality and Ritual Offerings in Lurín Valley Ychma Households
This work will make public recent findings from the excavations of the 2013 Season at the domestic sector of Panquilma, Peru, especially those from unit 09. It will attempt to identify the main characteristics of a typical household of the Ychma culture. It will also interpret the evidence recovered to propose a spatial functionality for each component of this household and its sequence of occupation. Special attention will be paid to offerings found in the unit so as to correlate different types of offerings and their characteristics to the spatial functionality of household components in this Lurín Valley site.

Silva De La Mora, Flavio

How Were They Getting Around? Looking at Communication and Exchange Routes in the Northwestern Maya Lowlands during the Classic Maya: A Study in the Palenque-Chinikihá Region
The essence of how exchange, movement of people, and goods was organized in Pre-Columbian times is poorly understood, yet exchange and the movement of commodities is believed to be a critical aspect in the establishment and development of sociopolitical relations in Mesoamerica. Previous studies in Maya archaeology have seen a tendency to interpret ancient economies under two basic models, as either a centralized prestige goods model or a decentralized subsistence goods model. The Northwestern Maya Lowlands has been an important part of archaeological inquiry and recent studies in the Palenque-Chinikihá region provide a case study of the larger regional dynamics that united and separated the local communities during the Classic period. Using sourcing analyses on obsidian tools and debitage, united with the previous investigations this presentation will delve into the regional settlement distribution, communication routes and exchange of goods in the Palenque-Chinikihá region.

Simek, Jan, Mark Wagner (Southern Illinois University), Sierra Bow (University of
Portable X-Ray Fluorescence Analysis of Paints From Prehistoric and Historic Period Native American Rock Art Sites in Southern Illinois

Over the past several years, we have initiated a research program using non-invasive portable X-ray fluorescence (pXRF) to analyze the elemental composition of manufactured pigments used to produce prehistoric pictographs from numerous sites in southern Illinois spanning the period AD 1000-1835. In this paper we present the results of our analyses as they relate to variability in prehistoric paint production and use and possible links between rock art sites, design motifs, and cultural identities in southern Illinois over a period of almost 1,000 years from the Mississippian to historic periods.

The “Ambassadors to the Past” Program on Ambergris Caye, Belize: Embracing an Archaeology for, with, and by Indigenous People

In the past decade indigenous peoples of the Americas have become increasingly involved in various aspects of archaeological research, and the development of ‘indigenous archaeology’ has taken many forms. This paper describes some of the ways that indigenous peoples of Belize have been active participants in both archaeological fieldwork and public outreach efforts in San Pedro, Ambergris Caye. As part of the ongoing “Ambassadors to the Past” program Mopan and Kekchi Maya university students have been teaching short classes on archaeology in San Pedro’s secondary schools over the past two years. The program is aimed at helping Belizean students make connections to their country’s ancient Maya heritage. The successes of the program are discussed along with the challenges the ‘ambassadors’ have faced in helping secondary school students make meaningful connections to their cultural heritage. The unique perspectives and approaches these Maya university students bring to a public archaeology program specifically aimed at indigenous peoples are examined. Finally, the roles indigenous people play as major stakeholders in illuminating their own history are considered.

A View from the Top: Ais Giorkis, an Early Cypriot Neolithic Village in the Uplands

Ais Giorkis is amongst a handful of early Neolithic sites on the Mediterranean island of Cyprus that have re-written our conception of Cypriot and Near Eastern prehistory and have contributed to understanding how islands are colonized. Sites belonging to the “Cypro-PPNB” are unexpectedly early (ca. 7500-8400 cal. B.C.) and are contemporary with developments on the mainland. Ais Giorkis is one of these sites, and the only excavated one that is located in the foothills; the preferred location for settlement appears to be coastal. Ais Giorkis is unusual not only for its location, but also its rich artifactual, structural, and economic materials. These include imported obsidian, a technologically refined blade technology (including refitatable cores), abundant ornamentation, well-preserved paleobotanical materials that include some of the earliest directly dated domesticates in the Near East, and the second largest faunal assemblage on the island, which include small amounts of cattle, previously thought to be absent from the island until the Bronze Age. In addition, unusual oval platform structures and deep pits are present. The results of ongoing interdisciplinary investigations at Ais Giorkis are summarized here and put into a broader context.

Prospecting Epigraphical Landscapes: The Use of Traditional Geospatial-scale Tools in Analysis of Sub-millimeter Resolution 3D Data

With recent advances in technology, archaeologists have gained greater access to a wider variety of scales and resolutions in remotely sensed data. While many of these advancements were developed for other disciplines, their archaeological applications are made possible through innovative methodologies moving beyond their initially intended purposes. This paper aims to assess the potential utility of employing software and methods intended for landscape-scale to process and analyze sub-millimeter 3D scan data of the ancient inscription of Drakon’s Law on Homicide, one of the most important documents in the history of criminal law in ancient Greece. Unfortunately, its worn and degraded surface...
renders much of the inscription illegible. A joint team from the American School of Classical Studies at Athens and the Center for Advanced Spatial Technologies (CAST) were the first to be granted permission to study this inscription since 1969 and conducted close-range 3D scanning. While the effort yielded some promising results using 3D scan software for analysis, this paper will discuss the innovative use of 2½D GIS and airborne lidar software tools to explore additional means of deciphering new letters in the 3D scan data and gain further knowledge of what was written in Drakon's law on homicide.

[55] Moderator

Simon, Katie [154] see Garrison, Thomas

Simon, Arleyn
[182] Competition and Conflict: A Reassessment of the Role of Warfare among Salado Platform Mound Communities in Central Arizona

The occurrence of prehistoric warfare in central Arizona has been a topic of much discussion in recent decades, but to advance our anthropological understanding of the role of societal conflict it is essential to contextualize the role of warfare based on theoretical and ethnographic perspectives as well as multiple lines of archaeological evidence. This research focuses on the Salado platform mound communities of the Tonto Basin in central Arizona and surrounding region during the period of A.D. 1250–1450, a time of regional population movements and aggregation. Extensive data available from the Roosevelt Archaeology Projects and other excavations in the study area are synthesized and evaluated. In addition to physical evidence of violence, the social networks within the study area are assessed based on comparative study of the archaeological collections. Results are used to evaluate alliances and competition among the platform mound communities where conflict may have occurred on individualized or internecine levels, or with external groups. Theoretical and anthropological perspectives regarding the motivations and mechanisms of warfare inform our approach to assessing evidence of conflict in the archaeological record and of attaining more complete and informed explanations of the role of conflict in prehistoric Salado society in central Arizona.

Simonia, Irakli [90] see Houston, Gordon

Simpson, Ian (University of Stirling), Konrad Smiarowski (City University New York), Christian Madsen (University of Copenhagen) and Michael Nielsen (University of Copenhagen)
[29] Norse Greenland Homefields as Narratives of Resilience, Collapse and Survival.

Homefields, the managed areas of land immediately around farm dwellings and often enclosed with turf and stone boundary walls, are ubiquitous features of Norse North Atlantic agricultural systems. In this paper we offer a regional radiocarbon and optically stimulated luminescence (OSL) chrono-stratigraphic framework for Norse homefields in the Easter settlement of Greenland, crossing the Viking Age to Medieval transition and ranging from inner to outer fjord locations. We go on to demonstrate that complex soil and sedimentary field- and micro- stratigraphies are associated with these homefields. These retain important records of environmental change, evidenced by contrasting phases of eroded soils and peat accumulation, and management adaptation, evidenced by soil amendments, nutrient levels and controls on soil water. Regional assessments of these soil and sedimentary records indicate varying types and intensities of environmental change faced by Norse Greenland communities and that resilience to these changes depended on a diversity of homefield management strategies specific to the environmental problems faced and contrasted with location, size and nature of the farm.

Simpson, Duane
[196] Electrical Resistance Survey of Historic Cemeteries: The Pro and Cons of the Technique

The survey of historic cemeteries has proven to be one of the more difficult archaeological site types to investigate using geophysical techniques: a conundrum for researchers given the size and obvious patterning of graves contained within the majority of cemeteries investigated. AMEC has used electrical
resistance as an investigative technique at over 35 cemeteries across North America in a variety of environmental and soil conditions. These surveys have provided a wealth of insights to effectiveness of the technique based on an array of changing conditions, such as soil moisture, particle size, age of interment, and spacing between graves. These insights are explored within this presentation, as well as the pro and cons of the technique for the survey of historic cemeteries.

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

Identity and Ethnogenesis in the American Southwest

The role of identity and ethnicity has become an important component in an increasingly nuanced discussion of social interaction and organization. In the northern portions of the American southwest, the evolving identity of populations in the upper San Juan region of the early A.D. 700s to the late A.D. 1200s is interrelated with, but distinctive from, neighboring populations. As such they provide a contrasting view of the sweeping and far reaching social and cultural changes of the period. This peripheral yet long-lived process of identity formation and maintenance develops in opposition to Early Pueblo Period developments occurring to the west and culminates in the dramatically homogenizing Gallina ethnogenesis.

Sims, Marsha (Nat Resources Conserv Svc)

Extinctions of Fauna in North America, A Focus on Quartzipsamments and Human-Fauna Symbiotic Relationship

Quartzipsamments, wind-blown sandy soils high in quartz of the Entisols, developed across the world in the late Pleistocene. Previously, glacial tills and river deltas provided this type of soil. Both human remains and remains of Pleistocene fauna are recovered predominantly in areas shown as Quartzipsamments. The reasons are coincidence, high preservation in these areas, need for the same minerals by certain Pleistocene fauna, predictable areas to locate fauna, and others not listed. This research studies soil samples from three faunal sites and overlays of maps showing high correlation to Quartzipsamments for Pleistocene fauna and humans. Various factors lend credence to selection of Quartzipsamments for dietary benefit over the other choices. This paper stresses trophic levels and the symbiotic relationship of humans with fauna in North America as the driving force for extinctions. Auerbach (2012) shows wide bodies and high body mass of Paleoindians is indicative of high-latitude, arctic region, or cold-environment adaptations. As the world warmed, these humans expanded their range just as Pleistocene fauna. Quartzipsamments allowed this expansion into areas that support varied vegetation and following the fauna that left dung heaps fertilizing seeds increased the food availability and carrying capacity of humans who out completed the fauna.

Sims, Christopher

Applications of Geospatial Analysis and a Landscape Approach to Paleolithic Sites in Portugal

Developments in the domain of landscape approaches to archaeological research have been greatly advanced by the use of geospatial technologies. Despite the boon to theory, methodology, and technology, certain questions remain where the spatial distributions of archaeological material are complicated by other factors. Geomorphic processes significantly hinder site survivability and fieldwork. Such is the case for Paleolithic archaeological sites in Portugal, where the current landscape bears little to no resemblance to environmental conditions during the Pleistocene. Therefore, approaches using landscape theory and geospatial technology must be adapted, and a reworking of conceptual frameworks regarding site distribution is necessary in order to understand locality patterns. This presentation focuses on the results of geospatial analysis of data from recent archaeological investigations in the coastal and Estremadura regions of Portugal, and places them within a conceptual framework that allows for severe environmental changes and limited site survivability.

Sims, Ashleigh (College of Wooster) and P. Nick Kardulias (College of Wooster)

A Study of National and Local Identity at the Modern Cemetery in Athienou, Cyprus

The current study examines a modern cemetery in the village of Athienou on the island of Cyprus. This
cemetery is unique because the town is very close to the border between the Republic of Cyprus and the Turkish Republic of Northern Cyprus. An analysis of the cemetery is undertaken using a combination of landscape archaeology, following Ashmore and Knapp (1999), and Saxe’s (1970) hypotheses on mortuary analysis. Data resulting from a preliminary study conducted there in 2005 are used to show how the cemetery has evolved over the past eight years. Current analysis demonstrates how the cemetery, through the attributes of the gravestones and the overall layout, exemplifies the cultural identity of the people interred there. By prominently displaying members of certain corporate groups, such as war veterans, the cemetery is used to legitimate the people of Athienou’s claim to the surrounding land. The theoretical framework adopted here is applicable to the study of archaeological cemeteries both in other parts of the Greek-speaking world and other regions. Additionally, it enhances our understanding of the cultural identity, social structure, and status of corporate groups in a given society.

Sinclair, Paul (Uppsala University), Paul Lane (Uppsala University) and Anneli Ekbom (Uppsala University)


We report on recent work on the historical ecology of eastern and southern Africa. Long term trends in settlement aggregation and resource utilization are analyzed from a multi-scalar regional and landscape perspective. In this study, urbanism on the Zimbabwe plateau is viewed in terms of deep time interactions between ideology and governance, networks of local and interregional trade, systems of resource procurement and responses to climate change. Our second study explores rural landscape dynamics and social transformations in the Lower Limpopo Valley and specifically present day conservation management in Kruger National Park. In both of these, long term trends in settlement aggregation and resource utilization are evident in selected areas of eastern and southern Africa. Implications of the research results for sustainable futures are compared. Finally, we report on new work on the nineteenth century ivory trade and its antecedents, and how some of the newly emergent data challenges dominant environmental narratives concerning the drivers of soil erosion and agricultural intensification, which in turn have tended to shape modern day interventions in local livelihood strategies in the name of ‘development’. This latter case study illustrates the potential contributions of historical ecology to more ‘social’ archaeological interpretations and the analytical potential of multi-sited archaeology.

Singhania, Abhinav [337] see Fernandez Diaz, Juan

Singleton, Eric

[251] Archaeology in Museums: Finding the Forgotten

This paper will explore the role museums play in the exploration of Mississippian cultural and iconographic representations—principally through the care and collection of artifacts, and facilitation of object-based research. Moreover, this paper will explore the depth of research that can still be conducted on museum collections, either through the accumulation of multiple assemblages from various collectors through purchase or donation, or via collections from old archaeological excavations. Specific examples of the research potential of museum collections emphasized in this paper include objects from the Gilcrease Museum in Tulsa, Oklahoma, with particular emphasis on a Hopewell Period bone scepter, textiles and basketry from the Spiro mounds, and fragmented engraved shell.

Sinopoli, Carla (University of Michigan) [212] Discussant

Sisk, Matthew (Stony Brook University)

[278] Ecological Modeling of Middle and Upper Paleolithic Sites in the Vezere Valley, France

This project compares the ecological setting of Middle and Upper Paleolithic sites from the Middle Vézère region of southwestern France. This region works well for this type of study because of its diverse environmental character, well understood chronology and dense archaeological record. The
spatial location and chrono-cultural attribution of nearly 100 sites across the region were included in a database of relevant geological data and modern ecological characters, including measures of diversity and proximity to important resources. Within a GIS framework, these disparate data were then incorporated into models of important patterning between the Middle (Neanderthal) and Upper (Homo sapiens) Paleolithic populations of the region. Using tools from ecological niche modeling that rely on presence-only data (including MaxEnt), this project demonstrates a clear difference in the variability of environments exploited by these two groups, but also gives insight into important controls on settlement between the two time periods. It suggests a preference for more heterogeneous environments during the Middle Paleolithic, and a focus on particular resources during the early Upper Paleolithic. The analytical techniques employed here have clear application for other archaeological projects and a brief discussion of their utility will be included.

Sitek, Matthew [27] see Goldstein, Paul

Sitek, Matthew (UC San Diego) and Abigail Levine (Cotsen Institute of Archaeology)
[104] Building on Ancient Ground: Excavations at a Formative Period Mound and Sunken Court Complex in the Northern Lake Titicaca Basin
This poster presents the results from the 2013 excavations at Huayra Mocco, a Formative Period (ca. 1300 B.C.-A.D. 100) sunken court site associated with the greater Taraco complex situated in the northern Lake Titicaca Basin of Peru. We examine the construction techniques of architectural features uncovered in Unit III, located on the northwest slopes of the mound. These features include a large, Formative Period terrace face and associated canal. Evidence from lower strata suggests that the Formative Period architectural features may have been constructed directly on top of and even cutting into Archaic Period deposits. In light of these findings we propose two possible interpretations: (1) The lower strata represent terminal Archaic deposits and Huayra Mocco served as one of the few continuously occupied sites during the Archaic-Formative transition in the altiplano; (2) Huayra Mocco was selected as the site for Formative monumental architecture because of its substantial Archaic occupation. Through exploring these hypotheses we aim to demonstrate the possibility of unprecedented long-term site occupation and re-occupation in the northern Titicaca Basin.

Sitters, Julian (AmaTerra Environmental, Inc) and Danny Walker (Office of the Wyoming State Archaeologist)
Geophysical remote sensing, a method often employed to noninvasively detect the presence of archaeological features, has been successful in the detection of human burials (De Vore, 2007; De Vore and Nickel, 2003; Jones, 2008). However, the success of geophysical techniques in the detection of human burials is dependent upon multiple factors: methodology, vertical survey depth, terrain, soil chemistry, hazards, data processing, and grave conditions to name a few. The study presented here summarizes a systematic survey of major archaeological and geophysical journal reports on human burial remote sensing studies to further evaluate the effectiveness of geophysical prospecting for burial identification. Using the results from the literature review as a guide, a geophysical survey of the Tie Siding Cemetery (1824-2005) in southeastern Wyoming was conducted using multiple geophysical techniques. As a result of field investigations, numerous (n=22) geophysical anomalies were identified and are believed to be those associated with unmarked graves. By employing multiple geophysical techniques archaeologists were not only able to assess which techniques detected the same anomaly, but also whether different techniques can identify different burial types.

Skibo, James [322] see Malainey, Mary

Skidmore, Maeve (Southern Methodist University)
This paper applies Green and Costion’s model of cross-cultural interaction to the Wari colonial setting in the Cusco region, exploring relationships that the Wari established with peoples of this region and
others in the southern Andes from approximately A.D. 600-1000. It reviews past research on Wari/Cusqueño interaction before presenting new data from the Huaro Valley, where excavation at Hatun Cotuyoc, a residential sector of settlement, has revealed houses and mortuary remains pertinent to this inquiry. Evidence for interchange between Wari and Cusqueño populations is somewhat less intensive than expected at Hatun Cotuyoc, and possible reasons for this are addressed.

Skinner, Anne [201] see Kappelman, John

Skippington, Jane (University of Western Australia) [244] Reconstructing Paleo-environments and Seasonality of Occupation through Isotopic and Trace Element Analyses at Boodie Cave, Barrow Island, Western Australia
To complement and support the Barrow Island Archaeological Project investigating the nature of early occupation on the coastal landscape of northwest Australia, this presentation outlines an approach based on the isotopic and trace element analyses of the bone (including mammalian teeth and fish otoliths) and shell assemblages excavated from dated cultural deposits within Boodie Cave (Site J08-00) to reconstruct the changing palaeoenvironment and investigate the seasonality of site occupation. In particular, the relevant theoretical frameworks, methodological complexities, procedural practicalities, ethical questions, and environmental contexts will be reviewed to argue that the proposed research presents a significant and unique opportunity to critically evaluate the relationships between humans and the dynamic climatic conditions (including the intense variability in sea levels and aridity) experienced from the earliest occupation of Barrow Island in the Pleistocene (<45,000 years ago) to its termination in the early Holocene (7,400 years ago). It is suggested that the proposed research will confirm an interpretation of prehistoric coastal communities as highly adaptive strategists responding both reactively and proactively to the dramatic transformation of climate and resource availability over substantial time depth as well as across shorter-term seasonal changes resulting from monsoonal weather patterns.

Skov, Eric [220] see Giles, Bretton

Skowronek, Russell [14] see Gonzalez, Juan

Slater, Donald [31] see Pagliaro, Jonathan

Slater, Donald (Brandeis University & Robert S. Peabody Museum) [70] A New Look at Old Faces in Maya Caves
Representations of simple anthropomorphic faces have been documented in caves throughout the Maya region. Earlier interpretations suggested that these signs were unrelated to elite graphic communication styles and were likely the work of peasants. Current interpretations, however, are shifting. Drawing from various sources including ongoing investigations at the cave site of Aktun Kuruxtun, Yucatan, I argue that these seemingly simple faces are closely connected to royal Maya graphic forms and that they served as synecdochic humanoid embodiments of ch'ulel or the life force believed by Maya people to animate the cosmos.

Slater, Philip (University of Illinois Urbana-Champaign) [109] They Don’t Make Them Like They Used To: Point Production and Maintenance at the Middle Stone Age Site of Marmonet Drift, Kenya
The Marmonet Drift archaeological site in Kenya’s Central Rift Valley has a stratified sequence of over 26 meters of paleosols containing six Middle Stone Age archaeological horizons and thirteen volcanic ashes. Four volcanic layers have radiogenic argon dates ranging from 244 to 94 thousand years ago (ka). Excavation in 2013 recovered almost 8000 in-situ obsidian artifacts from two archaeological horizons: one lies directly above an ash dated to 94 ka and another directly above an ash with dates of 100 and 105 ka.
The younger horizon is dominated by extremely thin unifacial and parti-bifacial points and knives. The older horizon has bifacial knives, large end scrapers and burins, but no points. Both assemblages contain high percentages of thin shaping and resharpening flakes with lipped platforms, very low external platform angles and radial scar patterns on dorsal surfaces, indicating invasive soft hammer flaking of large thin flake tools. These assemblages provide new evidence for the organization of technology, specifically in relation to tool production, shaping, maintenance and discard. They expand the known range of lithic technology variation in the East African MSA, and have important implications for our understanding of role of technological organization in the evolution of Homo sapiens behavior.

Slaughter, Mark (Bureau of Reclamation), Steve Daron (National Park Service), Patricia Hicks (Bureau of Reclamation), Mark Boatwright (Bureau of Land Management) and Kelly Turner (United State Forest Service)

[77] The Southern Nevada Public Land Management Act: Recent Archaeological Achievements

The Southern Nevada Public Lands Management Act, or SNPLMA, provided funding for archaeological research and outreach in southern Nevada. These projects included research on extant collections, cultural resource survey/inventory, site documentation and eligibility determinations, artifact and archive curation, and public outreach. This poster, by the Cultural Resource Team of the Southern Nevada Agency Partnership (SNAP), is a brief overview of the larger projects and programs that benefited from SNPLMA. In sum, this work significantly advanced the archaeological knowledge and awareness of Southern Nevada's diverse resources, created a site steward program and partnership with the State Historic Preservation Office, and furthered public outreach efforts within the region.

Sload, Rebecca

[33] The Cave under the Sun Pyramid at Teotihuacan as a Chicomoztoc

Chicomoztoc, literally, “seven caves,” is the legendary ancestral home of the Aztecs, with each cave representing a different Nahua group. The concept fits within the framework of ancient Mesoamerican grand mythic traditions that also includes Tollan (“place of reeds”), Coatepec (“serpent hill”), Tonactepetl (“sustenance mountain”), and Altepetl (“water mountain”). Each of these, including Chicomoztoc, is accepted as having a more general and long-lived meaning than the Conquest period attribution. Chicomoztoc is interpreted as the place of emergence or cave of creation. Brady’s work with artificial caves, the spatial relationships of natural and artificial caves to surface architecture, the philosophy of religion, and ethnographic data produces the hypothesis that caves combined with mountains/pyramids and water define the Center, of which one aspect is Chicomoztoc. He agrees with Doris Heyden that the cave under the Sun Pyramid at Teotihuacan may be a Chicomoztoc. Up until now most support for the idea has been cross-cultural, relying on Conquest period sources of Aztec mythology about Teotihuacan. This paper uses 1978 Teotihuacan Mapping Project excavation data from the cave under the Sun Pyramid to explore the idea that the cave was a Chicomoztoc.

Small, David (Lehigh University)

[214] Using the Mortuary Record to Spot Phase Transitions

Complexity theory in its evolutionary frame is currently enjoying increasing usage by archaeologists who view concepts such as self organization, chaos, and phase transitions more amenable to explaining the record of the past than past theoretical frames. Several scholars have identified what they would label as phase transitions in the archaeological record. One of the problems with this however, is that the results of a phase transition may well be identified, but understanding the dynamics of that transition is yet to be realized. I propose that using the mortuary record can be of great help in further elucidating this issue. The period right before the phase transition, the "edge of chaos" was most likely a time of social fluidity and uncertainty as new social structure was emerging. This period can be compared to that of transegalitarian communities which were moving from one social structure to another. In transegalitarian societies elaborate funeral feasting was used by aggrandizers to secure positions of strength and to move toward creating new emergent institutions. In this paper I shall focus on identified periods and cultures which underwent phase transitions, and locate the period of chaos before that
Smallwood, Ashley (University of West Georgia) and Thomas Jennings (University of West Georgia)

Preliminary Results from Excavations of a Middle and Late Archaic Site in Phinizy Swamp, Georgia

Site 9RI381 was first discovered and shovel-tested in the 1970s-1990s. The site is located in Phinizy Swamp, Georgia along an oxbow remnant of the Savannah River. In cooperation with the Georgia Department of Transportation and the Georgia Department of Natural Resources, we returned to the site to open block excavations. The recovery of Savannah River points, steatite fragments, and a burned clay feature provide evidence of a Late Archaic occupation. Morrow Mountain and Guilford points suggest the site was also occupied during the Middle Archaic period.

Smallwood-Roberts, Cheryl (Gilcrease Museum)

Body Language—Interpreting Aspects of Posture, Gesture, and Gender of West Mexico Shaft Tomb Ceramic Figures

Ceramic figures from ancient West Mexico provide rich physical details of the people they represent, as well as clues to their culture. In order to understand the purpose of these figures, Robert Pickering and I are researching posture, gesture, and gender. Utilizing a database developed to record the details of 70 variables, over 1500 artifacts (to date) have been examined. The sample includes figures from the Gilcrease, Hudson Museum, Denver Museum of Nature and Science, the Museum of the Red River, Field Museum of Natural History, and the Houston Museum of Fine Arts. Each figure is subject to external scrutiny and internal endoscopic examination for condition, mineral deposits, insect puparia remains, and other indicators of authenticity. Nuances of each pose, such as the position of arms and legs, direction the figure is facing, and items held are recorded. Modes of dress, hairstyles, headgear, jewelry, and body decoration are also noted. Using the power of IBM SPSS, correlations of body posture, gender, age, and accoutrement can be ascertained among and between various "styles" of ceramic figures. Extrapolating the frequencies of these correlations may provide insights into the meaning and use of the figures of the Shaft Tomb tradition.

Smeltzer, Marion (Indiana U of Pa) and Bev Chiarulli (IUP Arch Services)

Preservation Methods Go High-Tech through 3D Scanning

We are constantly looking for ways to help protect, preserve, and maintain our cultural resources and landscapes from environmental hazards and neighboring developments. One method that is blazing the trail for those in involved with preservation challenges are looking into the benefits of High Definition Survey (HDS) also known as 3D Laser Scanning used to create accurate computer images of existing structures and landscapes. The laser scanner uses a built-in digital camera to capture photos of structures and their natural environment in micro speed time. The Laser beam travels from each selected target and captures images called "Cloud of Points" that map the completed scanned area. The laser scans can then be combined to show all sides or sections of a completed structure and surface. The collected information from the scanned areas can be utilized to create a more accurate drawing or model and can be used to monitor environmental effects that may cause damage to historic structures, and aid in future preservation methods.

Smetana, Debra (University of Notre Dame)

Prestige in Death: Mortuary Evidence for Social Structure in Hopewell and Mississippian Societies

The mound-building phenomenon of the Eastern Woodlands and Southeastern United States dates back thousands of years and is shared by a wide variety of prehistoric Amerindian cultures. Two of the most well known mound-building cultures, the Hopewell and Mississippian, inhabited roughly the same area, with the Hopewell phenomenon dating to the beginning of the Common Era and the Mississippian
culture occurring about a thousand years later. Although these two cultures shared a common landscape and affinity for mound building and burial, most modern archaeologists interpret the two cultures as having very different social structures. In this poster, I will examine the presence and associations of prestige goods left in mound burials from the Hopewell and Mississippian cultures. The goal of this poster is to determine whether anything can be learned in terms of Hopewell or Mississippian social structure from these grave goods.

Smiarowski, Konrad (CUNY Graduate Center)


Settled ca. 985 C.E. and abandoned ca. 1450 C.E., this arctic outpost of the European Medieval society was directly affected by the changing environmental conditions throughout its existence. The climate fluctuations of 1250-1300 C.E., recorded by multiple environmental datasets, tested the limits of resilience of the Greenlandic Norse settlements. The effects of these events had impacts on all societies in the North Atlantic at that time, and significantly altered the primary economies of these islands. In Greenland, the increased storminess, and unpredictability of weather and sea ice, caused a decline in farm productivity and contact with continental Europe. The domestic livestock herds were reduced in size, and a shift towards more resilient animals (more goats/sheep, less cattle) is evident in zooarchaeological collections from recent excavations. Greenlanders also heavily increased their reliance on a communal seal hunt, but unlike the Icelanders, they were not able to join the international dried-fish and wool trade. This resilient society was able to survive another 150-200 years, before a new climatic shift contributed to its collapse and disappearance around 1450 C.E. This paper will demonstrate how significantly these events transformed the subsistence strategy of the Norse in Greenland, from the settlement period to the High Middle Ages.

[29] Chair

Smiarowski, Konrad [29] see Simpson, Ian

Smirnov, Oleg [158] see Kennett, Douglas

Smit, Douglas (University of Illinois at Chicago)

[256] Fragmented Production, Fractured Power: An Examination of the Colonial Mining Landscape in Huancavelica

An over reliance on official documents can constrain our understanding of power in the colonial encounter, creating the myth that colonial states acted as unified polities with singular purposes. In the Colonial Andes, the Toledan Reforms may superficially exemplify a triumph in early modern statecraft; moving thousands of people into planned settlements and dramatically reorganizing labor relations through the dreaded mita to support Hispanic mining efforts in Potosí and Huancavelica. However, archaeological approaches provide a different perspective, emphasizing how colonial decrees do not arrive as unaltered packages, but rather are negotiated amidst competing Hispanic and indigenous institutions long before they are emplaced locally. This paper will use settlement pattern data and local archival research to examine the changing power relations associated with the colonial mercury mining in Huancavelica. Preliminary results indicate that in practice, the state-mandated Toledan Reforms did not necessarily correspond with concentrated production or state control, but instead demonstrate how state, merchant, and indigenous interests intersected to produce a fractured landscape of power.

[256] Chair

Smith, Michael (Arizona State University)

[21] Urbanization and Village Nucleation: Causes and Consequences of Moving into Town

I survey theoretical and comparative work on urbanization and nucleation at two analytical levels: (1) Household decisions to move into villages and cities; (2) Larger social forces that stimulate nucleation and urbanization within agrarian regional economies. Primary drivers of village nucleation include defense, political administration, economies of scale, and institutional forces. At the urban scale, I
explore these and other costs and benefits. Research on ancient Mesoamerican migration and urbanization can benefit from a better understanding of processes such as chain migration, migrant adaptation to urban conditions, and the ties urban migrants maintain with their village or region of origin.

[1] Discussant

Smith, Erin (Washington State University, Pullman) and Mikael Fauvelle (University of California, San Diego)

[2] A Western Subset of the North American Oikoumene: Regional Interaction between California and the Southwest

Drastic changes occurred in both coastal California and the Southwest during the beginning of the second millennium, including the intensification of internal trade and increasing complexity in sociopolitical development. Drawing from Peregrine and Lekson’s (2006, 2011) continental perspective and the inclusion of both small and large-scale dynamics, we suggest that developments in each area are influenced by both local and regional processes. In this fashion, we see California and the Southwest as components in a continental-wide interaction system spanning North and Central America. Within this system, we argue that interaction was sustained and regular, creating parallels in economic and political developments between the two areas. We offer archaeological and ethnographic evidence for the trade of prestige goods in the form of ceramics and textiles that we suggest moved westward from the Southwest in exchange for shell beads, asphaltum, and obsidian from coastal California. By expanding the scale of regional economic interaction, we hope to demonstrate the degree of connectivity between California and the Southwest, and establish parallels in social development and change between the Southwest and the far west.

[2] Chair

Smith, Karen (University of South Carolina) and Vernon J. Knight (University of Alabama)


Elsewhere we have argued that Swift Creek core design elements and their layouts—the shared ways in which the elements were arranged on the paddle—were culturally transmitted and, thus, serve as important characteristics that reveal the histories of sets of designs. With this principle in mind, we have worked with core elements whose layouts occur in three-guide-point setups and simpler one-guide-point setups. In this poster, we visually summarize the Swift Creek design corpus in terms of layouts and elements, both core and secondary, and assess the variation we observe across these sets in fill and finish.

Smith, Stuart (UC Santa Barbara) and Michele Buzon (Purdue University)


Ancient Egypt and Nubia have a long history of interaction that led to both cultural and biological entanglements. Cultural and political boundaries shifted over time, with Egypt absorbing parts of its southern neighbor into an eventually far reaching empire, but also with independent Nubian kingdoms dominating Egypt at different periods, at one point with its kings ruling as Pharaohs. This paper examines the influences that flowed back and forth between Egyptian colonizers and indigenous Nubians, mapping the flows and intensity of cultural and biological exchanges diachronically through the graphic model developed by Green and Costion. This model can allow us to take into account the complex nature of interactions between Egyptians and Nubians and the multifaceted role that individual agency played in creating complex outcomes that simultaneously reflect multiple groups with varied interests.

Smith, Geoffrey M. [24] see Wriston, Teresa

Smith, Geoffrey (University of Nevada, Reno)


The Sundance Archaeological Research Fund (SARF) at the University of Nevada, Reno (UNR) was
created in 1994 through a generous endowment from Joe and Ruth Cramer to conduct Paleoindian research in the Great Basin. In 2010, in part due to Joe’s wishes, the SARF evolved into the Great Basin Paleoindian Research Unit (GBP RU). While there are some new faces associated with the GBP RU, its central mission remains the same: (1) search for the earliest sites in the Great Basin; (2) develop a better understanding of Paleoindian lifeways in the region; and (3) place our findings into the broader context of the peopling of the Americas. In this paper, I describe my transition from graduate student to executive director working with SARF/GBP RU and highlight our recent work in Oregon’s Warner Valley, where we continue the tradition of Paleoindian research established at UNR 20 years ago with help from the Cramers.

[148] Chair

Smith, Kevin (Haffenreffer Museum, Brown University)

[325] Den of Thieves or the Temple of Doom? The Creation of Mythic Landscapes at Surtshellir Cave, Iceland

Surtshellir—one of the best known and largest lava caves in the North Atlantic—has historic and folkloric references spanning more than a millennium. Throughout, the cave is associated with horror—the end of the world, social dissolution, the inversion of religious and ethical certainties, mutilation, death, and betrayals—and with accounts of Viking Age chieftains and post-medieval peasant leaders reversing these terrors to restore the balance of life, locally or globally. Two tropes dominate these tales—that the cave was a base for outlaws in the 10th, 12th, or 16th centuries, or that it was the home of Surtur, a being who existed before the world was created and would destroy it, killing the Norse gods at Ragnarök. Preliminary investigations in Surt’s Cave identified standing Viking Age structures, massive deposits of faunal remains, and intact cultural deposits. Excavations of those deposits in 2013 provide new data on Surtshellir that encourage a re-conceptualization of the cave, redefine its role within Iceland and the Viking Age, and speak to both the inscription of mythic concepts onto newly settled landscapes by island colonizers and the integration of ritual and political power in North Atlantic chiefdoms.

[68] Discussant

Smith, Heather (Center for the Study of the First Americans)

[131] An Investigation of the Origin of Alaskan Fluted Points and Their Role in the Early Settlement of Beringia and the Americas

After more than 60 years of inquiry, fluted technology in Eastern Beringia is now confidently dated to the terminal Pleistocene at two sites in northwest Alaska and post-dates the Clovis complex by at least 700-1000 years. Competing hypotheses regarding the role of Alaskan fluted points in the early settlement of Beringia and the Americas persist—that Alaskan fluted points represent either a backwash of Paleoindian technology transmitted northward from mid-continent North America or an example of independent invention in the far north. This paper presents the results of a comparative technological and morphological analysis that investigates the relationship between Alaskan fluted points and other North American fluted-point collections. Discussion addresses the origin of fluted points in Alaska and how fluting technology may have been transmitted culturally across the region.

Smith, Erika (University College London, UK), Christina Halperin (Princeton University) and Ronald Bishop (Smithsonian Institution)

[147] Late Classic Provincial Politics: Chemical and Mineral Analyses of Late Classic Polychrome Pottery Paints and Pastes

Previous epigraphic and polychrome pottery investigations have identified the site of Motul de San José as the capital or one of several capitals of the Late Classic period Ik’ polity in Petén, Guatemala. Less is known about the regional relationships between Motul de San José and other important political centers in and around Lake Petén Itzá, such as Tayasal, Flores (Nojpetén), and Zacpetén. These centers may have been part of, allied with, or politically autonomous of the Ik’ polity. This paper examines regional political-economic relationships between these Lake Petén Itzá centers as well as between the lake centers and the more politically dominant capital of Tikal through the chemical (LA-ICP-MS, INAA) and mineral analysis (ATR-FT-IR, XRD, and EXAFS) of Late Classic Maya polychrome
paints and pastes.

Smith, Benjamin (Stony Brook University)

[186] Barbed Bone Points: 10,000 Years of Fishing on the Shores of Lake Turkana
As riverine and lacustrine environments expanded across north tropical Africa during early Holocene times, certain characteristic techniques emerged for fishing or "aquatic hunting." This project investigates early Holocene barbed bone points ("harpoons") from the Turkana Basin, NW Kenya. These geographically widespread and temporally confined tools can shed light on hunter-gatherer tool-kit organization, tool use, and resource acquisition in a context of environmental change. Experimental reproduction from local materials provides a baseline for analyzing collections from archaeological sites west of Lake Turkana. Examining modern local fishing practices can reveal various contexts of near-shore resource exploitation analogous to those of early Holocene Turkana, and reveals fishing techniques that employ tools similar to barbed bone points used in early Holocene times. Analysis of museum collections of barbed bone points from the Lothagam Fishing Site (GeJi11) west of Lake Turkana confirms that although certain typological factors like barb form and projection remain consistent throughout a single assemblage, others seem subject to individual preference or material constraints. The paper concludes with some reflections on the implications of barbed bone point production and use for changing mobility strategies, resource intensification and technological innovation during early Holocene times.

Smith, Monica (UCLA)

[194] Introduction: Abundance as an Economic Principle
Archaeologists generally have focused on scarcity as the most significant economic principle governing human-material dynamics. Abundance can be characterized as an equally compelling aspect of the economic realm starting with our earliest human ancestors, who were likely to have used resource quantity as a determining criterion of settlement location and landscape investment. A cognitive predisposition to seek out bountiful locales subsequently was augmented by the capacity to produce abundance through agricultural activities and object manufacture. Masses of tangible items could be utilized by elites and non-elites alike for a variety of ritual and social purposes, including the performance of plenitude at sacrifices and feasts. The desire for and encoding of abundance can be discerned from a variety of archaeologically-visible mechanisms, from the construction of massive storage facilities to the incremental creation of middens and waste dumps. An ancient appreciation for mass quantities also can be discerned through the use of style changes to increase the visible repertoire of goods such as pottery, textiles, and metal objects that encoded dynamic social relationships of identity and group cohesion.

[279] Discussant

[194] Chair

Smith, Scott (Franklin & Marshall College)

[198] Political Landscapes of the Upper Desaguadero River Valley, Bolivia
This paper discusses the ways in which politically marginal groups living along the Desaguadero River in the Altiplano region of the Bolivian Andes negotiated the expansion of states. Drawing on both archaeological and historical data I compare two moments in the long term historical ecology of the Upper Desaguadero River: the consolidation and expansion of the Tiwanaku state between AD 500 and 1100 and the incursion of the Spanish colonial state into the region beginning in the late 1530s. At both times, the fishers of the Desaguadero River constituted a minority in a region dominated by agropastoralists. During the Tiwanaku period, the data suggest that these communities became key nodes in the circulation of people, animals, objects, and ideas. During the Spanish colonial period, these communities resisted incorporation into the colonial state and the river became a staging ground for politically motivated raiding and rebellion. For much of the 17th century the Upper Desaguadero River was effectively an internal frontier within Spanish colonial territory. A consideration of this riverine landscape at these two moments highlights the diversity of ways in which politically marginal groups, like the fishers of the Upper Desaguadero, actively negotiated the vagaries of expansionary political
formations.

Smith, Galen

[208]  An Experimental Approach to Fishing Net Replication

The archaeological record provides evidence of the widespread exploitation of fish in prehistoric Eastern North America, but the amount and quality of evidence for fishing technology is limited. Although nonperishable items such as netsinkers may be common and fishhooks made of bone and other material also are known, there are few intact examples of nets that were widely used in the process of fishing. All of the remaining examples of prehistoric netting in Eastern North America were constructed of cordage, although there are representations of differing construction methods that resulted in a multitude of final products through materials, types, overall sizes, and mesh sizes. Thus, an understanding of cordage construction in general, as well as its association with net making, is essential. One potential way of understanding the range of netting technologies utilized in the Middle Atlantic region is to examine impressions left on identified net impressed pottery and replicate these technologies. The Delaware River provides an excellent opportunity because of its history of fish-based subsistence and the presence of net marked ceramic wares, for researchers to solidify their understanding of prehistoric netting technology.

Smith, Stefanie (Indiana University of Pennsylvania)

[233]  Foodways in Colonial Western Pennsylvania: An Analysis of Faunal Remains from Hanna’s Town

Hanna’s Town, a historic settlement in Westmoreland County, Pennsylvania, is known for its status as the first county seat and court of justice west of the Alleghenies. This poster presents data regarding access to and treatment of food items on the frontier with a specific focus on the faunal remains from the pit features associated with the three areas known as Foreman’s Tavern, Hanna’s Tavern, and Irish House. With the cooperation of the Westmoreland County Historical Society and Indiana University of Pennsylvania, faunal remains from these three areas of the site were carefully analyzed in order to answer general questions regarding the subsistence practices and sociocultural diversity of 18th century western Pennsylvania frontier communities and their residents. Topics such as taxonomic abundance, skeletal frequencies, butchering practices, and indicators of ethnicity and socioeconomic status were addressed using standard zooarchaeological methods. For each area, proportions of domestic game versus that of wild game were discussed, as well as the ways in which the cuts of meat present and the butchering practices employed vary. This analysis addresses specific elements of Western Pennsylvania colonial frontier life that have not previously been discussed relative to the Hanna’s Town community.

Smith, Cecilia (University of Illinois at Chicago)

[235]  Spatial Autocorrelation and the Changing Organization of Social Inequality in Colonial Philippines

Spanish colonization in the Philippines brought drastic social reorganization. It arrived unevenly across the archipelago and via differing vectors, including state representatives backed by military force and missionaries who dispersed as individuals to proselytize. While new products were incorporated by the transitioning elite as indicators of status, some "prestige goods" from the pre-contact period of the 13th-16th centuries continued into the capitalist political economy beginning in the late 19th century. I summarize these material indicators of high status, namely imported Chinese and Southeast Asian ceramics, found over a four year survey and excavation project in the Malangwa watershed on Negros Oriental, Philippines. The results of a spatial autocorrelation analysis reveal significant and changing patterns in the distribution of these artifacts across time. Theories that posit identity and inequality as social process, instead of as fixed positions, help guide the interpretation of these results beyond discussion of political economy and social organization to investigating the changing cultural meanings of enduring prestige items. I also address how spatial data at community and regional scales can be interrogated to discern social patterns using global and local indicators of spatial autocorrelation.
Smith, Kevin (Middle Tennessee State University)
[251] “When Frog Stole the Waters”: Mississippian Megadroughts, Migrations, and Revitalization Movements
During the colonial period, many indigenous Native American societies responded to unpredictable external stresses through large-scale migration and revitalization movements. Recent climatic models suggest that between A.D. 1250 and 1550, the interior South experienced different but equally unpredictable external stresses in the form of highly variable weather conditions, including megadroughts. Here I evaluate evidence for the time-transgressive spread of several late prehistoric “archaeological horizons” to test the hypothesis that large-scale migration and revitalization cults may be equally characteristic of the Mississippian era, albeit due to different stressors. I conclude with an evaluation of relevant indigenous folklore concerning drought and floods.

Smith, Marvin and David Hally (University of Georgia)
European artifacts, such as beads, bells, and iron cutting implements are frequently found in sixteenth-century Native American archaeological sites. How were these items obtained by Native Americans? Many mechanisms of acquisition can be identified from historical documents and the types of artifacts, but often it is the archaeological context of the artifacts that informs us the most. Mechanisms to be investigated include European gift giving, barter (both European and Native), tribute, redistribution, theft or pilfering, combat, and shipwreck salvage.

Smith, Lisa (University of Montana)
[290] Late Period Household Socioeconomics in the Middle Fraser Region of British Columbia and Its Implications for Understanding the Early Colonial Period
Housepit (HP) 1 of the S7i7stkn site of the Middle Fraser region in British Columbia is among a few well-sampled late precontact houses in the area, and when compared to data from later houses, it is an ideal baseline from which to measure the effects of the Fur Trade on household socioeconomics. Evidence demonstrates occupants of this multifamily dwelling were relatively egalitarian with a subsistence strategy focused on anadromous salmon. During the early colonial period, there was a notable decline in salmon reliance, as evidenced by faunal data of Housepit 54 of the Bridge River site, suggesting this keystone resource was impacted by the Fur Trade – a finding that is also reflected in local ethnohistories and native oral traditions. Couched in Practice theory and household archaeology, this research investigates daily activities of individuals within the St’at’imc community. It provides not only greater understanding of late period households in the Mid-Fraser, it informs discussions on incorporation of traditional knowledge to generate a more nuanced narrative of the past.

Smith, Morgan (Texas A&M University)
[315] Archaeology at Wakulla Spring: Historical Investigations and Future Directions
Wakulla Spring, located south of Tallahassee, Florida, has long been thought to possess the potential to be a promising source of Paleoindian and potentially Pre-Clovis archaeological information. This is evidenced by cultural material that has been found in and around the spring and by the fact that the region surrounding Wakulla Spring has yielded an anomalous concentration of Paleoindian age cultural material. Past research at Wakulla Spring has been limited to biology, water chemistry, and paleontology, with archaeology having served as ancillary information in texts. In the past, several mastodons have been removed from the spring in association with stone tools. No provenience information exists from the recoveries however, and the small archaeological assemblage from Wakulla Spring consists of entirely of ex situ osseous and stone tools in private collections. Several recent developments, most notably the analysis of private archaeological collections from the spring, successful terrestrial excavations around the spring conducted by Dr. James Dunbar, and the discovery of a mastodon potentially in situ in the spring run, have made it apparent that Wakulla Spring needs to be re-evaluated as a locale to study First Americans archaeology.
Smith, Craig (Cardno ENTRIX)  
[324] Hunter-Gatherer Resource Intensification: The Uinta Phase in Southwest Wyoming  
Resource intensification has been an important concept for understanding changes in hunter-gatherer subsistence. The excavation of over 50 sites in southwest Wyoming dating to the Uinta phase, 1800-1000 years BP, provides an opportunity to explore this concept among hunter-gatherers in an environmentally marginal area. This phase when compared to proceeding phases is marked by a greater reliance on seeds from weedy species, a focus on a wide variety of large and small animals, and an increase in the number of sites. It appears to be a time of increased population, the probable constriction of territory and range, and decreased mobility.

Smith, Alexander (Brown University Joukowsky Institute), Amalia Pérez-Juez (Boston University), Ricardo Elia (Boston University), Paul Goldberg (Boston University) and Meredith Anderson Langlitz (Boston University)  
[332] Survey on Hospital Island: Results from the 2013 Field Season on Isla del Rey, Menorca  
Isla del Rey is a small off shore islet located in the harbor of Mahón on the Balearic Island of Menorca (Spain). Nicknamed “Bloody Island” in the 18th century, the island is well known for its British naval hospital, constructed over multiple periods of British occupation. Along with strong ties to British, French, and Spanish history from the 18th to the 20th centuries, the islet is also host to a Paleochristian basilica, roughly dating to the 6th century C.E. In 2013, the Boston University Field School in Archaeology and Heritage Management began investigating the northern third of the island, which had not been previously explored. The goal of the survey was to provide a systematic analysis of this area, completing the archaeological picture of the islet, while educating field school students. Although a degree of both abundant surface remains and diachronic sample representation was expected, the final results were remarkable, potentially closing temporal gaps and expanding our knowledge of human use of Isla del Rey from the prehistoric to the modern era. This paper will present for the first time the results of the survey as well as related test pitting carried out in 2013.

Smith, Michele (Research Associate Haffenreffer Museum of Anthropology)  
[336] Mineralized Textiles from Viking Burials from Iceland, A.D. 874-1000  
The textile corpus from Iceland’s Viking Age is far less abundant than larger collections dating from the 14th-19th century. Without mineralized textile pseudomorphs stuck to iron or bronze grave goods from Viking period burials, the Icelandic corpus would be incomplete. This mineralization provides data otherwise lacking and has helped us to establish a clearer understanding of textile traditions during Iceland’s settlement period. These pseudomorphs suggest that Viking Age textiles were woven differently than in subsequent centuries and that their closest parallels were with Norway. By the 11th century, weaving traditions had changed quite drastically suggesting that foreign influences had made their way into Icelandic weaving, possibly as the result of female slaves from the British Isles bringing with them different weaving traditions. These new traditions established the framework for the emergence of vaðmál—a cloth-currency that became the main exchange good used in Iceland throughout the Middle Ages. Without the process of decay and mineralization these important early textiles would have been lost, along with vital information they provide.

Smith, David (Anthropology, University of Toronto, Mississauga)  
[342] Singing Pots: Symmetry as Cultural Expression in Huron-Wendat Ceramics from South-Central Ontario  
This paper demonstrates that symmetrical patterning is the dominant theme of both form and decoration of Huron-Wendat pottery. It is argued that Huron-Wendat potters fully understood the principles of plane pattern and three-dimensional symmetry and were able to manipulate symmetries and experiment within the parameters of a community of practice. Specific examples from the pottery assemblage of more than 5,000 pots from the Keffer site, a completely excavated late 15th century AD Huron-Wendat village situated in the Don River Valley, will be presented.

Smyth, Michael [158] see Dunning, Nicholas
Smyth, Michael (The Foundation for Americas Research, Inc./Stetson University), Nicholas Dunning (University of Cincinnati), Eric Weaver (University of Cincinnati), Philip Van Beynen (University of South Florida) and David Ortegón Zapata (Instituto Nacional de Antropología e Historia)

[195] Xcoch: An Enigmatic Large Maya Center in the Puuc Region of Northern Yucatan

Xcoch was a large Preclassic center exceeded only by its Late Classic period occupation. Though water management and agricultural intensification were always critical in this drought prone hilly region, the presence of a deep water cave near the site center, a massive central acropolis, and widespread pyramid architecture make Xcoch rather unique in the settlement history of the region. This paper will discuss the cave, water and settlement features, and their relationships to cycles of drought recently reconstructed via speleothem analysis near Xcoch. The findings begin to reveal a complex picture of long, dynamic cultural development, human ecodynamics, and rapid declines in a region once thought to be relatively late and short-lived in the history of the Northern Maya Lowlands.

Snead, James (California State University Northridge)

[159] Canonical Sites and the Legacy of Place in American Archaeology

Histories of American archaeology remain largely divorced from the places in which archaeological work has taken place. Our general preference for exploring trajectories of professionalism has left out many significant stories: the general lack of interest in landscape is particularly ironic since engagement with material contexts is fundamental to the archaeological process. At various times in our history, specific places have played critical roles in structuring archaeological interpretation. These “canonical sites” (following Rosemary Joyce’s “canonical artifacts”) were visited, studied, and attracted considerable comment. Their centrality to the narrative, however, is often completely idiosyncratic, reflecting proximity to travel routes, aesthetic appeal, or other values that are relevant only to the Euro-American viewer. This paper looks at two canonical sites of central importance to the development of American archaeology in the first half of the 19th century: the Grave Creek Mound (WV), and the Selzertown/Emerald Mound (MS). Both sites are preserved today, but in contrast to their 19th century notoriety, contribute little to the modern archaeological syntheses of their surroundings. Viewed in context, however, they provide examples for the relationship between history, place, and the canon construction in archaeological thought.

[198] Discussant

Snetsinger, Andrew [335] see Schwake, Sonja

Snitker, Grant (Arizona State University)

[13] Exploring the Dynamics of Anthropogenic Fire Regimes through Agent Based Modeling (ABM) and Geographic Information Systems (GIS)

Landscape modification due to anthropogenic burning practices has a deep history in human-environmental relationships. Although anthropogenic burning is commonly recorded in both prehistoric and ethnographic contexts, few archaeological projects engage in landscape-scale investigations of the social and environmental processes behind these practices. This project explores the complexity of anthropogenic burning by focusing on quantifiable components of a human-altered fire regime within a modeled landscape. Through exploratory agent based modeling (ABM) and geographic information systems (GIS), the human fire regime is examined through dimensions of fire intensity, extent, type, and frequency. Systematically modeling anthropogenic fire under differing conditions will allow archaeologists to explore both cultural and environmental aspects related to the dynamics of human-fire relationships in both past and present contexts.

Snitker, Grant [13] see Cegielski, Wendy

Snow, Dean (Pennsylvania State University) [100] Discussant
Snow, Susan (San Antonio Missions National Historical Park) and Paul Ringenbach (Bexar County Historical Commission)

[119] The Modern Cultural Landscape of the San Antonio Missions: How does It Reflect the People of the Missions?
The five 18th century mission complexes of San Antonio, including over 50 structures, archaeological ruins, and landscape features, represent the most complete extant example of the Spanish empire’s efforts to expand and control using the missionary system. This paper will examine these extant remains and discuss how these features represent the indigenous peoples who built the system and the interwoven mission culture that evolved during the mission period and remains the core of the unique culture of San Antonio and south Texas today. Evidence of the influence of indigenous peoples may be represented in some of the extant architectural features. Individuals and families who identify themselves as mission descendants varyingly identify themselves as indigenous, Spanish, or both, but they all have memories of various aspects of the cultural landscape that they associate with their mission identity. As the missions are considered for World Heritage status, it is this testimony to a thriving cultural tradition that continues to keep the missions as the living center of San Antonio, the 7th largest city in the United States.

Snow, Meradeth [247] see Durand Gore, Kathy

Sobel, Elizabeth (Missouri State University)


Archaeologists studying sociopolitical complexity in the Pacific Northwest have extensively studied how two classes of objects - exotics and highly crafted items – operated as prestige goods in indigenous societies. Extant research focuses on the ways that people acquired and distributed these goods, but has not rigorously addressed the question of why people imbued these objects with prestige. Generally, when addressing this question, we uncritically use ethnographic data to identify prestige goods, and we invoke formal economics, citing the rarity and labor costs of these goods, to explain their prestige values. Mary Helms offers a higher level explanation, arguing that the prestige values attached to exotic and highly crafted goods are rooted in cosmology. Helms proposes that all non-industrial cultures ascribe extraordinary power to long-distance trade and skilled crafting, based on cosmologies that position long-distance trade and artisanship as transformative acts linking the known realm “inside” society with the unknown, supernatural, powerful realm “outside.” I use Helms’ model, and a critical evaluation of ethnohistorical data, to interpret the archaeological record of the Lower Columbia River. I then assess the effectiveness of this approach for archaeological analyses of relationships among trade, specialized production, and sociopolitics in the broader Pacific Northwest.

Sobur, Marta (Harvard University)

[67] Sustainability in Early Dilmun Mortuary Economy

Collapse is a well-represented theme in the study of ancient civilizations. Well-understood examples include the deforestation of Easter Island, or the dissolution of political cohesion among the Maya, while others, such as the demise of the Indus River Valley civilization, are still debated, with the likelihood that inadequate responses to environmental degradation played a key role. The archaeological narratives of collapse paint a picture of human nature as self-destructive, and overshadow the numerous efforts to achieve sustainability and manage resources, which are often expressed as small-scale activities.

Perhaps the last place to look for evidence of sustainability efforts is in the realm of mortuary rites; yet surprisingly, unique examples of recycling of scarce resources come from the burial mounds of Early Dilmun period civilization (2300-1700 B.C.) of Bahrain. The collection of over 50 soft-stone (steatite/chlorite) vessels from the cemetery at Hamad Town, curated by the Bahrain National Museum, contains evidence of recycling and repair activities. The vessels are a common funerary offering in the burial mounds and the care given to their maintenance suggests that they were heirlooms. In this paper, I will contextualize soft-stone recycling in the holistic picture of mortuary economy of the Early Dilmun civilization.
Soderland, Hilary (Boalt Hall, UC-Berkeley) [331] Discussant

Sofro, Evan [207] see Swarts, Kelly

Sola, María Fernanda [57] see Díaz, María Etelvina

Solano, Adam (Cal State L.A.), Melanie Saldaña (Cal State L.A.), Toni Gonzalez (Cal State L.A.) and Cristina Verdugo (Cal State L.A.) [70]  

Ballcourts, Sweatbaths, and Caves: Sacred Landscape at Chawak But’o’ob

Cave 1 at Chawak But’o’ob, located in the heart of the site’s public architecture, is surrounded by a ballcourt, a sweat bath and a sinkhole. Survey and excavation conducted during the summer of 2013 by a California State University, Los Angeles project revealed a utilization of the cave that differed from other areas of the Maya lowlands. Nevertheless, analysis of the architectonic and natural elements in the Ballcourt Complex make it clear that this was intended as the focus of community identity. Caves are associated with people’s first emergence onto the earth’s surface and this forms a basis of the group’s claim to the land. Ballcourts, according to ethnohistoric sources, were the first structures built in a new community and formed the focus of community identity. Ballcourts and caves are both seen as having connections to the water and the underworld. Sweat baths are also seen as a form of cave. There is a great deal of freedom in the placement of architectonic elements but natural elements such as the cave cannot be moved. Thus, the location of the natural elements probably determined the elaboration of this space.

Solar-Valverde, Laura (INAH Zacatecas) [339]  

Coast-to-Coast: Evidence for Aztatlán’s Macro-Regional Interaction

Around 900 B.C. the Aztatlán Network, until then circumscribed to the Pacific Coastal Lowlands, enters a period of apogee. This is discernible by the incorporation of northwest inland sites to its economical and ideological system. At the same time, the Mexican Gulf region experiences a “regional development” not clearly lead by a single polity, but still articulated by what Lee Parsons (1969, 1978) called the “Peripheral Coastal Lowlands”. Ceramic and architectural complexes in both regions differ typologically. Nevertheless, we consider that simultaneous strengthening and expansion of this East and West centered network, which at one point seem to converge in the Mixtec region, is reflecting a systemic relation. To sustain that proposal, this paper outlines distinctive iconography and cultural patterns, as well as the sharing of similar artifacts and the synchronic emergence of early metallurgy in both areas. A relation between Eastern and Western polychromes was mentioned decades ago by one of Aztatlán’s main researchers, Isabel Kelly (1941). From a World Systems perspective (following Chase-Dunn and Hall 1997), it is now suggested that these regions were once articulated by a main Prestige goods and/or Information Network, involving much the same conception of ritual’s active expressions.

Solazzo, Caroline [241]  

Species Identification in Keratinous Tissues using Mass Spectrometry: Potentials and Limitations

Keratin-made artifacts, textiles, but also objects made out of horn, baleen and tortoiseshell tissues, are rarely found in archaeological contexts unless specific conditions are met that prevent extensive biodegradation from micro-organisms. Even when these artefacts survive, processing of the raw material, use and diagenetic changes combine to make identification difficult through visual examination, therefore a minimally destructive methodology for species identification is required. Using the PMF method (Peptide Mass Fingerprinting with MALDI-TOF-MS) complemented with nanoLC-ESI-MS/MS, diagnostic peptide markers (at the genus/species levels) are presented here for a range of wool-producing species, and for tissues such as baleen, horn, quill and tortoiseshell.
Peptide mass fingerprinting is an efficient method to characterize keratinous tissues even when the recognizable structural information has not survived (the scales on hair or the striations on horn). It requires little material but the state of degradation (protein hydrolysis) is a limiting factor. By examining a range of keratinous tissues of different ages (4000 B.C. to medieval times) and preserved in variable conditions (peat-like soil, frozen soil, through mineralization or desiccation), we also explore here the limitations of the technique in regards to the degradation of fibers.

**Solinis-Casparius, Rodrigo (University of Washington) and Florencia Pezzutti (Colorado State University)**

Roads and Social Space: Exploring Intrasite Accessibility Using Lidar Data from Angamucó, Michoacán

The distribution of space within the built environment of the heavily urbanized site of Angamucó, Michoacán, provides the framework to explore different scales of social interaction and social organization. The placement of roads, paths and trails contributes to the delineation of physical boundaries that define social division of space at four different scales of interaction: household, complejo, neighborhood and district. Furthermore, the physical and material characteristics of this trail system contributed to a differential accessibility, which should have resulted in social interactions and negotiations when moving around the site. In this sense, we propose that trails, roads and paths are agents that help define the social configuration of this ancient city. Here we examine a vast LiDAR database of over 8km², which allows us to examine the urban configuration of Angamucó using network-base spatial analysis from GIS to explore the differences in accessibility within the site.

**Solís, Reyna (POSGRADO IIA-UNAM)**

The Manufacturing Techniques of Greenstone Lapidary Objects from the Surrounding Structures of the Great Temple at Tenoctitlan

Five hundred lapidary greenstone elements have been recovered in the surrounding structures of the Great Temple at Tenoctitlan, many of them were buried inside diverse buildings and correspond to different temporalities attributed to the last Tenochoan rulers of the Triple Alliance. The purpose of this paper is to show the technological analysis and the organization of production involved in the manufacture of these pieces, using experimental archaeology, optic microscopy, and Scanning Electron Microscopy. This analysis was applied in order to determine patterns among the procedures, techniques and tools. Finally, I will compare the results obtained with those reported for the greenstone objects from the Huey Teocalli, in order to reconstruct the sequence of production of them and to know if both assemblages shared the tools and manufacturing techniques, perhaps because some of them were produced in the same workshops.

Somers, Lewis [157] see De Vore, Steven

**Somerville, Andrew (University of California, San Diego)**

An Isotopic Investigation of Lagomorph Management and Breeding at Teotihuacan, Mexico

The means by which societies produce and distribute food has important implications for their social and economic organization. To this end we investigate the acquisition of lagomorphs (rabbit and hares) at the ancient metropolis of Teotihuacan. Faunal studies suggest that lagomorphs were one of the most commonly represented vertebrates at the ancient city, and archaeological evidence suggests that certain apartment compounds may have managed or bred these small mammals as a renewable source of protein or for trade. Through stable isotope analyses (δ13C, δ18O, δ15N) of lagomorph bones from four locations across the ancient city, Ozttoyahualco, Teopancazo, the Caves associated with the Sun Pyramid, and the fill of the Moon Pyramid, we explore dietary variation of these small mammals. Our results indicate that lagomorphs from Ozttoyahualco, the residential compound with the most evidence for lagomorph breeding, display the highest δ13C values, suggesting that these animals consumed significantly more maize products than lagomorph of other contexts. These data support the hypothesis that rabbits and hares were in fact bred for consumption at Teotihuacan. Moreover, since production appears to have been conducted at the level of residential compounds, this study increases our
understanding of the economic organization of New World cities.

[63] Chair

Sommer, Caitlin (Crow Canyon Archaeological Center), Jerry Fetterman (Woods Canyon Archaeological Consultants) and Shanna Diederichs (Crow Canyon Archaeological Center)

[289] Population and Organization of a Basketmaker III Settlement in Southwest Colorado

The Basketmaker Communities Project is evaluating the surface and sub-surface signatures of a Basketmaker III settlement in the Village Ecodynamics Project study area of southwest Colorado. Seventy-one habitations were re-surveyed to refine the occupation sequence within the settlement while electrical resistivity imaging was applied to clarify the settlement's density. This study has provided insight into the organization of communities during the Basketmaker III period and provided a new method for estimating early Pueblo momentary populations in the Mesa Verde Region.

Sosa Aguilar, Danny

[174] Late Holocene Obsidian Exchange in the Baja California Peninsula

Very few studies focus their attention on obsidian artifacts from the Late Holocene in the Baja California Peninsula. The published data from San Quintín, El Rosario, Guerrero Negro, Isla Cedros, Bahia de Concepcion, San Borja, Bahia de los Angeles, and San Ignacio provide valuable information pertaining to sourcing, and they are relevant to addressing possible exchange routes. In a peninsular context, obsidian appears restricted to small quantities and specific locations. Obsidian assemblages can be situated within a social and meaningful landscape. Throughout the peninsula, obsidian procurement, mobility, and interaction during the Late Holocene were affected primarily by two factors: (1) the physical constraints of the Baja California environment; and (2) the free will to situate and to imagine a cultural landscape based on agency, social relationships, and beliefs. The rich ethnohistoric record, ethnographic record, cultural histories, burials, and rock art of Baja California provide sufficient contextual information to develop a geographical picture of obsidian exchange during the Late Holocene. The development of alternative interpretations encourages the multifaceted social and cultural dimensions of small-scale societies often ignored within the hunter-gatherer literature.

South, Katherine (Southern Illinois University Carbondale)

[147] Middle Preclassic Pottery Use and Production at Four Sites in the Petén Lakes Area

Recent work in the Petén Lakes area of Guatemala reveals widespread occupation during the Middle Preclassic period (1000-350 BC) in areas extending from the western shore of Lake Petén Itza to Lake Salpetén. A new study of pottery from the sites of Nixtun-Ch’ich’, Tayasal, Ixlú, and Zacpetén, reveals similarities and differences on macroscopic and compositional levels suggesting that while early pottery production in the Petén lakes area shared some characteristics, local variation in both form and paste composition is evident. This indicates that discernible community-level differences were maintained at the level of production. Contextual analysis provides indications of population differences among the sites during the Middle Preclassic period, with Nixtun-Ch’ich’ providing the largest sample of early contexts in the area. These contexts also suggest that pottery played an important role in the construction and dedication of architectural spaces during the early phases of community development. This paper explores the production characteristics and the use contexts of early pottery in the Petén Lakes area, highlighting the developing complexity of settlement and craft production during the Middle Preclassic period.

Span, T'Shawna (New Mexico Highlands University), Warren Lail (New Mexico Highlands University) and Victoria Evans (New Mexico Highlands University)

[79] Window into the Past: Two 19th-Century Unmarked Burials in Roy New Mexico

During the summer of 2013, two bodies were exhumed from burial contexts in Roy, New Mexico. The bodies, found in unmarked graves, were disturbed when a backhoe operator dug a pit to install a new septic system. Preliminary laboratory evaluation indicated that the remains were those of two European
males; one adult and one subadult. Grave goods, including coffin wood, glass, hardware, clothing, and shoes, together with a pocket watch and wooden pencil were recovered. Early analysis of the grave goods suggested that the burials date from between 1890 and 1904. Following standard bioarchaeological methods, an assessment of the remains helped determine sex, stature, and ancestry, along with evidence of pathologies and skeletal trauma. These burials became the central elements of a broader research effort – through the methods of micro-history – to understand the life, times, and general health of the early settlers of this important historic settlement on the western edge of the Great Plains.

Spangler, Jerry [43] see Yaworsky, Peter

Sparrow, Thomas [335] see Evans, Adrian

Spaulding, Britta (University at Buffalo) [300]  
Positioning Swedish Rural Settlement in Preliminary Landscape Analyses: Medieval Farmstead and Historical Croft Settlement Patterns

The southern Swedish rural landscape has been increasingly studied in the last thirty years, but relative settlement in those areas of medieval farmsteads and 17-19th century crofts should be increasingly considered. While crofts (Swedish ‘torp’) have been more popular in recent years in the fields of history and historical geography, the archaeological research on them is less abundant. The settlement pattern for medieval farmsteads in forested, rural areas is less well-known from all three perspectives. Pollen and archaeological records have indicated that some crofters settled in previously-inhabited areas of the Swedish uplands. Future avenues for the medieval research are shown in starting with known crofts and medieval farmsteads to compare their inhabitants’ land use choices with regards to agricultural and mixed traditional economies. If the later Swedish historical settlement choice were predicated in some degrees on the subsequent character of the post-medieval landscape, archaeologists might approach rural settlement on a more long-term scale and look for evidence of medieval farmsteads near croft remains. The potential of the ArcGIS software package for historical site survey is outlined in various methods, citing as well other successes in its use in relation to historical archaeology and for rural landscape research.

Speakman, Robert [10] see Hunt, Alice

Speakman, Robert [287]  
Discussant

Speer, Charles (University of Texas at San Antonio) [315]  
LA-ICP-MS Sourcing of 33 Clovis Projectile Points from the Gault Site (41BL323), Salado, Texas  
A key tenet of Clovis period hunter-gatherer mobility is the utilization of large ranges based on the appearance of exotic raw materials, particularly chert, in Clovis assemblages. The identification of the sources of chert in Clovis assemblages is problematic as it has relied on macroscopic properties. Macroscopic characteristics of chert can be highly variable in a single outcrop, occur across very large areas, and have correlates in unrelated and far removed contexts. A chemical analysis approach was utilized that potentially offers advances in the capacity to link chert artifacts to their sources. Trace element data was recovered from 33 Clovis projectile points from the Gault Site using Laser Ablation – Inductively Coupled Plasma – Mass Spectrometry (LA-ICP-MS). This data was compared to trace element data from 224 primary geologic samples of chert from multiple primary sources across the Edwards Plateau in Texas and 18 secondary geologic samples of flint from the Knife River near the Sentinel Butte formation in North Dakota. The Clovis points were compared to the geologic sources using canonical discriminant analysis to establish group membership at three spatial scales: macro-regional (greater than 500 kilometers), regional (between 30 and 500 kilometers), and local (between 1 and 30 kilometers).
Speer, Charles [318] see Williams, Tom

Speller, Camilla [160] see Moss, Madonna

Spenard, Jon (University of California, Riverside)

[70] Ancient Maya Eminent Domain: Terminal Classic Period Royal Appropriation of Actun Lak Cave, Cayo District, Belize

Jim Brady’s scholarship has revolutionized Maya cave archaeology with broad theoretical contributions as well as narrowly focused studies resulting in over 100 publications. Two overarching themes tie much of his work together. The first is that caves were highly charged ritual-political spaces. The Maya understood particular caves as the emergence places of their communities, while others to be the abodes of chthonic beings that required ritual attention. The second theme is that they were heavily modified through practices such as speleothem breakage, constructions, and caching. This presentation brings these two themes together to understand how and why Actun Lak cave came to be appropriated by a Terminal Classic period ruler of the pre-Hispanic Maya site of Pacbitun in central Belize. In particular, I discuss how changes in the artifact assemblage signify a movement away from open, public access to the cave in the Early Classic period, to its final use as a restricted royal place in the Terminal Classic. I argue that a series of architectural modifications made to the interior and exterior of the cave, in conjunction with a speleothem altar in the rear, were designed to help the king bring much-needed rain to the drought-ridden Pacbitun community.

[70] Chair

Spence, Paul (Eastern New Mexico University)

[46] Lithic Procurement at Tsiping’uinge during the Late Coalition Period

The Late Coalition period (A.D. 1300–1350) village of Tsiping’uinge, known to the Tewa as “the village at the mountain of the chipped stone,” was well situated on the flanks Cerro Pedernal to control the primary source of Pedernal chert. This important lithic material was widely used from Paleoindian times through the Historic period. I investigate whether the ancestral Tewa villagers at Tsiping’uinge controlled access, production, and distribution of Pedernal chert across the northern Rio Grande region by conducting an analysis of the site’s previously collected lithic assemblage. This includes examining raw material type and procurement and reduction technology. My analysis is then compared to lithic data from contemporary Ancestral Pueblo sites along the Rio Chama and Pajarito Plateau, as well as lithic material found at the Pedernal chert quarries, to understand the economic relationship between village and the material source. I then address the larger questions of regional patterns of interaction and ancestral Tewa landscape use.

Spence-Morrow, Giles (University of Toronto)

[59] Pillars of the Community: Household Social Reproduction, Domestic Mimesis and Cyclical Renovation of Late Moche Ceremonial Architecture at Huaca Colorada, Jequetepeque

Amongst the vast array of subjects depicted in the Moche ceramic corpus, the subset that clearly depict gable-roofed architectural spaces is widely accepted to refer to structures that have been uncovered archaeologically at the summits of numerous huacas across the North Coast of Peru. With mounting evidence that these structures served both ceremonial and residential functions for elite members of Moche society, the visual shorthand of a simple roof becomes a charged symbol of the archetypical household. Using recent excavations of precisely such a structure at Huaca Colorada as a case study, this paper will argue that through socially regenerative ritual performances involving communal efforts of reconstruction, the structures at the peaks of huacas stood as a marker of corporate affinity, a sign connecting the public with the elite. As a form of household social reproduction, such acts of construction and renovation would extend kin-based domestic models across generations, perpetually performing centralized ideology through the incorporative act of construction. By housing the ruling elite at the peak of huaca structures, the entire monument becomes a representation of an idealized central house, with personal communion with a leader or authority figure serving to legitimize and incorporate...
an individual into a community.

**Spencer, Kaylee (University of Wisconsin - River Falls)**

[9]  Discussant

**Spencer, Darla**

The archaeological community lost one of its most talented, prolific members when Bettye Jean Broyles died on March 27, 2011. In West Virginia, Bettye is probably best known for her influential fieldwork at numerous sites during her years with the Archaeology Section of the West Virginia Geological Survey, and particularly her work at the St. Albans site that put West Virginia on the archaeological map. Most of her archaeological accomplishments occurred at a time when few women entered the field of archeology. This paper addresses Bettye’s life, major accomplishments, her many talents, and details of her work at St. Albans.

Spencer, Kaylee [309] see Wren, Linnea

**Spengler, Robert (Washington University in St. Louis)**

[20]  *Late Third Millennium B.C. Agriculture in the Foothills of Central Asia: A Mixing Zone for East and South Asian Crops*

Pre-Silk Road interactions through Central Eurasia fostered the spread of agriculture throughout the eastern piedmont zone. A growing body of archaeobotanical evidence from across Eurasia is indicating that economy in the Bronze Age was complex, with people in some regions focusing pursuits more on mobile pastoralism and others on mixed agropastoralism. Areas with mixed agropastoral economies, such as the forest-steppe of Ukraine and the mountain foothills of Kazakhstan, had very different crop repertoires, and therefore, appear to have adopted agricultural technology and knowledge from different parts of the Old World. Eastern Central Asia was a melding zone for crops spreading out of China (broomcorn and foxtail millet) and South Asia (wheat and barley). In this intermediary zone a diversified economic system was developed by combining these distinct crops. As these crops spread through Central Asia, some people adapted them to fit mobile pastoral economies in other populations they replaced previously established agricultural regimes.

Spengler III, Robert [22] see Doumani, Paula

**Speth, John (University of Michigan)**

[278]  *Could Neanderthals Boil?*

Neanderthal sites are largely devoid of fire-cracked rock, and boiling pits are similarly absent. These telltale signs of stone-boiling first appear in the Gravettian. Boiling technology, therefore, is generally thought to be an invention made by modern humans. Curiously, it is common knowledge among the public, but seemingly not within the archaeological community, that one can boil water in perishable containers without utilizing heated stones, placing hide, paunch, bark, or paper container directly over flames or on hot coals. Numerous wilderness survival manuals, and books of experiments that children can do in their own kitchen, describe how to boil water in a paper cup. One recent YouTube video even shows someone boiling water in a paper cup with a blowtorch! Traces of betulin-containing mastic, produced only by pyrolysis in an oxygen-free environment, has been found on several Middle Paleolithic stone tools, clearly demonstrating that Neanderthals utilized birch bark and, though speculative, increases the likelihood that they also used birch bark to make containers. The discovery of starch grains in the dental calculus of a Shanidar Neanderthal with a morphology suggestive of wet cooking makes it increasingly probable that boiling in perishable containers—without heated stones—was part of Neanderthal culinary technology.
Spielmann, Katherine (Arizona State University) and Margaret Nelson (Arizona State University) [75]  
*Vulnerabilities to Food Security: Contributions from the Prehistoric US Southwest*

Archaeologists are well positioned to contribute to the development of strong policies that establish and sustain food security. Long time spans in the prehistoric record allow us to identify the vulnerabilities that emerge and persist to undermine sustainable food security, as well as the actions that enhance it. In this paper, we identify eight vulnerabilities and illustrate how changes in vulnerability loads impact food security and the experience of food shortage. We then explore the specific role of one of those vulnerabilities: lack of adequate and scale-appropriate food storage. We show that the management of food storage at household and community scales is an enduring and a critical component of a food security portfolio. The cases explored come from the millennium of indigenous occupation in the US Southwest before European contact.

Spivey, S. (Washington University in St. Louis) [145]  
*A City Minute: Viewing Concepts of Temporality and Urbanism through the Lens of Poverty Point*  
Our conversations about urbanism are often interlaced with unstated assumptions about the temporal relationship between the place in question and the people inhabiting that space. Here, I explore how our understanding of urbanism shifts when faced with an archaeological site that meets many of the classical standards of an urban center, but was only occupied in this way for a short period of time. When the social structures and institutions often categorized as diagnostic indicators of urbanism are relatively ephemeral, how does that reflect upon our belief in their importance as indicators of the development of social complexity? The Poverty Point site, a Late Archaic mound center located in the Lower Mississippi River Valley, offers a foundation for questioning our assumptions about urbanism's place in the development of societal complexity, thereby throwing the analytical viability of these traditional archaeological markers into question.

Spores, Ron [83] see Kowalewski, Stephen

Sportman, Sarah (Public Archaeology Lab, Inc.) [111]  
*Medicine at the Mines: Worker Health and Medical Care at Hammondville, New York, 1873-1893*  
Hammondville was a small company-owned iron ore mining town located in the Adirondack region of Upstate New York. The Crown Point Iron Co. (C.P.I.C.), which owned and operated the village, provided most of the amenities of daily life including a company physician. This meant that the residents of Hammondville had access to a professionally trained doctor, an unusual situation for many working-class immigrant laborers in the late nineteenth century. Through an examination of documentary and archaeological sources, this paper examines how Hammondville residents viewed professional medical care and made use of the doctor's services. Local newspaper accounts and town death records provide information about the types of injuries and ailments that most commonly affected Hammondville residents and archaeological materials excavated from house yards in the village provides evidence of the types of domestic and professional medical care utilized.

Springate, Megan (University of Maryland) [111]  
*"Beware the Little Flaws That Make One Homely": The Interplay of Intimacy, Sexuality, and Gender at an Early Twentieth Century Women’s Retreat*  
An assortment of toiletries from an early twentieth century privy deposit provides an intimate glimpse of guest experience at a women’s retreat on the shores of Lake George, New York. Founded in 1903, Wiawaka Holiday House provided affordable vacations for single working women free from the potentially corrupting presence of men. Drawing on queer theory, these toiletries are used to explore the relationships between sexuality and gender expression/performance in the context of this single-gender environment and what the implications are for understanding these relationships once the women returned to their lives in the cities.

Springer, Corinne [317] see Boomgarden, Shannon
Experimental Archaeology: What Can We Learn in the Long Run?

Experimental archaeology can provide insights into the subsistence activities of prehistoric people. At the Range Creek Field Station, in east central Utah, students participate in timed trials of the collection and processing of “wild” dietary staples to obtain return rates. These experiments are expected to augment previous experiments but they also have an additional component. Collecting rounds of targeted patches are scattered along 20 miles and 3000’ elevation of Range Creek Canyon and are expected to provide insights on the movement of prehistoric foragers as well as the placement of their base camps and villages. Patch productivities are expected to vary depending on annual rains and temperature at each location. These constraints will be tracked using two fully equipped weather stations and numerous rain gauges to add an additional dimension to this study. The proposed time depth of this experiment is expected to yield data relevant to understanding prehistoric subsistence and will likely demonstrate significant year-to-year variance in the return rates of the available options.

Histological Analysis of Skeletal Remains at St. George’s Caye, Belize

The St. George’s Caye Archaeological Project in Belize was initiated in 2009 to gain a clearer understanding of the lives and identities of the colonial population in British Honduras. Excavations of the site have focused on the analysis of cultural and skeletal remains uncovered in a disturbed and mostly unmarked cemetery. In 2012, a total of 21 burials had been excavated. Demographic information was determined for each of the individuals using traditional morphological and metric analyses. However, the analysis was limited due to the fragmentary nature of the remains and taphonomic alteration to the site. This was particularly problematic when trying to estimate the age and ancestry from the skeletal elements. In an effort to clarify the data, skeletal samples of a subset of the individuals were removed for histological, isotopic, and genetic analyses. A comparison of the preliminary data and the results of histological age estimation as outlined in Thomson (1979) are presented here. It is our hope that this and future analysis of the site will allow for a more complete understanding of the colonial site.

Mortuary Practices of Fifty-Four Individuals Recovered from a Large Virgin Branch Puebloan Habitation in Kanab, Utah

This paper examines the mortuary practices for 54 individuals recovered from 29 burial features during the Jackson Flat Reservoir Project data recovery investigations in Kanab, Utah. All of the burials were excavated from a large Virgin Branch Puebloan site—42Ka6165—that was occupied during the Basketmaker II to Pueblo I periods. The portions of the site excavated contained over 30 pithouses, dozens of massive slab-lined storage cists and bell-shaped pits, and hundreds of extramural features. Human remains were concentrated in the oldest of the site’s three habitation areas, and also in a discrete cemetery area located between the habitation loci. The presence of an “oversized” pit structure, the prevalence of worked and unworked turquoise ornaments, plus the association of turquoise ornaments primarily with infants has implications for the importance of this site within the Virgin Puebloan region and possibly within the greater Southwest.

Situated Learning & Gendered Social Fields: Crafting in Contexts of Shifting Global Exchange
A genealogical approach to suites of practices and their complementarity across productive domains (e.g., diverse crafts) provides insight into how broader political economic changes over the last millennium conditioned situated learning and knowledge transmission in relation to gendered social fields in the Banda area of Ghana. Drawing on data from the long-term Banda Research Project, I explore regional networks of learning and cultural transmission in relation to shifting contexts of predation and power associated with the transition from Saharan to Atlantic exchange. Using diverse lines of evidence, the paper asks how situated learning and knowledge transmission related to the shifting scales and topologies of social networks, as well as to performativ engagements with a changing array of materials. Evidence for repetition, improvisation and affiliation in practices of potting and metal working provide insight into how communities of practice were produced, reproduced and reconfigured through these transitions. These ‘ways of doing’ were enmeshed in broader political economies and constellations of practice that may have been differentially experienced by their constituent members, with implications for the transmission of knowledge across generations and between regions.

[243] Chair

Stahl, Peter (University of Victoria)

[250] Integrating Archaeobiological Data in the Neotropics with Debby Pearsall

Collaborative research with Deborah M. Pearsall has led to the productive integration of archaeobiological data recovered from archaeological sites spanning millennia of human occupation in the coastal lowlands of western Ecuador. Contextual associations of archaeobotanical and zooarchaeological specimens have been used to generate inferences about indigenous pre-Columbian activities including landscape manipulation, forest fragmentation, indigenous agro-ecology, and trade networks. The foundation and subsequent elaboration of inferences derived from the integration of archaeologically recovered archaeobiological data are discussed.

Stahle, David (University of Arkansas), Jose Villanueva (INIFAP, Gomez Palacio, Durango, Mexico) and Julian Cerano (INIFAP, Gomez Palacio, Durango, Mexico)

[158] The Montezuma Baldfcypress Record of Moisture Variability over Mesoamerica during the Past Millennium

Megadrought has been implicated in pre-Conquest cultural development and decline at several pre-Hispanic city-states in Mesoamerica. However, the tree-ring record in Mesoamerica has not been long enough to extend back into the pre-Hispanic era to test hypotheses about climate and cultural change, or to help improve the dating of archaeological remains. We have developed four new tree-ring chronologies for Mesoamerica using ancient Montezuma baldcypress trees (Taxodium mucronatum) from the Rio Nazas and Rio San Pedro Mezquital, Durango, Barranca de Amealco, Queretaro, and Tzimol, Chiapas, which date from 1210–2008, 1075–2012, 771–2008, and 1280–2010 C.E., respectively. These chronologies have been used to reconstruct early growing season moisture conditions and indicate that the mid-12th century drought, the worst megadrought yet identified in the North America tree-ring record for the past 1200-years, extended into central Mexico and was approximately contemporaneous with the decline of the Toltec capital of Tula. The new reconstructions indicate profound drought during the early 15th rise of the Aztec state and during the Spanish Conquest of Mexico during the early 16th century. The Tzimol chronology has been used with a shorter chronology from the Rio Lagartero to reconstruct moisture variability over Chiapas and Guatemala for the past 500 years.

[289] Discussant

Staller, John (The Field Museum)

[150] Political Economy, Ideology, and Language in Ancient Ecuador: Regional Developmental Period (ca. 300 B.C.–A.D. 800)

The cultural and ideological integration of ancient Ecuador is associated with the spread of maize, Spondylus/Strombus shell artifacts, ceramic technology, and metallurgy in the context of long-distance interaction ca. 1400-300 B.C. Coastal and highland Ecuador were unified early on by vast networks of roads, that facilitated the spread of the Quechua and Aymara language families and economically
unified vast highland and coastal regions. Multidisciplinary evidence from the Regional Developmental Period suggest language, religious ideology, and adaptation to the extreme Andean verticality were critical factors in the similarities and diversity of material and architectural responses and their mosaic of cultural expressions.

Stanchly, Norbert [252] see Powis, Terry

Standing Rock Sr., Duncan [77] see OBoyle, Robert

Stanish, Charles (Cotsen Institute, UCLA), Michiel Zegarra (UNSM), Kelita Perez (UNSM) and Henry Tantalean (Cotsen Institute, UCLA)

[146] Paracas Period Settlement Clusters in the Upper Chincha Valley, Peru.

Three seasons of survey and excavation reveal a complex pattern of linear geoglyphs and settlements in the upper Chincha Valley of coastal Peru. Excavations indicate that the settlements are largely Paracas in date. The data indicate that the Paracas period settlement pattern in this chaupiyungas area was characterized by clusters of platform mounds, ceremonial structures, habitation sites and associated geoglyphs. This pattern predates Nasca period geoglyphs typical of valleys to the south. These data provide new information on the context in which the geoglyph-building tradition in the south developed over time.

Stankowski, Cindy [68] see Muniz, Ad

Stansell, Ann (CSUN)

[174] Memorialization and Memory of Southern California’s St. Francis Dam Disaster of 1928.

In studying the interrelated themes of memory, materiality, and heritage, scholars have recently focused on how landscapes, monuments, and other mnemonic devices influence the formation and maintenance of public memory. Utilizing this approach, archaeologists can examine how memory is grounded in a local community and transmitted through society, revealing the role that landscapes and objects play in the construction of memory. Resulting in the 2nd largest loss of life in the state’s history, Southern California’s largely unheard-of St. Francis Dam Disaster of 1928 provides excellent circumstances for studying catastrophe and memory, and for looking at how political, economic, and social forces impact memorialization and processes of remembering and forgetting. This poster will explore how the disaster and the dead have been commemorated both physically and conceptually throughout the landscape of the 54-mile flood zone, and will discuss the impact that failing to memorialize has had on the social memory of this catastrophic event.

Stanton, Travis [31] see Pagliaro, Jonathan

Stanton, Travis (University of California Riverside)

[279] Evaluating Formative Period Yaxuna through Monumental Architecture

Recent research focused on the monumental groups of Yaxuna, Yucatan has shed light on the scale and nature of Formative Period public architecture at this early urban center. The current data indicate that this site was established around the ninth century B.C. and quickly grew into one of the largest Middle to Late Formative centers in the central northern lowlands. This paper specifically focuses on the dating of floor sequences in two of the acropolis groups located in the core of the site, as well as in the outlying Tzacaaul Acropolis, a monumental group found three kilometers to the east of central Yaxuná, but connected to the core by a raised causeway. Finally, horizontal excavations conducted in the E-Group plaza are analyzed. The implications of these data are discussed in relation to early urbanism in the northern Maya lowlands and exchange relationships to Formative Period sites in Peten.
Stapleton, Charles (Northern Illinois University)

[91] Teotihuacan Predatory Animal Imagery Revisited

A rich and varied repertoire of feline, canine and raptorial bird representations have been found at the Classic-period site of Teotihuacan, Mexico and other related Mesoamerican sites. These painted and sculptural sources are often seen as direct referents to the phenomena of human heart-sacrifice and warfare. The unquestionable predatory prowess of these animals in their natural habitat and a significant body of literature support this set of interpretations in many contexts. However, this corpus also holds additional, largely untapped information that invites scholars to revisit and, in some cases, reconsider their original meaning and function. This paper will focus on alternate and recontextualized interpretations of this special subset of Teotihuacan iconography.

Stapleton, Charles [183] see Stapleton, Maria

Stapleton, Maria (Northern Illinois University) and Charles Stapleton (Northern Illinois University)

[183] Tlaloc: Persistence of an Aztec Deity into Early Colonial Mexico

Far from disappearing, some Late Postclassic images of Aztec deities survived the early Christian evangelization of central Mexico thanks to syncretism with the symbolism and function of important Christian figures. Despite widespread social and religious changes, the Aztec rain-god Tlaloc persisted in the ideology of Mesoamerican people. Figural representations of Tlaloc and associated cult practices gradually merged with those of a new symbolic figure. Christ, a personage of central importance in Christianity, became the recipient of the all qualities previously assigned to the Aztec god Tlaloc. The study of an early sixteenth-century maize-based crucifix brings to light the Mesoamerican transmigration of Tlaloc’s qualities and attributes into an officially accepted Christian figure. This holistic study supports claims for the continuity of pre-Hispanic beliefs and a hybridization of indigenous and Christian symbols in early colonial Mexico.

Stark, Barbara (Arizona State Univ)

[281] Are You Being Served by Formal Mesoamerican Ballcourts?

The social roles of the Mesoamerican ballgame have been examined through settlement patterns with success, revealing likely political and social mediation among polities or communities. But who could witness a game? Lines of sight toward the formal court from surrounding architecture at centers in south-central Veracruz yield an estimate of numbers of viewers. The court viewership is compared to public plaza assembly spaces to determine whether ballgame viewership was more restricted. Comparison of these values for primary and secondary centers addresses the consistency of social separations in the political hierarchy.

[101] Discussant

Starkovich, Britt (University of Tübingen)

[201] Climate Change, Human Population Growth, or Both? Upper Paleolithic Subsistence Shifts in Southern Greece

Changes in subsistence patterns during the Upper Paleolithic and Mesolithic at Klissoura Cave 1 in southern Greece indicate that some shifts track local climatic changes, while others do not. Specifically, increases in ungulate species diversity correlate with wetter periods, and greater abundances of certain dry-loving small game animals (e.g., great bustard) correspond with dry periods. Other large-scale diachronic shifts, such as the increased importance of low-return small game animals (e.g., hares and partridges), occur over the occupation of the site irrespective of environmental conditions. It was hypothesized previously that this relates to local human population growth over the course of the Paleolithic. New data from a nearby site, Kephalari Cave, augment this hypothesis. The site complements the Aurignacian and Gravettoid occupations at Klissoura and also contains a robust late Upper Paleolithic component. Ungulate species diversity is high at Kephalari, and there is a greater reliance on low-return small animals (including fish) than at Klissoura. This presentation examines
changes in the faunal spectra of the two sites in the context of regional environmental change in order to
determine the extent to which climatic change or population growth were the driving forces in
subsistence shifts in southern Greece during the Late Pleistocene.

Staurset, Sigrid [58] see Nash, David

Stawski, Christopher (San Francisco State University)
[36] Landscape, Community, and Human-Environment Relationships in the Lake Pátzcuaro Basin, Michoacán, Mexico: Geospatial Analysis and the Late Postclassic Tarascan Empire
The Lake Pátzcuaro Basin (LPB) in Michoacan, Mexico was the prehistoric core of the Tarascan Empire, a Late Postclassic state that existed contemporaneously with the Aztec Empire. Given the importance of archaeological research in this area, it is only natural that the field of Geographic Information Science (GIS) would find a suitable role, and complement the multiple areas of research and investigation into past human behavior. This paper examines the role of GIS and geospatial analysis in these archaeological investigations of the Tarascan Empire. Specifically, it focuses on the development of prehistoric communities, human-environment relationships, and the emergence of the Tarascan state. This includes the creation of several data sets in a GIS and the utilization of spatial analyses, such as cost surfaces, cost-distance modeling and interaction analysis, to provide two things: 1) an interpretive framework for understanding community formation and coupled human-environment systems that existed over a span of 1,300 years in the lake basin, and 2) the creation of “born digital” data from these geospatial analyses, which can then be used to expand our understanding of prehistoric state emergence in Western Mexico.

Steele, James [16] see Burke, Ariane

Steele, Laura (Eastern New Mexico University)
[46] Investigating the Dynamic Relationship between People and Turkey in the Pueblo Southwest: The Case Study of Sapawe’uinge
Ethnographic reports of Pueblo peoples from the twentieth century suggest the use of turkeys for food was taboo, except in rare cases; however some archaeological interpretations, regarding Ancestral Pueblo sites predating A.D. 1300, have cited turkeys as being an integral part of the Puebloan diet. This project seeks to understand if and when a change in turkey-use within Puebloan diets occurred in the late prehispanic or Historic period, and why this change may have occurred. To address these issues, I examine faunal remains from the ancestral Tewa site of Sapawe’uinge (LA 306) located in the Rio Chama watershed in northern New Mexico. Sapawe’uinge, which spans the Classic period (A.D. 1350–1600), is an ideal context for understanding Puebloan subsistence due to a long occupation ranging from Tewa coalescence to Spanish colonization, as well as the site’s history of extensive archaeological excavation. By sampling midden, room, and kiva contexts, I use indices to track proportions of turkey compared to proportions of other animals often associated with subsistence through the Protohistoric period. I then relate these results to broader trends in Pueblo-turkey relationships across the American Southwest.

Steelman, Karen [156] see Bates, Lennon

Steelman, Karen (University of Central Arkansas)
[199] Review of Rock Art Dates for the Lower Pecos, TX
The Lower Pecos Canyonlands was the original study area for Rowe and his Texas A&M University chemistry laboratory when developing the plasma-chemical extraction technique to radiocarbon date rock paintings. Thirty-three radiocarbon dates from eleven different sites have been determined using plasma oxidation and AMS radiocarbon dating. For the Pecos River style, thirty dates from seventeen paintings at nine different sites have been reported. There are three additional radiocarbon assays: one for a Red Monochrome painting; one for a Red Linear painting; and one for an unclassified charcoal
deer. While the Lower Pecos Canyonlands have been considered to be one of the best-dated rock art regions in the world, this review suggests that further research is needed.

[156] Chair

Steinbrenner, Larry (Red Deer College) [136] Discussant

Managua Polychrome: The Missing Link to Mesoamerica?
First described by Samuel Lothrop in Pottery of Costa Rica and Nicaragua (1926), the distinctive ceramic type Managua Polychrome has been largely neglected by archaeologists working in Pacific Nicaragua. Commonly identified as a minor local product of the Managua-Masaya region and generally excluded from the loose grouping of supposedly “Mesoamerican-influenced” ceramics often referred to as Nicoya polychromes, Managua Polychrome in fact seems to represent a direct analog of ceramic types found much further afield, including types associated with trading centres in Chiapas and northern Honduras that ethnohistorical accounts associate either with cultural groups indigenous to Nicaragua or with ethnic enclaves of Mesoamericans. This paper will provide a detailed description of the type and discuss some of the possible implications of its apparent links to Mexico and Honduras with respect to ongoing efforts to understand the arrival of Mesoamerican peoples in Pacific Nicaragua during the Postclassic Period.

[153] Chair

Stelle, Lenville (Illinois State Archaeological Survey) [248] Chair

Stellian, Tatiana and Delia Llamoja Vega [285] Archaeobotanical Studies in the Central Coast of Peru. The Case of the Inca site of Panquilma and its Distribution, Consumption and Manipulation of Native Andean Plants
The excellent conservation of the vegetable remains at the Inca site of Panquilma has developed a new interest in the archaeological research on this site. The information about the distribution, consumption and manipulation of certain native plants can help us to understand the social inequality established among the different groups that occupied the site. The archaeobotanical research focused on the comparison of public and domesticate sectors (respectively sectors 1 and 2). Our aim was to try to discover if there existed a distinction between the access of some or all of the plants and the reason for this. In this communication, after a brief introduction to the archaeobotany, we are going to present independently the results of the analysis of archaeobotanical remains of both sectors. Then we are going to compare the conclusions of the two areas. Finally, this will allow us to present some preliminary conclusions on the socio-economic-political relationship between both sectors.

Stemp, Michael [335] see Stemp, W. James

Stemp, W. James (Keene State College) [335] 3D Imaging Technology and Multi-scalar Analysis of Stone Tools: Morphology, Reduction, and Use-wear
Recent advances in 3D imaging technology and better access to 3D printers provide archaeologists with powerful new tools for analyzing material culture and preserving and sharing information. In particular, lithic analysts have been drawn to this technology given its many potential applications for stone tools both in the field and in the lab. For this study, we took 3D images of experimentally used stone tools made from a variety of raw materials (chert, flint, glass, obsidian and quartzite) using a laser imager (reverse engineering model) to reproduce tool morphology and to test how such images may assist in reconstructing reduction techniques. Edge damage on these tools was also examined using the images to establish whether low-power use-wear analysis was possible. The precision and
accuracy of tool surface reproduction in the 3D images is evaluated in terms of analyses at multiple scales.

[335] Chair

Stenton, Douglas [115] see Milne, Brooke

Stephenson, Keith (USC Institute of Archaeology and Anthropology) and Karen Smith (USC Institute of Archaeology and Anthropology)

[263] G.S. Lewis-West, South Carolina: A Deptford Period Site in Regional Context
The G.S. Lewis-West site, located in the Upper Coastal Plain of the Savannah River, is unique in the region for its rich assemblage of Woodland period artifacts and cultural deposits. Over 500 features, 50,000 ceramics, and a 25-cm-thick midden, in addition to rare exotics and notable lithic, faunal, and botanical remains, point to a substantial occupation of the landform from at least 200 B.C. In this poster, we re-examine the Lewis-West excavation data generated in the mid-1980s along with a current series of radiocarbon dates to situate the occupation of Lewis-West into the larger Woodland period world.

Steponaitis, Vincas [231] see Nyman, James

Sterling, Kathleen (Binghamton University) and Kelsie Martinez (Binghamton University)

[240] Feminist Communities of Practice in Archaeological Research and Teaching
Feminist archaeology is often conflated with gender archaeology, and as such, research and teaching in which gender does not appear to be the primary focus can be seen as being outside the scope of feminism. However feminism is relevant in all aspects of teaching and research because it is about practice and action. Regularly using intersectional approaches provides opportunities to bring feminist practice to everyday work. We will describe one area, Feminist Communities of Practice, where we see potential for the constant integration of theory and practice.

Sterling, Sarah [286] see Butler, Virginia

Sterner Miller, Katherine [255] see Jeske, Robert

Stevens, Nathan [166] see McGuire, Kelly

Stevens Nelson, Erin [260] see Peles, Ashley

Stevenson, Christopher (Virginia Commonwealth University)

The obsidian hydration layer may be measured using a variety of technologies that include optical microscopy and hydrogen depth profiling by secondary ion mass spectroscopy (SIMS). Photoacoustic spectroscopy (PAS) is a third option which uses infrared energy to quantify the amount of ambient water that has diffused into the surface of the obsidian over time as well as the quantity of structural water contained within the non-hydrated glass structure. This latter variable is the primary determinant of the hydration rate. In the method developed here, the multiple water bands collected by PAS in the mid- infrared region provide the parameters necessary for the calculation of quantitative age estimates.

Stevenson, Christopher [287] see Rogers, Alexander
Stewart, Caitlin (University of Mississippi) and Gabriel Wrobel (Michigan State University)

A New Approach for Calculation of MNI in Commingled Remains: Mortuary Analysis of Caves Branch Rockshelter, Belize

Excavations at Caves Branch Rockshelter in the Caves Branch River valley, Belize have revealed a mortuary population spanning the Classic period. Individuals of both sexes and all age groups were represented in the mortuary sample. Like many other cave and rockshelter sites, extensive looting and repeated intrusive burials has created a matrix of highly fragmented and commingled bones. This taphonomic history severely hampers estimates of the minimum number of individuals (MNI) and the reconstructions of mortuary rituals in caves and rockshelters. Using a new coding system to identify overlapping bone features, a digital inventory of skeletal remains was created in attempt to ascertain an accurate MNI for the Caves Branch sample. This new technique offers a more systematic way of determining MNI of burial populations when preservation and contexts are not ideal and can be applied to a myriad of poor mortuary situations.

Stewart, Haeden [230] see Hall, Katherine

Stewart, Andrew

Viewing Cultural Landscapes in the Long and Short Term

Mike Jochim’s view of archaeology as long-term ethnography, with all manner of variation in year to year practices, has provided a call to focus our attention equally on ephemeral as well as large, stratified sites. Investigating variation in behavior requires analysis using techniques like GIS and simulation, in order to achieve more than simply coarse-grained generalizations. In the recent settlement records of the Canadian Arctic and Subarctic, we think we have access to a relatively fine-grained record due, in part, to favourable conditions for preservation and visibility, but also access to informant histories. Sites representing a wide range of behavior and scale of activity are represented across these landscapes. Individual as well as aggregate responses to environmental challenges and opportunities are in some manner accessible through the combination of the archaeological, documentary and oral history records. How has this favourable circumstance informed our understanding of how cultural landscapes evolve; and what is the relationship of these landscapes to individual or small-group behavior?

Chair

Stewart, Haeden (University of Chicago), Cameron Gokee (University of Michigan) and Jason De Leon (University of Michigan)

Terror in the Desert

Since the early 1990s, the American policy along the U.S./Mexican border has explicitly used geography as a tool to deter and punish undocumented migration. Extreme environments, such as the Sonoran desert, have been left un-walled, with the intention that the harsh environment will be too painful to cross. Contrary to this assessment, over this period millions of migrants have made this crossing. At the same time, due to the harshness of the area, thousands have died. Since 2008, the Undocumented Migration Project (UMP) has used traditional archaeological techniques to find, map, and analyze the trails these migrants have used over the past fifteen years through the artifacts they have left behind. Using data collected by the UMP this paper attempts to show how American border policy has increasingly pushed migrants into crossing through increasingly remote and dangerous areas. More specifically, this paper will discuss how the Department of Homeland security has transformed the desert into a weapon for border containment, and how this weaponization is indexed in the material record. Over the past fifteen years, this record shows increasing levels of migrant injuries, increasing use of painkillers and bandages, and ultimately, increasing numbers of migrant deaths.

Stich, Kyle (Louisiana State University) and David Chicoine (Louisiana State University)

Surf and Turf: Maritime and Agrarian Economies at the Early Horizon Center of Caylán, Nepeña Valley, Coastal Ancash

This paper explores the relationships between Andean coastal adaptations and processes of developing
social complexity as viewed through the processing, consumption and discard activities related to maritime and terrestrial resources at the center of Caylán. This large urban settlement developed in the coastal portion of the Nepeña Valley, Ancash (Peru) during the Early Horizon. We integrate various lines of evidence including animal remains, macrobotanics, soil samples, coprolites, and material culture to shed light on local practices. In Nepeña, the Early Horizon marked an expansion of agrarian practices, and a continuing reliance on marine resources as common foodstuffs and raw materials. We adopt a multiscalar approach from the regional to the local, and focus on the contexts of process, consumption, and discard of different types of resources in order to understand the combined, dynamic meanings of maritime and terrestrial economies. In particular, we aim at going beyond the traditional cultural ecological debates to focus on the social and political aspects of exploitation and management of coastal resources in the context of incipient urbanism.

Stinchcomb, Gary [209] see Ferraro, Joseph

Stiner, Mary (University of Arizona) [71]  
Finding a common band-width: Causes of convergence and diversity in Paleolithic beads
Ornaments are the most ubiquitous art form of the Late Pleistocene. This fact suggests a common, fundamental function somewhat different to other kinds of Paleolithic art. While the capacity for artistic expression could be considerably older than the record of preserved (durable) art would suggest, beads signal a novel development in the efficiency and flexibility of visual communication technology. The UP was a period of considerable regional differentiation in material culture, yet there is remarkable consistency in the dominant shapes and sizes of Paleolithic beads over >25,000 years and across vast stretches of space, even though they were crafted from diverse materials and, in the case of mollusc shells, diverse taxonomic families. Cultural and linguistic continuity cannot explain the meta-pattern. The evidence indicates that widespread adoption of beads was not only about local and sub-regional communication of personal identity or group affinity, but also an expansion in the geographic scale of social networks. The obsession with rounded basket-shaped shells in particular related in part to their light weight, wearing comfort, and visual attractiveness. The conformity of the beads grew spontaneously, in a self-organizing manner from individuals’ interest in tapping into the network as a means for managing local risk.

Stites, Michael (University of Wyoming), Robert J. Hoard (Kansas Historical Society) and Rolfe D. Mandel (Kansas Geological Survey/University of Kansas) [280]  
Calf Creek in Kansas: The Northwestern Frontier
Mid-Holocene Calf Creek sites are well documented in Arkansas, Missouri, Texas, and Oklahoma, but less so in Kansas, where most Calf Creek points are surface or creek-bed finds. However, recent studies from a stratified multi-component site, 14CW402 (Site 98), and another site that likely is stratified, 14CO120 (Grouse Creek), provide new data on the Calf Creek complex for southeast Kansas. This paper presents information on the known distribution and nature of Calf Creek sites in Kansas, data on tool-stone sources and their significance, relationships to other regional archaeological manifestations, the environmental and geomorphological settings of the sites, and the effects of the Altithermal climatic episode on human activity and site preservation.

Stockett Suri, Miranda [161] see McFarlane, William

Stockett Suri, Miranda (Queens College) [296]  
Archaeology Should Be Able to Adapt
Archaeology has frequently been accused of losing its relevance—a problem which has only worsened in the years since I earned my Ph.D. and joined the ranks of working archaeologists. A lack of adaptability within the discipline and among its practitioners is a major source of this problem. We cling to the past represented by our teachers and mentors who worked in an era that bears little resemblance to the academic, political, and cultural climate of today. The tenure track positions they enjoyed are an unattainable dream for most archaeologists of my generation, teaching and education are increasingly devalued, and multi-year, big budget field projects are less and less tenable due to funding cuts and
political instability in our regions of study. While most are willing to acknowledge these problems, we seem paralyzed when it comes to solving them. It is my hope that collectives, such as the one convened for the purposes of this session, may collaboratively tackle these challenges--both ideologically and practically. In short, I argue that archaeology and archaeologists must adapt to today's academic and political realities if we wish to escape obsolescence.

Stöckli, Matthias (Dep. de Antropología y Sociología, Universidad del Valle de Guatemala)

[122] References to Sound in the Rabinal Achi, Guatemala
Alphabetic texts written by Mayan authors after the Spanish conquest contain quite a few references to the production, perception, and conceptualization of musical as well as non musical, human-made as well as natural sounds in pre-Columbian times. Such a text, originating in the Guatemalan highlands, is the Rabinal Achi, a dance-drama still performed today and therefore especially rich a musicological object of study as it consists of both actual sounds and textual references to them. In this and other colonial documents human-made vocal or instrumental sounds are often related to political power, war, and sacrifice. Again, this becomes especially clear in the Rabinal Achi where one of the protagonists has not only several sets of musical regalia to call his own but, after being captured in war and certain of his immediate death by sacrifice, also ascribes to their sounds a life-transcending power. The focus of this presentation is on those sounds and their meanings.

Stodder, Ann [247] see Neitzel, Jill

Stodder, Ann (Office of Archaeological Studies, Museum of New Mexico)

[247] Violent Death, Social Memory, and the Nature of Persistent Places
The role of violence in the abandonment of communities in the northern Southwest is a topic of much discussion among archaeologists and bioarchaeologists. Recent advances in behavioral taphonomy and the integration of meticulously detailed site and oral histories enhance our understanding of the processes that precipitated episodes of violence, and the phenomenological aspects of the events themselves. In this paper, I approach the long view of the impact of one of these events, the massacre at Sacred Ridge, and explore the implications for the social and spiritual history of the survivors and perpetrators, and for the nature of Ridges Basin as a historical place in social memory. If burials are a critical aspect of persistent place as the dead continue to occupy their communities, then what kind of persistent place is created by a massacre?

[247] Chair

Stoessel, Luciana [6] see Martinez, Gustavo

Stojanowski, Christopher

[303] The Utility of Intra-Community Approaches in Bioarchaeology
Bioarchaeology has developed along two independent tracks that determine research approach. Osteobiography provides a combined humanistic and forensic approach that individualizes the past, while population level analyses are more concerned with top down inferences about population affinity, demography, and health in which the individual is often minimized. Mortuary analysis can bridge these distinct research approaches by developing sampling concepts above the individual but below the community level. In this paper I present spatial analyses of phenotypic variation and data on health and diet from two 17th century Spanish mission churches. Methods are presented for identifying kin groups and documenting spatially relevant patterns of disease profiles among graves. The purpose is to demonstrate how the identification of sample groups at the intra-community level can inform inferences of health and diet that are more directly relatable to broader concepts of economic and social inequality. In addition, I discuss the relevance of identifying single interment events for informing the osteological paradox and looking for co-morbid conditions that reflect short term community stressors which may selectively affect certain segments of the population. Both case studies are contrasted with more
standard population level approaches in which the site forms the basic unit of analysis.

[64] Discussant

Stojanowski, Christopher M. [291] see Hubbard, Amelia R.

Stokes, Robert


Emil Haury’s pioneering work at the Harris Site in the 1930s helped to establish the Mogollon culture and formed the framework for Mogollon pottery typology. San Francisco Red, Mogollon Red-on-brown, Three Circle Red-on-white, and Mimbres Boldface became diagnostic cultural markers for the Mogollon and the cornerstone for cross-seriation, useful for dating structures and sites. Although spatial, temporal, and production attribute refinements have been made to this basic typology since then, especially within the black-on-white series, the framework and underlying sociocultural and production assumptions behind it remain largely unchanged: the Pithouse period Mogollon were a localized and somewhat insular group who lacked a larger socioeconomic exchange network characteristic of the later Pueblo period groups. However, recent research at the Harris Site by the University of Nevada-Las Vegas is beginning to demonstrate that the Pithouse period Mogollon in the Mimbres region were far more sophisticated culturally, socially, and economically than previously suspected, and, as the recent ceramic analysis results suggest, maintained a strong, vibrant connection to northern, northwestern, and western groups who produced Cibola White wares and early southern Hohokam pottery. Thus, this paper presents new ceramic data that update our understanding of the cosmopolitan world of the Pithouse period Mogollon.

Stokes, Robert [66] see Toney, Elizabeth

Stoll, Marijke (University of Arizona)

[91] The Ballgame Traditions of Prehispanic Oaxaca

The ballgame has a long and profound history in both Oaxaca and Mesoamerica. Archaeological evidence indicates that the game was played in the Oaxacan region by the Middle Formative period, and that masonry courts appeared soon after in the Late Formative. Yet the evidence also suggests that the ballgame tradition in Oaxaca is distinct from other regions in Mesoamerica, and may in fact have had multiple traditions present throughout the Prehispanic era. In this paper, I analyze the archaeological, ethnographic and iconographic sources on the ballcourts and ballgame itself to identify the similarities and differences between different ballplaying regions of Mesoamerica. I also critically evaluate the role both the ballcourts and ballgame played in Prehispanic inter-community sociopolitical relationships, and how this role may have varied through time and by region, focusing specifically on Oaxaca. Finally, I present new research on the recently discovered ballcourts in the Nejapa Valley region of eastern Oaxaca. A multiethnic zone both in the past and today, the Nejapa Valley region may have much to tell us about the ballgame tradition within a specific regional and historical context.

[91] Chair

Stone, Pamela (Hampshire College)

[126] Maternal Health: The Pelvis and Embodied Social and Political Stress

Early death for females has long been tied to poor maternal health and complications at birth within archaeological studies. But what do we really know about maternal health and obstetric death in ancient populations’ and what have we assumed? This paper examines pelvic and occupational stress data from a number of Ancestral Pueblo skeletal populations to move beyond static assessments of obstetrical death for females by understanding skeletal patterns of stress for reproductive aged females and what can be revealed about the social and political contexts of their lived experiences beyond maternity. Skeletal data is framed within ethnographic and archaeological contexts for Puebloan females to frame daily life (occupational stress) and maternal stressors. These data juxtaposed with recent research, strongly suggests that parturition exacerbates the lived experiences of pain and suffering women face. Thus understanding female’s roles in community and the structural frameworks (systems of
belief, division of labor, structural violence, etc.) that result in a lifetime of embodied trauma and illness are now coming into focus. This new thinking suggests that poor maternal health and death is more of a litmus test to the larger issues females face, and this should be considered as we examine the past.

Stone, Abigail (Washington University in St. Louis)

Feeding an African City: Mobility, Pastoralism, and the Development of Urbanism in Mali's Inland Niger Delta

This paper investigates the relationship between nomadic pastoralists and urban populations, presenting a case study of a complex, non-hierarchical relationship between mobile and sedentary populations in Mali's Inland Niger Delta (IND). The ancient city Jenne-jeno (occupied ca. 250 B.C.E. – C.E. 1400) plays a pivotal role in understanding West Africa's archaeological past and challenges conceptions of the relationship between hierarchical social structures and the development of urbanism. Until recently however, little was known about the broader Jenne-jeno urban cluster (>300 sites within 30km) or the role of mobile populations in the urban system. Drawing on four months of excavation at Tato a Sanouna and Thiell, two small sites in the urban cluster, and upon serial, intra-tooth isotopic analysis (87Sr/86Sr, δ13C, δ18O) of cattle, sheep, and goat teeth, this analysis suggests that rather than relying on a single system of mobile pastoralists sustaining a sedentary urban population, the IND population used a diverse system of local and seasonally mobile husbandry as well as import of non-local animals. These findings both corroborate and complicate previous interpretations of urban development in the IND and provide the first concrete evidence of the role of mobile populations in the Jenne-jeno urban system.

Stone, Jessica (University of Oregon), Greg Nelson (University of Oregon) and Scott Fitzpatrick (University of Oregon)

Demography at the Chelechol ra Orrak Cemetery, Republic of Palau

The Chelechol ra Orrak cemetery in the Republic of Palau contains one of the oldest (ca. 1700-3000 BP) and largest human skeletal assemblages in Remote Oceania. To date, elements representing a minimum of 40 individuals, including 12 articulated burials have been excavated. In an effort to better understand the life stresses impacting these early inhabitants of the archipelago, we have produced a demographic profile of the individuals represented in this death assemblage. Sex was determined for each identified and numbered individual using a combination of pelvic and cranial traits, while age was determined using epiphyseal union, tooth wear, and pelvic traits. Although there is a slight male bias (7-5) among the articulated burials, the sexes appear to be equally represented when all skeletal remains are included. Elements have been recovered that represent individuals ranging from prenatal to middle adulthood, with at least 25 percent being younger than mid-teens. Average age at death appears to be relatively young, with the majority of numbered burials being late teens to early 30s with only one aged 40 or greater. Unlike some other cemeteries in Remote Oceania, underrepresentation of younger individuals or females does not appear to be a factor at Chelechol ra Orrak.

Stoner, Wesley (University of Missouri Research Reactor)

Political Boundary Dynamics in the Tuxtla Mountains, Veracruz, Mexico

Research in the Classic Tuxtla Mountains of southern Veracruz Mexico has focused greatly on Matacapan and its connection to Teotihuacan. This disproportionate focus has skewed our view of cultural adaptations in the region. Recent studies at two other major centers in the region, Totocapan and Teotepec, suggest that Matacapan was not a typical representation of Classic Tuxtlas culture. The three centers were contemporaneous, and comparable in size and monumentality, but Totocapan and Teotepec did not share Matacapan's use of central Mexican symbols. The three settlements appear to have been capitals of sovereign polities. I present an evaluation of political, cultural, and economic boundaries using a combination of GIS modeling and qualitative characterization. All three boundaries are characterized using a general model of boundary dynamics featuring seven variables designed to characterize the nature of cultural and economic interaction among the three polities. In the Tuxtla case, the three discreet polities engaged in ceramic and obsidian exchange and some sharing of material culture styles. Other cultural traits, such as those adopted from Teotihuacan, were not shared across political boundaries. The boundary zone between Matacapan and Totocapan, however, displays
a blend of economic and cultural influence from both polities.

Stoner, Edward (Western Cultural Resource Management, Inc.)

[115] Lost in the Data: A Reassessment of the Presence of Children at Quarry, Heat Treatment, and Projectile Point Manufacturing Sites in White Pine County, Nevada
In my Master's thesis, I told a story of a male hunting group who quarried chert nodules from limestone, reduced these into large bifaces, and took them to a nearby site in which they were heat treated. In gearing up for the hunt, the men detached flaked of suitable size and shape from the heat treated cores and made Rosegate preforms and arrow points. They maintained their workshop and cached thousands of heat treated flakes. Nowhere in my story, however, did I mention child quarries or flint knappers. This is remarkable given the sites might have been perfect classrooms for a novice to acquire those skills in an environment in which lithic raw materials were accessible, abundant, and expendable. In this paper, I reassess existing lithic data sets including the subjective and objective measures of artifact quality, attention to raw material selection, and discard patterns from the Quarry (26WP2418) and the Rosegate Site (26WP4629) and identify the material by-products of novice activities. The identification of children in the archaeological record has the potential to tell a different story of site demography and function; one that is both engendering and inclusive of the social contexts of learning.

Stoner, Wes [275] see Nichols, Deborah

Storey, Rebecca (University of Houston) and Randolph Widmer (University of Houston)

[63] Skeletal Health and Patterns of Animal Food Consumption at S3W1:33 (Tlajinga 33), Teotihuacan
The skeletons from Tlajinga 33 have high prevalence of skeletal indicators of morbidity. Since this was a lower-status compound of artisans, this could be due to poor diet, as well as an unhygienic environment. Analysis of faunal remains suggests that animal remains were an important and plentiful component of the diet. However, most consist of insects, small fish, reptiles, avian eggs, and small mammals. Of particular importance is the size and nature of these dietary items, as many would be considered vermin which could be incidental in grains. It is important to employ proper recovery techniques to eliminate bias in size and nature of animal remains to obtain an accurate understanding of the total diet. We demonstrate that there was adequate animal protein in the Tlajinga 33 diet but that it was very different than what is usually considered “animal protein.” Thus, the residents had access to a nutritious and balanced diet, and this information eliminates protein deficiency as cause of the morbidity. Instead, the focus is on the urban environment and any status disadvantages faced by residents dependent on market exchange for staple foods. Food at Teotihuacan was more likely affected by social inequality than by availability.

Storozum, Michael (Washington University in Saint Louis)

[51] The Middle Kingdom Makes Itself: Archaeology of a Built Environment
The current period of industrialization in Chinese society is often thought of as a modern phenomenon. However, Chinese states have experienced periods of rapid growth before. During many Chinese dynasties population growth resulted in an increased demand for resources and goods, spurring the need for water management projects, extensive mining and smelting operations, and new agricultural technologies. To place the modern period of industrialization in historical context, an integrative archaeological approach is required. Historical documents, archaeological method, and geoarchaeological data are used in combination to explore past land-use histories, as well as assess the extent and type of environmental impact societies have on natural environmental conditions. Recent geoarchaeological work in Neihuang city, Henan province, China, highlights this approach. Using a deep sedimentary record, archaeological sites, and available historical documents, we attempt to reconstruct a land-use history for the study region to contextualize processes operating in the present but at a much larger scale.

Stott, Jamie
Stovel, Emily (IIAM-UCN and Ripon College) and Christina Torres-Rouff (University of California-Merced) [150] Multiple Lines of Evidence: Exploring diversity within the consolidation of the Late Intermediate Period in northern Chile.
The Late Intermediate Period in the San Pedro de Atacama and Río Salado subregions of northern Chile reflects many processes of similarity and difference. Architecturally, defensive settlements were built in both regions at this time. New ceramic styles are shared by both areas while burial practices, in turn, diverge. Each area displayed different amounts of nonlocal material culture in local graves, prompting authors to suggest the increased presence of individuals or cultural influence from southern Bolivia during the latter half of the period. Bioarchaeological work to date, however, belies proposed incursions from elsewhere. This paper employs ceramic evidence, mortuary analysis, and measures of biodistance based on cranial nonmetric traits to explore these coeval processes of cultural convergence and biological diversity. This juxtaposition falls in line with other local studies that show that complex material behavior was deployed in contrast to biological origin throughout prehistory. This study, therefore, breaks down the monolithic homogeneous regional cultures of the Middle Period and questions and contextualizes the ethnic fragmentation that is purported to have characterized the Late Intermediate.

Stover, Clair (Hamilton College), Nathan Goodale (Hamilton College), Alissa Nauman (Hamilton College) and David Bailey (Hamilton College) [175] Measuring the Matrix II: Elemental Characterization of Sediments from HP 6, Slocan Narrows Housepit Village, British Columbia, Canada
Housepit 6 (HP6), an unusually large pithouse situated in a prehistoric village on the Slocan River in southeastern British Columbia, Canada, was home to hunter-gatherers approximately 2700 B.P. This unique dwelling holds the possibility of increasing our archaeological understanding of social organization among hunting and gathering societies in the Pacific Northwest. We examine evidence collected during the 2013 field season at Slocan Narrows from HP6 with the intention of developing insights into how the inhabitants organized themselves spatially. This project focuses on the elemental composition of sediment samples (n = 100) taken from floor and feature contexts within HP6. We prepared the samples and then analyzed them through EDXRF and WDXRF to detect potential chemical signatures of activity areas within the house. We also examined the spatial relationships of features found in, and artifacts collected from, HP6 to results of the elemental analysis. By identifying use-areas, hypotheses can be constructed about the potential social organization of HP6.

Strapazzon, Guglielmo (dBC, Università degli Studi di Padova, Padua, Italy) and Rita Deiana (dBC, Università degli Studi di Padova, Padua, Italy) [157] Advanced 3D Visualisation Workflows for GPR Archaeological Prospection Data: Case Studies from Ancient and Contemporary Urban Environments
The interpretation of GPR data is usually done on two-dimensional time slices or two-dimensional radargrams. This approach is suitable for simple archaeological contexts. However, when we are dealing with more complex contexts, multiphase approaches should be adopted to achieve a better understanding of buried deposits. GPR datasets collected in ancient and contemporary urban environments have been chosen to test the efficiency of the interpretation in a 3D environment and to compare it with 2D and 2D½ visualization of results.

**Straus, Lawrence (University of New Mexico)**

[246] *Magdalenian Settlement-Subsistence Systems in Cantabrian Spain*

As closely influenced by Jochim's life-work in the field, this paper describes human adaptations to the environments of the late Last Glacial in Cantabrian Spain. Based on excavations in El Miron Cave in the Cantabrian Cordillera, and on analyses of data from other sites in the Ason River basin, as well as from excavations of Magdalenian (20-13k cal BP) sites throughout this narrow, high-relief, coastal region, it evaluates hypotheses proposing 1. valley-centered local band territories with short, seasonal movements between hub sites near the coast and others in the mountains; 2. local collection of food resources (notably red deer, ibex, salmon) within hub site catchment areas; 3. specialized camps, particularly montane loci for ibex hunting; 4. procurement of non-local, high-quality flints via travel to sources beyond the local valley or inter-group exchange; 5. participation in social networks beyond the Cantabrian region to include the French Pyrenees as manifested in cave and portable art. The data on faunas, lithics, site locations and structures make this one of the richest records for the last few millenia of the Pleistocene and a key source area in the recolonization of northern Europe by humans and other species after the "refugium" period of the LGM.

[71] *Discussant*

**Strawhacker, Colleen (National Snow and Ice Data Center, University of Colorado) and Jonathan Sandor**

[60] *Maintaining Soil Quality in Irrigated and Dryland Agricultural Fields: A Comparative Study of Upland and Lowland Environmental Impacts in the Hohokam Region in the U.S. Southwest*

Farmers in arid environments across the world use a variety of strategies to bring water to their agricultural fields, including both irrigation from perennial rivers and constructing infrastructure, like checkdams, to divert runoff to dryland fields. These two different agricultural strategies can vary quite a bit in their impacts on soil quality. The Hohokam of southern Arizona are famous for their large-scale irrigated agricultural systems, which fed water to thousands of hectares of agricultural fields throughout the lowland valleys of southern Arizona, but also used upland regions to grow crops in rainfed fields. Both irrigated and dryland agricultural fields in the Phoenix Basin have been little studied, although researchers often hypothesize that problems within those fields, including salinization and flooding, may have led to the depopulation of the region in the mid AD 1400s. This paper will present results from large-scale soil sampling of irrigated fields from the Phoenix Basin and evaluates the impacts of long-term irrigation farming on soil quality within agricultural fields. It will also assess pilot data from soils from upland dry farmed fields and compare how the Hohokam may have used and impacted both lowland and upland agricultural areas differently in the past.

Streeter, Richard [29] see Ingram, Scott

**Striker, Sarah (Arizona State University)**

[182] *I Saw the Sign: A Comparative Analysis of Warfare Indicators in Ethnographic and Archaeological Cases*

The majority of societies have at some time participated in a form of warfare. Even so, direct archaeological evidence of warfare, such as battle-related injuries and deaths, is often sparse. Archaeologists therefore often turn to comparative ethnographic research to identify other material indicators of warfare. This work has produced a suite of attributes often associated with warfare, such as defensive site locations, investment in defensive fortifications, and violent imagery, which forms the basis of many warfare models. Despite widespread use of these indicators, there has been little
exploration of alternative or evolving explanations for the presence of such indicators. In this paper, we examine the relationship between suggested indicators of warfare and the archaeological record. By comparing cases from the Eastern Woodlands and the Southwest, we will examine the level of correspondence between attributes suggestive of warfare and the archaeological context in which they arise. We will then compare each case to the other cases to see if such attributes are present across the cases in similar contexts, or if their possible meaning is context specific. This work explores whether the attributes currently attributed to warfare provide adequate general insights, or if they are more valuable for understanding particular instances.

Chair

Stuart, David [61] see Runggaldier, Astrid

Stuart, David (The University of Texas at Austin) [195] Discussant

Sturm, Jennie [155] see Walker, Chester

Sturm, Jennie (TAG Research) [196] Increasing the Effectiveness of GPR Mapping for Unmarked Burials: A Processing and Analysis Approach

Situations involving unmarked human burials are sadly common, incredibly complex, and often emotionally-charged. Ground-penetrating radar (GPR) is arguably still the single most effective method to locate and map unmarked burials in a non-invasive way. Yet despite many years of proven success in a variety of contexts, the use of GPR to locate and map unmarked burials remains uneven and misunderstood. I argue here that a large part of the confusion surrounding GPR in cemetery contexts can be attributed to the way GPR data are processed and displayed. In other words, both users and consumers of GPR data have come to expect the instant gratification through clear, "x-marks-the-spot" slice-maps, and lacking these, often deem these surveys "failures" prematurely. I argue that any GPR survey, and particularly those involving situations as complex as cemeteries, benefits from a varied data processing strategy and more nuanced approach to data analysis. This presentation draws upon examples from cemetery surveys around the U.S. that might have been considered "failures" had a first-pass processing attempt been dubbed sufficient. It seeks both to address common confusion with data processing and map display, and offer solutions for using these data in productive ways.

Suarez, Rafael (Department of Archaeology, Universidad de la República (Uruguay)) [69] The Early Peopling of the Uruguay Middle River: New Data, Recent Advances and Perspectives

Uruguay are known in academic circles by the classic Fishtail points, which have been until recently used as practically the only evidence of early settlement in the country. Systematic research to investigate the early human occupation in the North of Uruguay has been undertaken since 2000. The aims of this presentation are analyze developments of Uruguayan new data during the last 14 years of research related to the peopling of South America. Among the principal data we recorded an interesting cultural variability in different designs of projectile points: Fishtail points (ca. 13,000-12,500 yr cal B.P.), K87 Tigre points (ca. 12,280-11,200 yr cal B.P.) and Pay Paso points (10,900-9500 yr cal B.P.). In this paper I explore three major topics. First, Atlantic coast and Uruguay River as a human entry route or way for the exploration of the Southeast of South America. Second, the mobility and territory used by the different groups. Finally, I compare and discuss the Uruguayan data with those of nearby regions such as Pampa (Argentina) and Southern of Brazil.

Chair

Suarez, Sergio [112] see Martinez, Silvia
Suárez, Sergio (Instituto Nacional De Antropología E Historia (INAH))
[60] Cholula y su paisaje. La utilización del paisaje cultural en la conformación de los calendarios de horizonte.
Cholula es conocida en el mundo por su Gran Pirámide, por su vocación religiosa y comercial, y por su hermosa cerámica policroma. Si investigamos un poco más, veremos que también se distingue por su estilo arquitectónico, pues muestra su independencia y creatividad con relación a Teotihuacán. Sin embargo existe algo que apenas se está investigado con mayor detalle, pues salvo algunas observaciones que hiciera Tichy (1976 y 1978), en donde reconoce a la ciudad y a su “pirámide solsticial” como el eje rector a partir del cual se orientaron los campos de cultivo, iglesias y asentamientos vecinos, registrando una desviación del basamento de 26° con respecto al norte, que permite, entre otras cosas, que la estructura quede alineada con la salida del sol el 21 de diciembre, y los reportes de Marquina (1975:117), quien agrega que los altares oriente y poniente están orientados con el paso cenital, poco se ha investigado sobre la utilización del paisaje oriente y poniente que se observa desde la Gran Pirámide y que proponemos fue utilizado para estructurar su calendario de horizonte.

Suda, Yoshimitsu (Center for Obsidian and Lithic Studies, Meiji University), Jeffrey Ferguson (University of Missouri Research Reactor Center), Michael Glascock (University of Missouri Research Reactor Center), Vladimir Popov (Far East Geological Institute, Far Eastern Branch) and Sergei Rasskazov (Institute of the Earth’s Crust, Siberian Branch of the Russian Academy of Sciences)
[287] Geochemical Composition of Obsidian from the Shirataki Source, Hokkaido, Northern Japan: Inter-laboratory Check and Its Consequence
The aims of the present study are to: (1) compare the results of quantitative analysis among independent laboratories, and (2) establish obsidian geochemical reference standards, and (3) compile the quantitative values for the Shiratoki obsidian source. Four obsidians from different geologic sites were selected for this study. These were named JOSH-1, JOSA-1, JOO-1 and JOR-1 after the locations of the obsidian outcrops (Hachigosawa, Ajisai-notaki, Oketo and Rubeshibe, respectively). A variety of analytical techniques were used including the EPMA, WDXRF, ICP-MS, NAA and PGAA analyses. The EPMA analysis stands to examine the chemical homogeneity and the petrology of the samples. Other methods serve to determine the whole-rock element concentration in the samples. In this presentation, we first detail the occurrence and petrology of the obsidian. Next, the results of data compilation and their geochemical characteristics are presented. Finally, the utilization of common standards will be proposed.

Sudbury, J. Byron (JS Consulting)
[280] Phytoliths and Paleosols of Calf Creek Times
With radiocarbon dates ranging from 4900 to nearly 5500 years ago, the Calf Creek cultural complex in Oklahoma, Kansas, and Texas appears associated with a brief interval of ameliorated climate on the Southern Plains. To better understand the nature of this climate and its effects on vegetation and landscape stability, I report the phytolith signatures incrementally recovered from four buried soils believed to correlate with the Calf Creek cultural complex. Two of these paleosols are in the uplands of northwestern Oklahoma, one is from a small watershed in central Oklahoma, and the fourth is from a tributary to the Verdigris River in the Cherokee Prairie region of northeastern Oklahoma. Calf Creek artifacts have been found near each of these paleosol localities, so the phytolith data are believed to attest directly to ecological conditions when these middle Holocene hunter-gatherers roamed the region.

Sugiyama, Nawa (Harvard University)
[63] Faunal Acquisition, Maintenance, and Consumption: How the Teotihuacanos Got Their Meat
Understanding the role of vertebrates in Mesoamerican food systems has often been misunderstood due to the lack of large domesticated livestock that was at the center of Old World subsistence economies. This paper investigates the zooarchaeological record from one of the largest urban centers of the New World at the site of Teotihuacan, to understand the contribution of fauna to their diet. Within
this arid highland ecosystem, the process of faunal acquisition, maintenance and consumption is investigated within the context of abundant archaeological, environmental, ethno-historic and ethnographic record to understand the mosaic nature of the Teotihuacan faunal economy. Such evidence is utilized to create a model of household-level management systems that tapped into the diverse local landscape. Furthermore, this system was supplemented by a market economy that imported exotic fauna. While many animals were not fully domesticated, they were often managed, tamed and controlled to create highly interdependent relationships between the local landscape and the growing human population.

[63] Chair

Sugiyama, Nawa [63] see Somerville, Andrew

Sugiyama, Saburo (Aichi Prefectural U./Arizona State U.)

[279] The Nature of Early Urbanism in Teotihuacan
I characterize the process of incipient urbanization during Late Preclassic Teotihuacan (A.D. 1 to 300). The city of Teotihuacan was created rather suddenly to an unprecedented scale around the first century A.D., developing the unique city layout and distinctive architecture style seen today by the 3rd century. I focus on materials corresponding to this foundation period: earlier structures disclosed inside the Moon Pyramid, those found recently in the Sun Pyramid, and remains existed in pre-Citadel periods. I also analyze symbolic objects found in relation to these earlier structures that suggest strong concerns on materializing their innovative worldview and related astronomy/calendar complex. In order to compare or integrate thee monuments I re-interpret the symbolic city layout and modification/enlargement programs using newly created 3D architectural and topographic maps. I discuss city orientations, symmetrical/proportional spatial distribution and dimensions of the monumental zone applying my Teotihuacan measurement unit study. I tentatively propose “districts” that functioned along the Avenue of the Dead and the possible meanings encoded in early city formation. It seems urbanism in early phases at Teotihuacan developed along with innovative cosmological ideas, powerful rulership with highly organized political/military institutions that probably triggered population growth, economic activities, social hierarchy, and political conflicts.

Sugrañes, Nuria [11] see Franchetti, Fernando

Sulkosky, Rita A. [210] see Daughtrey, Cannon

Sullivan, Timothy (University of Pittsburgh)

[120] The Spectacular Polity: The Evolution of Ceremonial Practice and Political Authority from the Middle Formative through Late Formative Periods in the Chiapas Central Depression, Chiapas, Mexico.
From the Middle to the Late Formative period in the Chiapas Central Depression the layout of civic-ceremonial spaces changed substantially, from sprawling plazas, suggestive of public processional ceremonies, to increasingly smaller and less visible spaces, suggestive of more restricted ceremonial practices and a narrower intended audience. In this paper I analyze changes in the organization and use of civic ceremonial space at political centers in the Chiapas Central Depression and the implications of these changes on relationships between rulers and ruled. I also explore the notion that changing conceptions of ceremony and rulership were linked to geopolitical shifts that accompanied the decline of the Gulf Coast Olmec polity of La Venta and the concurrent rise of Lowland Maya political centers.

Sullivan, Stephanie (University of Arkansas)

[157] Revealing Architectural Variation through Near-surface Geophysical Survey at a Multi-mound Civic Ceremonial Site in Northwest Arkansas
Sporadic archaeological investigations have revealed little about the breadth of architectural variation that existed among pre-colonial, aboriginal societies in the Western Ozark Highland region. The results
of recent near-surface geophysical survey at the Collins Site, a possible Early and Middle Mississippian period (ca. A.D. 900-1400) multi-mound site in Northwest Arkansas, suggest that geophysical survey is an efficacious method for investigating architectural distribution and variation on a landscape level in the Ozark Highlands. Magnetic gradiometry and ground-penetrating radar yielded a preliminary view of the distribution of architectural features at the site including mound-top enclosures and a number of off-mound rectangular and possible circular structures. A comparison of the characteristics of the geophysical anomalies identified at the Collins site with features excavated at other sites in the Ozark Highlands support the interpretation of the Collins site as a paramount mound complex associated with ritual mortuary events. Because excavation is not permitted at the Collins site, the use of near-surface geophysical survey is vital to the understanding of the site within the archaeological context of the region. In addition, the work exemplifies the importance of the role of geophysical technologies in the field of archaeology.

Sullivan, Lauren (University of Massachusetts), Palma Buttles (Carnegie Mellon University) and Fred Valdez, Jr. (University of Texas at Austin)

[292] Connecting the Dots: Colha, Kichpanha, and Maax Na, Preclassic to Late Classic Interactions

Drawing on data collected in northern and northwestern Belize, this paper will examine how the interdependency between different Maya communities varies over time based on changing access to resources and the political landscape. Several broad generalizations can be posited from research in the northern Belize region. In order to achieve a complete picture of how sites interacted with one another - local and regional processes will be considered. Ceramic and other data indicate that the widespread regional exchange networks used by emerging elite groups to consolidate power in the Preclassic shrinks during the Classic period when more local autonomy and organization is observed. Data recorded from the ancient Maya sites of Colha, Kichpanha, and Maax Na, as well as settlements near these centers, are utilized in this analysis.

Sundstrom, Linea (Day Star Research)

[156] A Mammoth Mistake: Datura Moth Imagery at the Bluff Petroglyph Site, Utah

Researchers have proposed that a petroglyph panel near Bluff, Utah, includes depictions of two mammoths. While mammoths and other Pleistocene fauna are common in European rock art, no convincing examples have been identified in the Americas. This analysis brings to bear a combination of geomorphology, zoology, ethnography, and archaeology and concludes that the petroglyphs are not mammoths, but hawk moths or sphinx moths in various stages of metamorphosis. The attributes of the animals depicted are more consistent with these moths than with mammoths. Further, the rock surface on which the petroglyphs are made was not exposed until after the mammoth went extinct in the region. Ethnographic research indicates that this moth, which pollinates datura, was important in Southwestern religion and iconography.

Supak, Karen B. [86] Moderator

Supernant, Kisha [79] see Coons, Aaron

Supernant, Kisha (University of Alberta, Department of Anthropology), Aaron Coons (University of Alberta, Department of Anthropology) and Katie Tychkowsky (University of Alberta, Department of Anthropology)

[231] Different Assemblages, Same People? Comparing Métis Wintering Site Assemblages on the Canadian Prairies

Relationships between artifact assemblages and cultural identities are complex and difficult to disentangle. The Canadian west during the 1800s provides an interesting historical and archaeological case study that has potential to shed light on the dynamics of settlement, material culture, and the process of identification. During the early to mid-1800s, a set of cultural identities emerged from historical processes of contact to form a new peoples: the Métis. Based originally in the Red River
Settlement, some of the Métis began to expand west after 1845, forming interconnected wintering communities to participate in winter bison hunting. These wintering communities were almost entirely inhabited by Métis families, so the assemblages from wintering sites present a test case to examine the material culture(s) of the Métis during the mid- to late-1800s. In this poster, we present results from previous and new excavations of Métis wintering sites in Alberta and Saskatchewan. We compare assemblages across sites and make inferences about the complex nature of Métis identities during the nineteenth century.

Surovell, Todd (University of Wyoming) and Matthew O'Brien (University of New Mexico)
[16]  

Mobility at the Scale of Meters

Mobility is typically conceived of as a process that operates on the scale of kilometers. Mobility, however, occurs at many different scales, and within the context of residential sites, movement very often operates at the scale of meters. Furthermore, small scale decisions about mobility and spatial positioning within residential locations are one of the fundamental drivers of the kind of archaeological spatial patterning that is regularly observed in archaeological sites. After all, archaeological excavation most often occurs at the scale meters or tens of meters. For this reason, the Dukha Ethnoarchaeological Project was designed to develop theory of human spatial behavior at small scales by shifting the focus of spatial ethnoarchaeology from the mapping of features and material refuse to the direct mapping of people within the campsites of nomadic Dukha reindeer herders in northern Mongolia. Its most general aim is to explore how people decide where to do what they do. In this paper, I examine some of the factors governing human mobility and spatial positioning in the interior and exterior spaces of Dukha summer campsites and their implications for archaeological spatial patterning.

Surrovell, Todd  [23] see Johnston, Christopher

Sutter, Richard (Indiana University-Purdue University Fort Wayne) and Gabriel Prieto (Yale University)
[245]  

The Implications of Biodistance Analyses of Initial Period (1550-1250 B.C.) Human Remains from Gramalote, Peru, for Our Understanding of the Social and Economic Dynamics of Ancient Andean Maritime Communities

The importance and distinctiveness of Peruvian fisherfolk, or pescadores, and their complementary role in coastal valley economies feature prominently in a number of early ethnohistoric accounts (Ramirez 1995, Rostworowski 1976, 1977), and clearly, archaeological evidence indicates that large permanent fishing communities existed for centuries before. What is unclear is the degree to which, if any, these communities remained biologically distinct from other contemporaneous inland communities. Here we report preliminary biodistance analyses for 42 individuals from the north coast early Initial Period (1550–1250 B.C.) fishing community of Gramalote and discuss their relative distinctiveness from other roughly contemporaneous and subsequent human skeletal populations from the same region.

Sutton, Wendy
[7]  

Imaging a Prehistoric Landscape: Water Management at Chimney Rock, a Pueblo II Settlement in Southwest Colorado

Since the earliest research at Chimney Rock, in the 1920s, where and how the villagers of Chimney Rock’s Pueblo II High Mesa settlement group got their water has been a puzzle. The High Mesa area is located 1000 feet above the valley floor. Recent research has expanded our understanding of water control at Chimney Rock; we are beginning to recognize a complex water management strategy that included check dams and features related to both tinajas and reservoirs. These features can help us understand the complex relationship the Ancestral Puebloans had with this mountainous environment. The water management system also provides clues on how Ancestral Puebloans may have extended the agricultural season and on later migrations.

Sutton, Mark [45] see Kremkau, Scott
Sutton, Elizabeth (University of California, Santa Barbara)

Anthropology: What’s It to You? Inspiring a Life-Long Love of Anthropology though Authentic Experience at the Utah State University Museum of Anthropology

The Utah State University Museum of Anthropology is a small teaching museum dedicated to providing anthropology students with experience in public anthropology including exhibit design, public program development, and K-8 informal education program development. Our mission is to inspire the community to appreciate cultural diversity and partner with us to care for our collections and shared heritage. Although our funding is extremely limited, the museum has seen a steady increase in visitation, public support, and state grant funding. This paper provides an overview of the steps the museum has taken to earn a positive reputation and achieve balance in our responsibilities to conserve collections for future generations while inspiring the current generation with authentic experiences.

Suvrathan, Uthara (University of Michigan)

The Kadambas and Banavasi: Perspectives from Archaeology and Epigraphy

In this paper, I discuss the results of a multi-scalar investigation of regional complexity at Banavasi, an Early Historic settlement which rose to prominence as the capital of the Kadamba polity (4th-6th centuries A.D.). Specifically, I focus on the period between the early centuries A.D. and the 7th century, and show how results from a systematic archaeological survey as well as data from inscriptions allowed me to access multiple spatial and temporal scales of analysis. First, my investigation of the archaeological landscape at the site allowed me to trace its development as a Early Historic center, linked to its location in an early trade and (Buddhist) pilgrimage network. Second, my analysis of an ‘assemblage’ of elite inscriptions enabled a regional scale of analysis placing Banavasi within the context of shifting core areas of elite authority in the Karnataka region and allowing me to discuss the nature of political authority. Ultimately, my aims in this paper are two-fold: first, to discuss the early development and organization of the complex polity centered at Banavasi during the early centuries A.D. and second, to illustrate a larger methodological point about the complementary use of archaeological and historical/epigraphic data.

Suyuc-Ley, Edgar [61] see Balcarcel, AnaBeatriz

Suzuki, Shintaro [161] see Paredes-Umaña, Federico

Svoray, Tal [65] see Winter-Livneh, Rona

Swanson, Steve [66] see Taliaferro, Matthew

Swarts, Kelly (Cornell University)

Preliminary Results from the Genomic Analysis of Southwestern US Maize Landraces

Modern domesticated crop plants provide a unique resource for understanding past plant-human interactions, cultural preferences, and a proxy for interaction between human groups. Maize is arguably the most important domesticated crop plant in the Americas, and intricately woven into the food systems and cosmologies of New World peoples. In collaboration with Native Seeds/SEARCH, we grew out 108 landrace accessions on the NSS conservation farm in Patagonia, Arizona from across north Mexico and the Southwestern United States. We characterized these accessions phenotypically, collected parental genotypes, and generated hybrid seed by crossing individuals to a common inbred tester. The hybrids will allow us to sample haplotypes from these populations for population genetic and quantitative genetic inference.

[99] Discussant

Swartz, Ayme [78] see Bobbitt, Mary
Swavely, Ty [137] see Marinkovich, Erik

Swenson, Edward (University of Toronto)

[59] Discussant

Szpak, Paul (University of British Columbia), Jean-Francois Millaire (University of Western Ontario), Christine White (University of Western Ontario) and Fred Longstaffe (University of Western Ontario)

[113] Cameld Husbandry Practices and Textile Exchange in Northern Peru

This paper presents carbon and nitrogen isotopic compositions from South American camelid tissues and textiles composed of camelid wool from several archaeological sites in northern Peru spanning the Early Intermediate to Late Intermediate Periods (200 BC to AD 1476). Marked differences in isotopic compositions are present between camelids recovered from low altitude and coastal sites in comparison to high altitude sites, suggesting markedly different animal husbandry practices in these regions. Textiles recovered from coastal contexts present isotopic compositions that are consistent with distinct production strategies for materials according to spinning and weaving tradition. These results are discussed within the context of understanding variation in animal husbandry practices and the trade in camelid products in the region.

Szremski, Kasia (Vanderbilt University)

[38] Tactical Power, Interaction, and Landscape Control during the Late Intermediate Period (1100-1470 C.E.) in the Huanangue Valley, Peru

This paper examines the outcomes of interaction between Chancay settlers and local chaupiyunginos in the Huanangue Valley, Peru, during the Late Intermediate Period (1100-1470 C.E.). Drawing from Foucault and Eric Wolf, I will examine how social power was tied to interactions between people as well as between people and the landscape. Using data from the Huanangue Valley Survey, as well as from excavations at the chaupiyungino site of Campo Libre and the Chancay settlement of Salitre, this paper will argue that the local chaupiyunginos were able to leverage their superior knowledge of the landscape as well as their control of the irrigation intakes into organization/tactical power (sensu Wolf 1999). This, in turn, allowed them to improve their position vis-à-vis the wealthy Chancay settlers who had recently established a foothold in the valley. This resulted in a situation in which there was little power asymmetry between groups in the valley, which in turn may have led to favorable conditions for the formation of an alliance between Chancay settlers and local chaupiyunginos.

Szuter, Christine (Arizona State University)

[1] Discussant

Szymanski, Ryan (Washington State University)

[40] Detection of Human Landscape Modification Associated with Food Production Using Paleoeological Proxy Evidence

Regionally nuanced social interactions between agriculturalists, pastoralists and foragers have affected economic phenotypes through history in East Africa. Thus, documenting the pre-colonial production emphases of East African populations comprehensively is crucial to understanding the adaptive significance of variation in economic activities in this region. The integration of fungal proxy data with pollen and phytolith data as part of a comprehensive paleoecological analytical strategy is an approach that is just beginning to gain momentum. If paleoecological proxy evidence can be confidently aligned with known archaeological phenomena, significant insight into the ecological and cultural context of emergent agro-pastoral economies may be gained. Analyses of pollen, phytoliths, and fungi derived from sediment cores can produce valuable data, usable by archaeologists, concerning the geographic, temporal, and cultural scope of agro-pastoral economies in this region. Pilot data from Yala Swamp (Nyanza, Kenya) are discussed which confirm this potential and suggest the need for further exploration of the utility of multi-proxy paleoecological data sets in landscape scale environmental and economic
reconstructions. The potential for these proxies to produce conflicting sets of information may allow researchers to gain more detailed knowledge of the probable human and environmental activities producing paleoecological assemblages.